Advancing the Understanding and Development of Social-Emotional Skills in Socioeconomically Disadvantaged Student Communities: A Path to Equity and Growth

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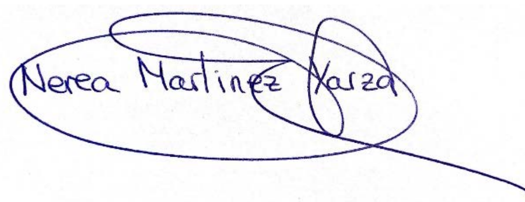

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Abstract

Social-emotional skills, encompassing abilities such as self-awareness, self-management, social awareness, relationship skills and responsible decision-making, are critical for personal well-being, positive social interactions, and academic success. This thesis explores various aspects of social-emotional skill assessment and development among primary and secondary students, focusing on socioeconomically disadvantaged student populations. It highlights the significant impact of financial hardship during childhood and adolescence on an individual's current well-being, future opportunities and broader societal development. Study 1 presents a systematic review of 25 instruments designed to measure social-emotional skills in students, emphasizing the rapid growth in assessment tools over recent decades and the need for comprehensive, multi-method approaches. Study 2 validates the Social-Emotional and Character Development Scale (SECDS) in a Spanish student sample, confirming its reliability, multi-dimensional structure, and suitability for assessing social-emotional skills in students aged 8 to 17. Study 3 investigates how family involvement influences social-emotional skills of students from economically vulnerable backgrounds, revealing that while family involvement does not directly affect social-emotional skills, it significantly enhances student engagement, which in turn promotes social-emotional growth. Study 4 examines the effect of student academic expectations on student engagement, finding that gender moderates this relationship, with female students showing a stronger positive connection between academic expectations and engagement compared to male students. The thesis combines secondary data analysis and primary data collection, using quantitative methods such as psychometric validation, mediation, and moderation analysis. Together, these studies offer a multi-faceted understanding of social-emotional skill development, emphasizing the importance of students' socioeconomic background and offering insights for interventions aimed at fostering these essential skills in diverse educational contexts.

Keywords: Social-emotional skills, socioeconomic disadvantage, family involvement, social-emotional assessment, student engagement.

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Declaration by the Author

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The research was approved by the University of Deusto Research Ethics Committee, and all participants provided written informed consent prior to inclusion in the study. Appropriate approvals were also obtained from the families of student participants and the officials overseeing the CaixaProinfancia programme in the Basque Autonomous Community.

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Introduction

Background and Study Significance

Social-emotional skills, encompassing abilities such as self-awareness, self-management, social awareness, relationship skills and responsible decision-making, are increasingly recognized as fundamental aspects of students' overall development. These skills play a crucial role not only in enhancing personal well-being and fostering positive social interactions but also in contributing to academic success (Durlak et al., 2022). As students navigate the complexities of school and life, strong social-emotional skills enable them to build healthy relationships, manage stress, and make responsible decisions (Greenberg, 2023). Educators and policymakers are thus placing greater emphasis on integrating Social-Emotional Learning (SEL) programs into curricula, acknowledging its vital role in fostering a supportive and productive learning environment (Lawson et al., 2019; Mestre, 2020). In this section, I will first explore the role of social-emotional skills in education, followed by an examination of how these skills are measured and quantified. I will then analyze both the direct and indirect factors that influence social-emotional skills, with a particular focus on how parental socioeconomic status (SES) profoundly impacts the social-emotional outcomes of students from disadvantaged backgrounds. Finally, I will identify the gaps in the existing literature that this research aims to address.

The Role of Social-Emotional Skills in Education

Social-emotional skills encompass a broad range of abilities that enable individuals to understand and manage their emotions, establish and maintain positive relationships, make responsible decisions, and navigate social complexities effectively (CASEL, 2022b). The Collaborative for Academic, Social, and Emotional Learning (CASEL) has developed the most impactful social-emotional skills framework to date. According to this framework, social-emotional skills encompass a range of competences including self-awareness, self-regulation, social awareness, relationship skills, and responsible decision-making. Self-

awareness involves recognizing one's emotions and their impact. Self-regulation is the ability to manage emotions and behaviors in different situations. Social awareness involves understanding and empathizing with others. Relationship skills are necessary for establishing and maintaining healthy and rewarding connections with others. Responsible decision-making involves making ethical, constructive choices about personal and social behavior (Greenberg, 2023). Thus, the scope of social-emotional skills extends beyond individual development. They are essential for fostering a supportive and inclusive environment in schools, workplaces, and communities (Chernyshenko et al., 2018; Pancorbo et al., 2020). Promoting these skills not only enhances individual well-being and academic performance but also contributes to the creation of more empathetic, resilient, and socially responsible societies (Patrinos, 2021).

Research has consistently shown that strong social-emotional skills are linked to better academic performance. Yehui Wang and colleagues (2019) demonstrated that social-emotional skills had both direct and indirect effects on academic achievement. Directly, social-emotional skills predicted academic achievement in reading, mathematics, and science when controlling for gender and grade levels. Students with high social-emotional skills were more adept at setting and working toward academic goals, handling difficulties and failures, controlling their emotions, and solving problems effectively, which contributed to better academic performance across subjects. Indirectly, social-emotional skills improved academic achievement by enhancing students' social preference and interest in subjects, strengthening teacher-student relationships, and reducing mathematics anxiety, all of which facilitated a more supportive and engaged learning environment. The well-established meta-analysis by Durlak and colleagues (2011) found that school-based SEL programs significantly enhanced academic performance among students. This meta-analysis reviewed 213 studies involving 270,034 students and demonstrated that students participating in SEL interventions tended to

show meaningful improvements in their academic outcomes compared to their peers who did not participate in such programs. Specifically, the analysis found that SEL participants exhibited significantly improved social-emotional skills, attitudes, behavior, and academic performance, with an 11-percentile-point gain in academic achievement.

In addition to that, empirical evidence indicates that social-emotional skills help overcome learning challenges, prevent at-risk or problematic behaviors, and promote overall well-being. The meta-analysis by Taylor and colleagues (2017) revealed that follow-up data collected 6 months to 18 years post-intervention indicated significant improvements for participants in SEL programs compared to control groups in terms of social-emotional skills, attitudes, and various indicators of well-being. Notable outcomes include enhanced social-emotional skills, better attitudes towards self, others, and school, as well as improved academic performance, reduced conduct problems, lower levels of emotional distress, and decreased substance use. Salmela-Aro and Upadyaya (2020) explored the relationship between school burnout, “studyholism”, and engagement among high school students, along with the influence of social-emotional skills on these factors. Using latent profile analyses, the study identified three distinct student groups: engaged (34%), stressed (47%), and burned out (19%). The findings indicate that students exhibiting higher levels of curiosity, grit, academic buoyancy, social engagement, and belongingness are more likely to be engaged and less likely to experience burnout. The study highlights the importance of social-emotional skills in fostering student engagement and mitigating burnout. Students with well-developed social-emotional skills are better equipped to handle stress, cooperate with peers, and engage in learning activities, which ultimately contributes to their overall academic success.

Measurement of Social-Emotional Skills

Assessing social-emotional skills involves a variety of techniques designed to evaluate a range of competences such as self-awareness, self-management, social awareness,

relationship skills, and responsible decision-making. One of the primary methods used for assessing social-emotional skills is self-report rating scales, which allow individuals to evaluate their own behaviors and emotions (Greenberg, 2023; Murano et al., 2021). Tools like the Social Skills Improvement System Social Emotional Learning Edition Rating Forms (SSIS SEL RF) by Gresham and colleagues (2020) and the Emotional Quotient Questionnaire for Youth Version (EQ-i:YV) by Ferrándiz and colleagues (2012) facilitate this introspection, offering participants a structured way to evaluate their social-emotional skills. Self-report rating scales can be valuable for identifying strengths and areas for growth, providing a straightforward and efficient method to gather data across diverse populations. They offer a cost-effective and rapid means of assessment, yielding consistent results that often closely approximate objective measures (Kankaraš, 2017). Teacher or parent reports are also widely used for social-emotional assessment. In educational settings, teachers frequently employ observational checklists and adult completed behavior rating scales to assess students' social-emotional skills based on their interactions and behaviors in the classroom (Elliott et al., 2018; LeBuffe et al., 2018; Merrell et al., 2011). Similarly, parents can also provide valuable insights by rating their children's emotional regulation and social interactions in various home and community contexts (Elliott et al., 2022). Performance-based assessments, such as role-playing scenarios and situational judgment tests, provide a dynamic alternative to traditional rating scales. These assessments allow for the evaluation of social-emotional skills in real-life or simulated situations, offering a more comprehensive and holistic understanding of an individual's abilities by examining their responses to specific social-emotional challenges (Abrahams et al., 2019; DeRosier & Thomas, 2018; McKown, 2019).

Nevertheless, the measurement of social-emotional skills faces significant conceptual challenges, especially in terms of skills conceptualization and classification. Recently, the field has experienced a significant paradigm shift. Historically, the primary focus of

assessment tools was on identifying and diagnosing psychopathological issues, such as behavioral problems or mental health disorders. These tools, like the Child Behavior Checklist (CBCL) by Achenbach (1991), aimed to detect risk and maladaptive behaviors, which often resulted in a deficit-oriented perspective on children's development (Malti et al., 2018). Initially focused on identifying vulnerabilities and student difficulties, the field has now moved towards broader preventive actions and strength-based assessment. This shift has posed challenges for social-emotional skill assessment, which traditionally concentrated on identifying deficits (Abrahams et al., 2019). Furthermore, a significant limitation of current rating scales is their misalignment with CASEL's five social-emotional competences, often being either too broad or too narrow. Some scales assess multiple dimensions beyond CASEL’s competences, making them lengthy, while others are too narrow, focusing on specific aspects like altruistic behavior or emotional attribution, and thus fail to comprehensively assess the competences (Mantz et al., 2018). Typically, tools designed to assess social-emotional skills differ based on the selected theoretical framework and incorporate varying definitions and dimensions of these skills (Pancorbo et al., 2020; Primi et al., 2016).

Another significant challenge in assessing social-emotional skills is methodological. This challenge arises primarily from the subjective nature of social-emotional skills and the variability in their expression across different contexts. One major issue is the reliance on self-report measures, which can be influenced by the respondent’s self-perception and social desirability bias. Students might overestimate or underestimate their abilities, leading to inaccurate assessments. Teacher and parent rating scales can also be biased by their perceptions and expectations of the student, which might not accurately reflect the student's actual level of social-emotional skills (McKown, 2019). Additionally, cultural differences can influence the expression and perception of social-emotional skills, making it difficult to

create universally applicable assessment tools. Reference bias, where individuals from different countries respond to the same question based on different reference points, illustrates this issue. The lack of standardization can result in inconsistent data, hindering the ability to compare results across diverse populations (Kankaraš, 2017). Observational and performance assessment methods, while useful, require extensive training to ensure reliability and can be time-consuming. Despite the objective nature of the performance, they typically produce a single score, making them more vulnerable to situational influences and irrelevant factors, which can increase measurement error or bias (Soland et al., 2019). These complexities necessitate a multi-method approach, combining various tools and perspectives to achieve a more comprehensive and accurate assessment of social-emotional skills (Abrahams et al., 2019).

Factors Influencing Social-Emotional Skills

Direct Influences. The development of social-emotional skills begins at an early age and is significantly influenced by both family and school environments. Families play a critical role in nurturing these skills through supportive parenting practices, open communication, and positive role modeling. Parents who are actively involved in their children's education can reinforce the importance of these skills and provide the necessary support for their development (Kankaraš & Suarez-Alvarez, 2019; Skoog-Hoffman et al., 2023). Schools also contribute by creating safe and inclusive learning environments, implementing evidence-based SEL programs, and fostering a culture of respect and empathy among students (Durlak et al., 2011). This thesis will examine the influence of family involvement on the development of social-emotional skills, with a particular emphasis on its interaction with student engagement. The analysis will intentionally exclude other school-related factors to maintain a focused exploration of family influences.

Family Involvement. Family involvement plays a crucial role in the development of social-emotional skills in children (Kankaraš & Suarez-Alvarez, 2019). Family involvement encompasses a range of activities and interactions through which parents and other family members engage in a child's educational process. This involvement can include direct participation in school events and activities, such as attending parent-teacher conferences, volunteering in the classroom, and participating in school governance. It also extends to the home environment, where parents support learning through activities like helping with homework, fostering educational aspirations, and engaging in enriching activities that promote cognitive and social-emotional development (Epstein et al., 2002). Although family involvement is often thought to decline as children progress to secondary school and approach adulthood (Bhargava et al., 2017; Cheung & Pomerantz, 2011; Desforges & Abouchaar, 2003; Spera, 2005), research indicates that family involvement remains impactful at all grade levels (Suárez Fernández et al., 2011; Taseer et al., 2023; Wilder, 2014). This is supported by a recent meta-analysis by Boonk and colleagues (2018), reporting that family involvement does not diminish over time but evolves as the child matures. For instance, direct involvement, such as reading with young children, is especially beneficial in early education, whereas as children grow older, setting high expectations and fostering a supportive environment become more critical.

Family involvement is best understood as a multifaceted construct that includes various parenting practices and behaviors (Epstein et al., 2002; Fan & Chen, 2001; Fantuzzo et al., 2000; Grolnick & Slowiaczek, 1994; Manz et al., 2004). The multidimensional framework proposed by Epstein and colleagues (2002) remains one of the most widely cited models. This framework identifies six specific types of family involvement behaviors: (1) parenting, (2) home–school communication, (3) volunteering, (4) home learning activities, (5) school decision-making, and (6) community partnerships. The scope of family

involvement thus covers both structured and unstructured interactions aimed at enhancing students' academic performance and overall well-being. Despite the emphasis on the multidimensional nature of family involvement in the literature, it is often measured narrowly, focusing mainly on school-based behaviors (Manz et al., 2004). This limited perspective can lead to misunderstandings about the involvement levels of disadvantaged and low-income families. Families with low SES are often less involved in school-based activities, primarily due to structural barriers like demanding work schedules, limited time, and financial constraints (Alameda-Lawson, 2014; Auerbach, 2012; Fantuzzo et al., 2013; Hampden-Thompson & Galindo, 2017; M. T. Wang & Sheikh-Khalil, 2014). Similarly, language and cultural differences can further widen the gap between schools and vulnerable populations (Calzada et al., 2015; McWayne et al., 2015; Nyemba & Chitiyo, 2018).

Evidence consistently shows that active family involvement enhances children's social-emotional skills. Cosso and colleagues (2022) found that both home-based and school-based parental involvement interventions have a positive impact, from preschool to third grade, on children's academic performance and socio-emotional skills. The study highlights that these interventions are effective across various domains, with home-based approaches proving particularly beneficial. Similarly, Q. Li and colleagues (2023) investigated the impact of home-based parental involvement on early adolescents' socio-emotional adjustment during their first year of middle school. Both parent-adolescent communication and time spent with children positively predicted adolescents' socio-emotional adjustment over time. However, a growing body of research addresses conflicting results (Puccioni, 2018; Ray et al., 2020; Trost et al., 2020; I. Y. Wang & Cheung, 2023). F. Cohen and Anders (2020) found that parent-teacher cooperation positively affected children's language and social-emotional skills at age three. Regular participation in school meetings was associated with better receptive language skills and improved prosocial behavior in children. Conversely, they also revealed

that informal door-talks between parents and teachers correlated with increased disruptive behavior in children. McWayne and Bulotsky-Shearer (2013) conducted a latent profile analysis showing that students whose parents engaged weekly in educational activities at home were less likely to exhibit extremely dysregulated behavior and more likely to demonstrate social competence. Nevertheless, the same parental involvement was also linked to students being categorized under inattentive problems. Different types of family involvement can both predict students' social-emotional skills and reveal areas where children may need extra support.

Student Engagement. Schools also play a crucial role in developing students' social-emotional skills through both curricular and extracurricular activities (Kankaraš & Suarez-Alvarez, 2019)**.** Student engagement encompasses the thoughts, beliefs, feelings, and behaviors that students exhibit towards their teachers, peers, and academic tasks. It involves the totality of students' interactions with their learning environment and its various elements (M. Furlong & Rebelez-Ernst, 2014). Based on the theoretical work of Fredricks and colleagues (2004), student engagement is a multifaceted concept encompassing cognitive, behavioral, and emotional dimensions. Cognitive engagement involves the effort and psychological investment students put into their learning, including problem solving, self-regulation, and the use of metacognitive strategies. Behavioral engagement refers to students' participation in school activities, adherence to rules, and avoidance of disruptive behaviors. Emotional engagement captures students' emotional reactions to teachers, classmates, and the school environment, such as feelings of boredom, anxiety, enjoyment, or happiness (Fredricks et al., 2004)**.** Although these later dimensions intersect with other constructs in the literature, Fredricks and colleagues (2004) regarded student engagement as a "meta" construct that effectively combines these various elements. This multidimensional approach

offers a more comprehensive understanding of how various aspects of engagement interact and influence students' learning (Lam et al., 2014).

Student engagement is essential for developing students' social-emotional skills, promoting improved interpersonal relationships, emotional regulation, and overall well-being. Research indicates that students with high levels of behavioral and emotional engagement tend to exhibit better social competences and emotional well-being. For instance, such students are less likely to experience depression or engage in delinquent activities compared to their less engaged peers (Y. Li & Lerner, 2011). Similarly, research by Upadyaya and Salmela-Aro (2013) revealed a positive correlation between student engagement and overall well-being. Students who demonstrated higher levels of engagement with school activities reported greater life satisfaction, personal growth, and a sense of learning. Engaged students were also found to have fewer symptoms of depression and burnout, indicating that active participation and interest in school activities contribute to better mental health outcomes. In the findings of Grogan and colleagues (2014), student engagement in after-school programs significantly improved social competences, particularly when paired with regular attendance. The greatest gains in social competence were observed in students who were both highly engaged and attended the programs consistently. The work of Baroody and colleagues (2016) also revealed the relationship between fifth graders' mathematics engagement and their social competence using different reporting approaches. The results showed that all forms of measuring students' mathematics engagement—student-reported, teacher-reported, and observer-reported—had a significant positive correlation with teacher-reported ratings of students' social competence. Taken together, these results suggest that student engagement not only supports academic performance but also fosters essential social-emotional skills that contribute to overall student well-being.

Several key factors contribute to enhancing student engagement in both school and home environments. Research has identified three primary contextual predictors that facilitate student engagement: school, family, and peers (Appleton et al., 2006; Sinclair et al., 2003). Firstly, school-level factors such as teacher support, classroom structure, and the nature of tasks can greatly boost students' motivation and involvement in learning. Meeting students' individual needs for relatedness, autonomy, and competence at school is also crucial for fostering engagement (Curran & Standage, 2017; Fredricks et al., 2004). Additionally, peer relationships are another significant facilitator of student engagement. Supportive peers are linked to greater student engagement and classroom participation (Perdue et al., 2009), whereas peer rejection or maltreatment is associated with decreased participation and a tendency to avoid school (Buhs et al., 2006). Lastly, home-level factors such as family involvement and parental structure play a vital role in encouraging students to actively engage in their education and enhancing their sense of ownership. Parental expectations, the value placed on education, and the establishment of rules and expectations significantly impact student engagement (Appleton et al., 2006; Fernández-Zabala et al., 2016; Raftery et al., 2012; Wigfield et al., 2006). Understanding these facilitators provides valuable insights into how environmental variations can influence engagement and helps identify effective school and home interventions that enhance behavioral, emotional, and cognitive engagement.

Indirect Influences. While student academic expectations are not known to directly affect social-emotional skills, they can play a significant role through their influence on student engagement. Higher academic expectations can motivate students to engage more deeply with their schoolwork and participate actively in school activities (Salmela-Aro et al., 2021; Song et al., 2024).

Student Academic Expectations. Student academic expectations refer to anticipations and beliefs regarding future educational accomplishments (Araújo et al., 2019; Y. Wang & Benner, 2014). Reynolds and Pemberton (2001) describe these expectations as students' subjective probabilities that certain events, such as obtaining a college degree, will occur in the future based on the present information and their current preferences. In contrast to aspirations, which reflect the ideal situation or what the student dreams of achieving, expectations are the realistic plans formed after considering practical factors that influence decision-making and the likely outcomes (Gorard et al., 2012). This distinction highlights that while aspirations represent the desired level of education, expectations are grounded in a realistic assessment of what is achievable based on current circumstances and resources (Van den Broeck, Blöndal, et al., 2023; Zimmermann, 2020). Student academic expectations are a complex construct shaped by a range of influences, including past academic experiences, peers, family support, and institutional support (Guzmán et al., 2021; Pomianowicz, 2024; Van den Broeck, Vandelannote, et al., 2023). Gutman and Akerman (2008) note that expectations begin to form early in life, primarily shaped by the family context, but are later modified by school experiences. These evolving expectations shape students’ attitudes, behaviors, and perceptions within the school setting. Aligning student expectations with their learning environment is crucial for academic success and overall well-being (Dermitzaki et al., 2022; Tomlinson et al., 2023).

Several studies have shown a significant relationship between student academic expectations and student engagement. Salmela-Aro and colleagues (2021) found that high expectations in science classes were linked to greater dedication and lower levels of disengagement. Song and colleagues (2024) observed that adolescents with higher educational expectations than their parents demonstrated greater focus, persistence, and intrinsic motivation, while those with lower expectations experienced frustration and

decreased engagement. Mitton and colleagues (2020) reported that elevated academic expectations increased engagement and persistence among academically struggling and vulnerable grade 12 students. Additionally, Poellhuber and colleagues (2016) highlighted that in online learning environments, higher expectations correlated with greater intrinsic motivation and cognitive engagement. Overall, these findings emphasize the crucial role of high academic expectations in promoting student engagement.

Disadvantaged Student Populations

Children from economically disadvantaged households encounter extra obstacles in attaining similar educational outcomes as their more privileged peers, such as increased dropout rates (Winding & Andersen, 2015; Wood et al., 2017) and lower academic performance (Chmielewski, 2019; Lawson & Farah, 2017; Reardon, 2018). In addition to that, parental SES significantly impacts students' well-being, affecting their physical health, psychological state, and social-emotional skills (Jury et al., 2017; OECD, 2020). A systematic review of the literature by Gautam and colleagues (2023) revealed that children and adolescents from lower socioeconomic backgrounds are at increased risk of engaging in unhealthy behaviors, including early smoking initiation, consumption of high-energy-dense foods, lack of physical activity, and involvement in substance abuse, compared to their peers from higher socioeconomic strata. Conversely, children and adolescents from higher socioeconomic backgrounds tend to exhibit a higher prevalence of health-promoting behaviors, such as increased consumption of fruits and vegetables, dairy products, regular breakfast consumption, adherence to nutritious diets, and participation in active lifestyles. In a study by Steele and colleagues (2015), low socioeconomic family background positively predicted emotional and behavioral difficulties in children between 4 and 7 years old. The study confirmed that various forms of social disadvantage, particularly low SES, were significantly associated with higher risks of emotional and behavioral difficulties in young

children. These findings highlight the critical impact of SES on the health and well-being of children and adolescents by demonstrating how disparities in SES can lead to significant differences in physical health, behavioral patterns, and emotional stability.

Addressing the cycle of intergenerational poverty becomes a primary concern for policymakers and educators striving to promote social mobility and reduce inequality as current studies show that parental SES is passed down to children and adolescents (Andersen et al., 2021; Broer et al., 2019; Parsons et al., 2023). This intergenerational transmission of disadvantage commonly results in a reduction of opportunities enjoyed by individuals, perpetuating socioeconomic inequalities and limiting opportunities for upward mobility (Ayllón et al., 2022). Drawing upon data from the EU Statistics on Income and Living Conditions (EU-SILC), Eurostat (2019) delves into the intergenerational transmission of disadvantage and examines how the SES of adults during their teenage years (at the age of 14) influences their present standards of living. Notably, one of the key findings indicates that the educational attainment of parents significantly influenced the educational attainment of their children. In 2019, a significant proportion of adults aged 25-59 with low educational attainment had parents who similarly possessed lower levels of education, whereas a smaller fraction had parents with medium or high educational backgrounds. Conversely, nearly 40% of adults with high levels of education had parents who also attained high levels of education. Eurostat (2019) also observed a correlation between past and present financial conditions. In 2019, individuals who experienced a "Bad" financial situation in their household during adolescence exhibited an average at-risk-of-poverty rate of 23.0%, marking a 9.6 percentage point increase compared to those who had a "Good" financial situation at age 14. This data highlights the long-term impact of economic hardship during formative years on an individual's future financial stability. As a result, experiencing poor financial circumstances

during adolescence has a significant impact on an individual's current living conditions, leading to a higher likelihood of poverty.

Children and adolescents in Spain, including those in the Basque Autonomous Community in northern Spain, represent a demographic that continues to face significant challenges related to poverty and social exclusion. The 2024 AROPE (At Risk of Poverty or Social Exclusion) reports underscore this vulnerability, highlighting the risks faced by this age group at both national and regional levels. In 2023, more than one-third of individuals under the age of 18 in Spain were at risk of poverty or social exclusion (AROPE rate of 34.5%), a figure significantly higher than the general rate, with nearly 29% of minors living in households with incomes below the poverty threshold (Alguacil Denche et al., 2024). Specifically in the Basque Autonomous Community, a region in northern Spain, the 2023 AROPE report reveals that although this region ranks among the best in Spain regarding poverty and social exclusion indicators, significant challenges still exist. In 2022, the AROPE rate for individuals under 18 in the Basque Autonomous Community was 20.4%. While this figure represents a slight improvement from the previous year, it remains high compared to other age groups, highlighting the persistent vulnerability of children and adolescents in this region (Canals et al., 2023). The national 2024 AROPE report emphasizes that child poverty in Spain and its regions not only constitutes an immediate challenge but also perpetuates social exclusion throughout life, condemning children and adolescents at risk of poverty or social exclusion to disadvantages in education, health, and future employment opportunities (Alguacil Denche et al., 2024). This context highlights the critical need to focus this thesis on low income and disadvantaged student populations, considering the ongoing issues of child poverty and social exclusion in both Spain and the Basque Autonomous Community. These economic and social challenges significantly affect not only the immediate well-being of these children but also their future opportunities and the overall development of society.

Identified Gaps for This Research

After extensively reviewing empirical evidence to deepen the understanding of social-emotional skills, I conclude that these skills play a crucial role in individuals' overall well-being and academic success. Additionally, I find that family and school environments are crucial in nurturing and developing social-emotional skills. For students from disadvantaged communities, the development of social-emotional skills is particularly vital. These students often face unique challenges, including limited access to resources, unstable home environments, and exposure to stress and trauma, which can hinder their academic and personal growth. This review uncovers gaps in the current knowledge base concerning students' social-emotional skills and other related factors:

- Difficulties in conceptualizing and classifying social-emotional skills create significant challenges in their assessment. Historically, assessments of social-emotional skills have concentrated on identifying psychopathological issues, leading to a deficit-oriented perspective in their measurement. Recently, however, the focus has shifted towards strength-based assessment, posing a significant challenge to conventional assessment methods. Furthermore, current rating scales often misalign with CASEL's competences, being either too broad or too narrow. Tools differ based on the selected theoretical framework and incorporate varying definitions and dimensions of social-emotional skills. These difficulties highlight the need for more consistent and standardized assessment tools that align with contemporary frameworks like CASEL, focusing on strengths rather than deficits, to effectively measure and support the development of social-emotional skills.
- Another significant challenge in assessing social-emotional skills relates to methodological techniques. Despite several advantages, self-reported measures are often inaccurate due to being influenced by students' self-perception and social

desirability bias. Teacher and parent rating scales can also be biased by their perceptions and expectations of the student. In addition to that, reference bias, where individuals from different countries respond to the same question based on different reference points, further exacerbates this issue. Observational and performance assessments, while objective, require extensive training and can be affected by situational factors. These complexities suggest the need for a valid and reliable measure of social-emotional skills that is validated across diverse contexts.

- Despite the recognized importance of both family involvement and student engagement in students' social-emotional skills, research has predominantly examined the differential effects of these constructs separately, overlooking their combined influence. This gap is particularly relevant for disadvantaged student populations, where understanding the joint impact of family involvement and student engagement on skills like self-management, social awareness and responsible decision-making is crucial. This suggests the need to explore how these factors interact to influence the development of social-emotional skills in disadvantaged populations. By examining the combined impact of family involvement and student engagement, research can provide a more comprehensive understanding of how to effectively support students' social-emotional growth, particularly in contexts where these factors are critical for long-term success.
- While multiple factors such as school context, and the attitudes and behaviors of parents, teachers, and peers are known to influence student engagement, the impact of individual student characteristics, especially among disadvantaged populations, remains underexplored. Although some research has acknowledged the role of these individual traits on student engagement, there is still a lack of empirical studies that validate the connections between contextual factors, individual characteristics, and

student engagement. Specifically, the influence of student academic expectations on student engagement has not been thoroughly examined. By examining how individual characteristics like student academic expectations shape student engagement, research can provide deeper insights into the factors that drive meaningful student participation, particularly among disadvantaged groups, and inform more effective strategies for fostering equitable educational outcomes.

Addressing these research gaps will not only deepen the understanding of social-emotional skills but also provide evidence-based guidance for educators and policymakers.

Structure of the Thesis

This section outlines the structure of the thesis, providing an overview of each chapter and its contribution to the overall research. By detailing the organization of the thesis, readers will gain a clear understanding of the progression of the research, the key themes explored, and the connections between various components of the study. First, the introductory chapter serves as the starting point, providing background information on the topic, stating the research problem and introducing the structure of the thesis. The first chapter also includes the theoretical framework, which examines existing scholarly work, outlines research objectives and details the methodology used through the study. Next, the main body consists of four main chapters, each focusing on a distinct individual study that contributes to addressing the research objectives and constitute the core components of the research. Each chapter encompasses a literature review, methodology, results, and discussion related to the specific study being presented.

In each of the four studies, the literature review critically analyzes existing research, synthesizes previous findings, and highlights gaps or controversies related to the specific topics or themes addressed. Additionally, the methodology in each study describes the specific research design, methods, data collection procedures, sampling techniques, and

ethical considerations. The results section presents the findings of each study and includes tables, figures, or graphs to illustrate key findings. Following the results, the discussion interprets and analyzes the results in relation to the research objectives or hypotheses of each study. It also discusses implications of the findings, makes comparisons with existing literature, and addresses limitations. Finally, the conclusions for each study summarize the main findings, reflect on their implications and contributions, and offer recommendations for practice, policy, or further research.

Following the detailed description of the four individual studies, the summary of results provides a comprehensive summary of findings derived from this thesis. This synthesis encapsulates the key insights uncovered throughout the research, highlighting the salient patterns, trends, and relationships identified within the data. Furthermore, the conclusion chapter clarifies the study's contributions to the field of educational psychology, emphasizing its novel insights and practical implications. This chapter outlines potential avenues for future research, proposing directions for further research and exploration to address unresolved questions and expand upon the study's findings. Finally, the thesis concludes with a reference list of all sources cited in this manuscript and includes appendices containing supplementary materials such as the complete questionnaire or programming script.

It is important to note that this thesis is composed of four distinct studies, some of which have been previously published in academic journals. The content of the published studies remains unchanged, except for title adjustments and the renumbering of tables, figures, and appendices to standardize formatting across the thesis. Additionally, some orthographic conventions have been adapted to US English. It is also important to note that the main terms used in this monograph are employed interchangeably. Specifically, "social-emotional skills" may also be referred to as "social and emotional skills," "social-emotional

competences," or "social-emotional development". Similarly, "student engagement" may also be referred to as "school engagement". These terms are used interchangeably throughout the monograph, and readers will encounter different terms expressing the same concept across the four studies.

It is also necessary to contextualize the employment of terms such as race and ethnicity throughout the present thesis. In the Anglo-American context, terms such as racial and ethnic origin are commonly utilized, measured, and can be inquired about in research. In contrast, within the Spanish context, there are significant legal and cultural differences. Direct inquiries about race or ethnicity are not favored; for example, census data typically does not allow the identification of a child's Roma status. Instead, the emphasis is placed on a person's origin, such as their place of birth or nationality (Dirección General para la Igualdad de Trato y No Discriminación y contra el Racismo, 2022). Please note that when ethnically or racially diverse student populations are mentioned referring to the present sample, it pertains to the students' or their parents' origin. This distinction is essential for understanding the differences in the use of these terms throughout the monograph.

Theoretical Framework

This literature review contextualizes the present study within the broader scholarly debate and provides evidence for the research rationale. In this literature review, I build on the Bioecological model by Bronfenbrenner to examine how an individual's development is influenced by a series of interconnected environmental systems, from immediate environments like family and school to wider societal influences such as cultural values, legal structures and customs. In this section, I will first explore Bronfenbrenner's five ecological systems, followed by an examination of the Bioecological theory, where he introduces the Process-Person-Context-Time (PPCT) model. Finally, I will discuss how this theory and corresponding model relate to the study variables.

The Five Ecological Systems

Bronfenbrenner's early career was marked by the publication of his influential work, "The Ecology of Human Development" in 1979. Bronfenbrenner's ecological systems theory suggested that an individual's growth and behavior is shaped by a network of interconnected environmental systems, spanning from immediate surroundings like the family to broader societal structures such as the culture. The ecological systems theory perceived child development as a web of relationships influenced by multiple levels, ranging from immediate family and school settings to overarching cultural norms, legal structures, and social traditions. These systems include the microsystem, mesosystem, exosystem, macrosystem, and chronosystem, each representing distinct level of influence to an individual's development (Bronfenbrenner, 1977, 1979, 1986). The ecological systems theory is conceived as a series of nested structures, similar to Russian dolls, where each layer is contained within another. From the innermost to the outermost levels, these structures are described below (Bronfenbrenner, 1994).

The Microsystem. The microsystem is the first level of Bronfenbrenner's theory and includes the specific scenarios in which the child is directly present and participates. These scenarios are the child's immediate environments, such as family, school, and peer groups, where direct and dynamic interactions occur. For example, a child's family environment constitutes a crucial microsystem, where interactions with parents and siblings significantly influence the child's social, emotional, and cognitive development. Within these scenarios, the child is not just a passive recipient of influence; rather, the interactions are dynamic and reciprocal. This means that while the child's development is shaped by these interactions, the child also exerts influence within these contexts. The complexity and dynamics of these scenarios play a foundational role in the overall development of the individual (Bronfenbrenner, 1979). The microsystem serves as the primary stage for direct interactions

with key social figures, including parents, peers, and teachers. This system is the closest to the child and involves face-to-face interactions that have an immediate impact on their development. The relationships within the microsystem are crucial because they provide the initial context in which a child learns and grows (Bronfenbrenner, 1986, 1994).

The Mesosystem. The mesosystem represents the interconnectedness of an individual's various microsystems, highlighting how these different environments interact and influence each other. This system comprises the relationships between the microsystems in a child's life, forming what can be considered a "system of microsystems" (Bronfenbrenner, 1977, 1994). For example, the interaction between a child's home environment and their school environment is a key component of the mesosystem. These interactions can significantly impact a child's development; for example, effective communication between parents and teachers can positively influence a child's educational outcomes (Bronfenbrenner, 1979). Furthermore, Bronfenbrenner and Morris (2006) drawing on earlier research by Steinberg and colleagues (1995), illustrate how family practices and peer group dynamics interact within the mesosystem. Their study found that parenting practices have a strong but indirect influence on adolescent peer group affiliations. By fostering certain traits in their children, parents guided their child toward specific peer groups and therefore could shape the characteristics that determine a child's peer group association. Accordingly, their study concluded that parenting practices indirectly but powerfully influence adolescent social interactions within the mesosystem by fostering traits that steer children toward specific groups of peers.

The Exosystem. The exosystem incorporates additional formal and informal social structures that are not in direct contact with the child but still exerts influence on the child's microsystems (Bronfenbrenner, 1979). This system includes factors such as parents' workplaces, community resources, and extended family networks, which shape the conditions

of the environments the child directly interacts with (Bronfenbrenner, 1977, 1994). For instance, a parent's workplace is a crucial component of the exosystem. Even though the child may never visit this workplace, the parent's experiences there, such as job stress or satisfaction, can influence their parenting style and, subsequently, the child's development (Bronfenbrenner, 1986). Additionally, elements like community resources and local policies can all shape a child's experiences and opportunities. For example, reductions in arts funding at school might restrict a child's exposure to music and art enrichment. Conversely, a library bond could enhance educational resources within the child's community. Although the child does not engage directly with these structures, they play a significant role in shaping their microsystem scenarios (Brim, 1975).

The Macrosystem. The macrosystem encompasses the overarching cultural, social, and ideological frameworks that shape a child's development. It includes societal beliefs, attitudes, and norms that influence a child's experiences indirectly through the broader cultural context (Bronfenbrenner, 1979). Unlike more immediate systems, the macrosystem does not focus on specific settings but rather on the general cultural environment in which a child is embedded. This system is reflected in the societal "blueprints" that influence the functioning of various settings and institutions, including economic, social, educational, legal, and political systems (Bronfenbrenner, 1977). These cultural ideologies, such as beliefs about gender roles and family structures, establish norms and values that permeate a child's microsystems at the macrosystem level (Brim, 1975). For instance, in some cultures, there may be strong expectations for males to be assertive, competitive, and the primary breadwinners for their families. Meanwhile, females may be expected to be nurturing, passive, and primarily responsible for domestic duties and childcare. These gender norms are reinforced through various societal institutions, such as education, media, and government policies (Kirpitci & Arabaci, 2023; Nartey, 2023). However, even within a shared

macrosystem, there can be significant variations in how these norms and values are interpreted and applied, as not all families within the same culture adhere to the same set of beliefs (Bronfenbrenner, 1986).

The Chronosystem. The final level of Bronfenbrenner’s ecological systems theory is referred to as the chronosystem. When Bronfenbrenner first developed the Ecological Systems Theory, he did not initially include time as a factor in human development. He later incorporated the chronosystem into the theory. This system relates to the changes and transitions that occur over a child’s lifetime. These changes in the environment can be anticipated, such as starting school, or unforeseen, such as relocating schools due to a parent’s job transfer (Bronfenbrenner, 1986, 1994). Additionally, historical events, like economic recessions or pandemic conditions, are also part of the chronosystem, impacting family dynamics and resources. The chronosystem encompasses not only the individual's aging and maturation but also the historical period during which they live and develop (Bronfenbrenner, 1994). The way children navigate expected and unexpected life transitions depends on the support provided by their previously described ecological systems (Bronfenbrenner, 1979).

The scientific research community acknowledges that in order to understand a child’s development, it is imperative to analyze the child and their immediate surroundings, as well as the interplay with the broader environmental context. This holistic approach considers not only the child's direct environment, such as family and school, but also the influence of larger societal factors, including cultural, economic, and historical contexts (El Zaatari & Maalouf, 2022; Navarro et al., 2022; Vélez-agosto & Soto-crespo, 2017). By examining these interconnected systems, researchers can gain a deeper insight into how various elements collectively shape a child's growth and development, emphasizing the importance of both micro-level interactions and macro-level influences.

The Bioecological Model

It is worth mentioning Bronfenbrenner and Ceci (1994) later updated his theory, renaming it the "Bioecological Model". This revision reflected a greater emphasis on proximal developmental processes, which encompass enduring and continuous forms of interaction between the individual and their immediate and most proximal environments. According to Bronfenbrenner and Morris (2006), development occurs through increasingly complex reciprocal interactions between an active, evolving biopsychological organism and the people, objects, and symbols in its immediate external environment. While his original ecological systems theory emphasized the role of broader environmental systems, his later bioecological model delved more into micro-level interactions. The shift to the bioecological model highlighted reciprocal processes between the actively evolving individual and their immediate context, representing a dynamic evolution in Bronfenbrenner's perspective. Nonetheless, the bioecological model still recognized the broader environmental systems from his original theory as significant contextual influences on proximal processes.

Process-Person-Context-Time Model. The Process-Person-Context-Time (PPCT) model is a central framework in the bioecological model of human development introduced by Bronfenbrenner and Morris (2006). The PPCT model consists of four principal components: Process, Person, Context, and Time. Bronfenbrenner and Morris (2006) emphasized the importance of using the PPCT model to demonstrate how interactions between Process, Person, Context, and Time can explain individual development. Refer to Table 1 for a representation of the components and key features of the PPCT model.

Firstly, the Process component refers to proximal processes, which are the fundamental mechanisms of development, representing the regular, enduring interactions between an individual and their immediate environment. These interactions must occur regularly over extended periods and become progressively more complex. Examples include

Table 1

Key Features of the PPCT Model

PPCT Model	Component	Key features
Process	Proximal Process	Reciprocal, evolving, complex interactions
Person	Demand	Observable qualities, influences initial interactions
	Resource	Mental and emotional resources, not immediately visible
	Forces	Behavioral dispositions and motivations
Context	Microsystem	Immediate environments, direct interactions
	Mesosystem	Connections between microsystems
	Exosystem	External settings, not directly engaged by the individual
	Macrosystem	Overarching cultural and social contexts
Time	Micro-time	Specific moments, short-term interactions
	Meso-time	Regular patterns, frequency of activities
	Macro-time	Broad historical and life span contexts

Note. Adapted from “Review of Studies Applying Bronfenbrenner’s Bioecological Theory in International and Intercultural Education Research,” by P. Tong, and I. S. An, 2024, *Frontiers in psychology*, 14, p. 6 (https://doi.org/10.3389/fpsyg.2023.1233925). Copyright 2024 by P. Tong and I. S. An.

parent-child interactions, playing with peers, reading and learning new skills. The effectiveness of these processes depends on their frequency, duration, and the developmental stage of the individual. They are crucial because they directly influence the individual’s cognitive, emotional, and social development (Bronfenbrenner & Morris, 2006).

Secondly, the Person component in the PPCT model is composed of the individual's personal attributes, which influence how they interact with their environment and engage in proximal processes. These attributes are divided into three categories:

- **Demand Characteristics:** Observable qualities such as age, gender, and physical appearance that can influence initial interactions.
- **Resource Characteristics:** Mental, emotional, social, and material resources that an individual brings to interactions. These include intelligence, skills, and access to support systems.
- **Force Characteristics:** Behavioral dispositions and motivations that drive or inhibit engagement in activities. These include temperament, persistence, and the individual's proactive or reactive nature.

The person component of the PPCT model emphasizes the active role that individuals play in their own development, with a particular focus on biological influences. These individual personal attributes can impact how proximal processes develop and function (Bronfenbrenner & Morris, 2006).

Thirdly, the Context component refers to the various environmental layers that influence development (Bronfenbrenner and Morris, 2006). These layers are structured into four systems that coincide with the ecological systems:

- **Microsystem:** The immediate environment where direct interactions take place, such as family, school, and peer groups.
- **Mesosystem:** The interconnections between microsystems, like the relationship between a child's home and school.

- **Exosystem:** External settings that indirectly affect development, such as parents' workplaces or community services.
- **Macrosystem:** The broader cultural, economic, and societal influences that shape the other systems. This includes cultural values, laws, and customs.

Lastly, the Time component, closely related to the chronosystem, influences the developmental processes and interactions (Bronfenbrenner & Morris, 2006; Tudge et al., 2009). It is categorized into:

- **Micro-Time:** The timing of specific episodes of proximal processes, examining how immediate interactions unfold.
- **Meso-Time:** The consistency and frequency of these processes over broader periods, such as days, weeks, or months.
- **Macro-Time:** The overarching socio-historical context and how it changes across generations, impacting development over the lifespan. This includes major historical events and shifts in societal norms and practices.

All these elements in the PPCT model work interdependently and synergistically. Synergy is a key concept in the PPCT model, which refers to the cooperative action of these four elements, such that the total effect is greater than the sum of their individual effects (Navarro et al., 2022).

The Bioecological Model and the Study Variables

This study adopts a bioecological approach to address the present research objectives. Bronfenbrenner and Morris's (2006) bioecological model, through the PPCT framework, offers a thorough structure for conceptualizing and organizing the key variables in this study. Their model provides a nuanced understanding of how various environmental and personal

elements interact over time to shape developmental outcomes. This comprehensive approach enables a deeper insight into the complexities of human development within different contexts (Bronfenbrenner & Evans, 2000). For an overview of how the PPCT model relates to the study's variables, refer to Table 2.

Table 2

Description of the PPCT Model in Relation to the Study Variables

PPCT Model	Component	Key features	Description
Process	Proximal processes	Family and school	Family interactions, teacher-student relationships and peer interactions.
Person	Demand	Age, gender	Inherent characteristics that influence how individuals interact with their environment.
	Resource	Social-emotional skills	Abilities like communication, empathy, and resilience that improve how individuals engage with their surroundings and build relationships.
	Forces	Student engagement	The level of participation, interest, and motivation a student brings to their learning activities.
Context	Microsystem	Family	Relationships and dynamics within the home, including parental involvement, support, and communication.
		School	Interactions children have with teachers, peers, and the overall educational environment.

PPCT Model	Component	Key features	Description
	Mesosystem	Family involvement	The interactions between family and school are key components of the mesosystem. Strong partnerships between them provide a supportive network that benefits the child's development.
	Exosystem	Socioeconomic Status (SES)	Parents' occupations, parent educational attainment and family income indirectly influence the child's development through the availability of resources and stability in the household.
		Community resources	Availability of community resources such as mental health services, extracurricular programs, and social services that can support a child's development and well-being.
	Macrosystem	Economic policies	Economic policies and broader economic conditions affect the resources and opportunities available to children and their families.
		Cultural values	Broader societal attitudes and cultural norms shape the development of students and influence their educational experiences.
Time	Micro-time	Family routines and classroom activities	Day-to-day family routines, such as conversations during meals or bedtime, and daily school activities, such as classroom interactions and peer group dynamics.

PPCT Model	Component	Key features	Description
	Meso-time	Periodic events, ongoing programs	Periodic family events, like parent-teacher conferences or school reports, and ongoing school programs, such as social-emotional learning curricula or extracurricular activities.
	Macro-time	Long-term trends and historical factors	Economic recessions, pandemic, policy changes.

Note. Adapted from “Review of Studies Applying Bronfenbrenner’s Bioecological Theory in International and Intercultural Education Research,” by P. Tong, and I. S. An, 2024, *Frontiers in psychology*, 14, p. 6 (https://doi.org/10.3389/fpsyg.2023.1233925). Copyright 2024 by P. Tong and I. S. An.

Firstly, the Process component in this study encompasses the proximal processes that occur within both family and school environments. In the family, these processes include daily routines, guidance, the transmission of values, and the setting of expectations. Warm, supportive family interactions, such as engaging in stimulating activities, play a crucial role in enhancing children's social-emotional skills. Additionally, parental attitudes, educational background, and disciplinary practices deeply influence students’ social-emotional skills. In the school setting, proximal processes include the ways teachers engage students through curricular and extracurricular activities, with teachers playing a significant role in mentoring, building a positive classroom environment, and enhancing students' self-esteem, motivation, and emotional well-being. Peer interactions within the school, which occur without direct adult supervision, provide students with important opportunities to form relationships,

practice social norms, and explore their identities (Kankaraš & Suarez-Alvarez, 2019). Collectively, these proximal processes in both family and school settings are crucial as they represent the immediate, reciprocal exchanges that shape and guide children's development.

Secondly, the Person component underscores the active role individuals play in their development, focusing on how demand characteristics (age and gender), resource characteristics (social-emotional skills), and force characteristics (student engagement) influence their interactions and outcomes.

- **Demand Characteristics:** Age and gender are conceived as demand characteristics in this study, referring to inherent and observable traits that affect how individuals are perceived and how they engage with their environment. The OECD's 2023 Survey on Social and Emotional Skills highlighted notable differences in how social-emotional skills vary by age and gender. The survey found that younger children (around 10 years old) typically demonstrated strong skills in areas like trust, energy and optimism, which tend to be higher in early developmental stages. As children grew older, into adolescence (15 years old), there was a noticeable decline in these skills. Boys generally scored higher than girls in emotional regulation skills such as stress resistance, optimism, and emotional control during adolescence, while girls scored higher in social-emotional skills such as tolerance, achievement motivation, empathy, and responsibility (OECD, 2023a). These findings underscore the importance of considering age and gender as demand characteristics, as they significantly shape how children and adolescents engage with and respond to their immediate environments.
- **Resource Characteristics:** In this study, social-emotional skills are regarded as resource characteristics that significantly influence individual development. These skills help in managing emotions, building positive relationships, making responsible

decisions, and achieving personal and academic success. Developing these skills enhances cognitive performance, reduces behavioral problems, and fosters emotional well-being. Moreover, strong social-emotional competences support lifelong success in careers, relationships, and citizenship by promoting resilience, empathy, and effective communication (Greenberg, 2023). By recognizing social-emotional skills as resource characteristics, this model more accurately reflects the internal capacities that contribute to a person's overall growth and adaptability within various contexts.

- **Force Characteristics:** Student engagement, as a force characteristic, denotes the degree of enthusiasm, involvement, and commitment a student demonstrates towards their learning experiences (M. Furlong & Rebelez-Ernst, 2014). This engagement significantly influences how students interact with educational content and directly impacts their learning outcomes. Research consistently shows that highly engaged students perform better academically, achieving higher grades and stronger results on standardized tests (Abbott-Chapman et al., 2014; Schnitzler et al., 2021; Tomaszewski et al., 2020). Moreover, engaged students tend to exhibit better social competence, greater life satisfaction, and lower rates of burnout and delinquency (Grogan et al., 2014; Y. Li & Lerner, 2011; Upadyaya & Salmela-Aro, 2013). These findings emphasize the critical role of student engagement as a force characteristic for overall development.

Thirdly, the Context component is composed of four systems. In this study, the microsystem consists of the school and family, which are the immediate environments where children interact and develop. The school microsystem includes not only the physical environment but also the structured relationships between children, teachers, and peers, as well as the educational culture in which children are immersed. These contextual factors influence children's academic engagement, social skills, and emotional well-being. The

family microsystem, similarly, provides the structural setting of the home, with elements such as parental involvement, family dynamics, and communication patterns shaping the child's development (N. Hayes et al., 2017). Bronfenbrenner (1986) portrayed the family as a primary microsystem where children experience direct interactions that are critical in shaping their development through daily activities and routines. In the present research, both the family and school contexts are central to the development of a child's social-emotional skills, as these skills are the outcome of continuous interactions and processes within these primary environments.

The mesosystem in this study includes family involvement, highlighting the interactions between family and school that form a critical part of this system. Strong family-school partnerships can create a supportive network that benefits the child's development. To reflect this assumption, Bronfenbrenner (1986) employed an example from Epstein's research. Epstein (1983a, 1983b) investigated how two-way communication and joint decision-making between parents and teachers affect development. She found that elementary students in classrooms with high levels of this collaborative involvement not only demonstrated greater initiative and independence but also earned higher grades. Furthermore, the connections between home and school can impact not only the child's performance but also contribute to the parents' personal development (Bronfenbrenner, 1979). These mesosystem interactions can be especially crucial for low-income, disadvantaged families because of the persistent gaps between schools and vulnerable communities. For families living in poverty, especially those from ethnically and linguistically diverse backgrounds, these interactions are often hindered by cultural or linguistic differences (Bulotsky-Shearer et al., 2016).

The exosystem includes SES and community resources in this study. SES, which typically includes parents' occupations, parent educational attainment and family income,

indirectly impacts child development by influencing the availability of resources and the stability of the household. Among these factors, parent educational attainment plays a crucial role in shaping these effects, as it directly affects the quality of the home environment and the parenting practices that support child development (Davis-Kean et al., 2021). SES shapes a child's experiences, opportunities and access to essential services. Families with higher SES have better access to resources, educational opportunities, and support systems, an advantage that becomes particularly pronounced during crises, such as the Covid-19 pandemic. For instance, higher SES families were more likely to have the necessary technology and conducive environments for effective remote learning during the pandemic (Gouëdard et al., 2020). Additionally, the availability of community resources such as mental health services, extracurricular programs, and social services can also support a child's development and well-being at the exosystem level. The funding and allocation of these resources can determine the extent and quality of services available to children and their families, further influencing their development and well-being (Stanley & Kuo, 2022).

The macrosystem includes economic policies and cultural values, which are crucial societal factors that significantly influence children's educational experiences and opportunities for success. Recognizing the impact of broader economic conditions and cultural norms is essential, as they shape the environment in which children grow and learn (Bronfenbrenner, 1994). As part of this investigation, economic policies and broader economic conditions can affect the resources and opportunities available to children and their families. For example, as highlighted previously, the Covid-19 pandemic intensified economic disparities, disproportionately affecting disadvantaged groups. Government responses, such as fiscal stimulus measures and social safety nets, played a vital role in mitigating these impacts, yet the uneven distribution of these resources left the most vulnerable behind (World Bank, 2022). Furthermore, broader societal attitudes and cultural

norms such as perceptions of gender roles (Kirpitci & Arabaci, 2023) and attitudes towards diversity (Nolan & Owen, 2024), can shape student development and influence their educational experiences.

Lastly, the time component is divided into three levels:

- **Micro-Time:** It refers to the immediate, daily interactions and experiences that shape a child's social-emotional development. Within the scope of this study includes day-to-day family routines, such as conversations during meals or bedtime, and daily school activities, such as classroom interactions and peer group dynamics. These short-term experiences provide immediate feedback and opportunities for practicing and reinforcing social-emotional skills (Denham et al., 2012).
- **Meso-Time:** It involves the medium-term patterns and changes that influence development over weeks or months. In the context of this study, the meso-time includes periodic family events, like parent-teacher conferences or school reports, and ongoing school programs, such as semester-long Social-Emotional Learning (SEL) curricula or extracurricular activities. Meso-time captures how these sustained interactions and programs impact the child's skill development over time (Bronfenbrenner & Morris, 2006).
- **Macro-Time:** It encompasses long-term, broader temporal trends and historical factors that affect development. This includes overarching societal trends, such as changes in educational policies, economic conditions, or cultural shifts that influence both family dynamics and school environments (Bronfenbrenner & Morris, 2006). In relation to this research, macro-time refers to how long-term factors, such as economic recessions—including the impact of the Covid-19 pandemic—and educational policy changes—such as the promotion of multilingual education in the

Basque Autonomous Community—affect the development of social-emotional skills in disadvantaged communities over extended periods.

As recommended by Bronfenbrenner (1999), this study integrates the PPCT model with the study variables, providing clear descriptions of how each component affects a child's development. Bronfenbrenner's model helps to illustrate the interconnected nature of these variables (Bronfenbrenner & Morris, 2006). For instance, a child's SES (exosystem) can influence the level of family involvement (mesosystem). Families with higher SES are more likely to engage actively in their children's education, providing educational resources and support. This involvement can create a robust network of support between home and school (X. Li et al., 2020). Furthermore, disadvantaged student populations are often subject to systemic inequities (macrosystem) that permeate through various systems such as underfunded schools, limited access to advanced coursework, healthcare access and economic opportunities. These inequalities can significantly affect their student engagement (Person = Force characteristic) causing students to feel unsupported and undervalued, leading to disengagement and decreased motivation to attend school, participate in class, or complete assignments, which can negatively impact their academic achievement and future prospects (Tomaszewski et al., 2020). It is outside the scope of this study to provide a detailed examination of all potential interactions between the components of the PPCT model. However, I focus on illustrating some examples of these interactions that are relevant to the study's objectives, while acknowledging that many additional, complex interactions could be explored. By using this bioecological framework, I expect to better understand the multiple layers of influence on a child's development and identify points of intervention that consider both immediate and broader contextual factors.

Research Objectives

This section outlines the key objectives of the research, clearly defining the aims that guide the study. By articulating these objectives, the focus of the research is established, highlighting the specific aims the study seeks to answer and the outcomes it intends to achieve. The general objective of this study is to advance the understanding and measurement of social-emotional skills in school-aged children and adolescents, particularly within disadvantaged student communities. This research aims to enhance the theoretical and empirical knowledge base regarding the measurement of social-emotional skills. It also seeks to identify and analyze the factors that significantly influence the development of social-emotional skills, including family involvement and student engagement. Additionally, it seeks to explore how other factors, such as student academic expectations, interact with and impact student engagement. See Figure 1 for a representation of the hypothesized conceptual model.

The following objectives guide the research and contribute to advancing knowledge in the educational field:

1. To Review and Synthesize Existing Literature: Conduct a systematic review and synthesis of relevant literature on instruments measuring social-emotional skills. This objective aims to provide a theoretical foundation and contextual understanding of the key concepts and factors on the measurement of social-emotional skills in school-aged children and adolescents. This objective involves a systematic and comprehensive approach to identifying, evaluating, and synthesizing existing research studies.
2. To Validate the Social-Emotional and Character Development Scale (SECDS): Validate a Spanish version of the SECDS in low-income student communities and assess its reliability, validity, and appropriateness for measuring social-emotional

skills. This objective involves adapting the instrument to the cultural and linguistic context of the Basque Autonomous Community in northern Spain, examining its psychometric properties, and assessing its utility for assessing social-emotional skills in disadvantaged student populations.

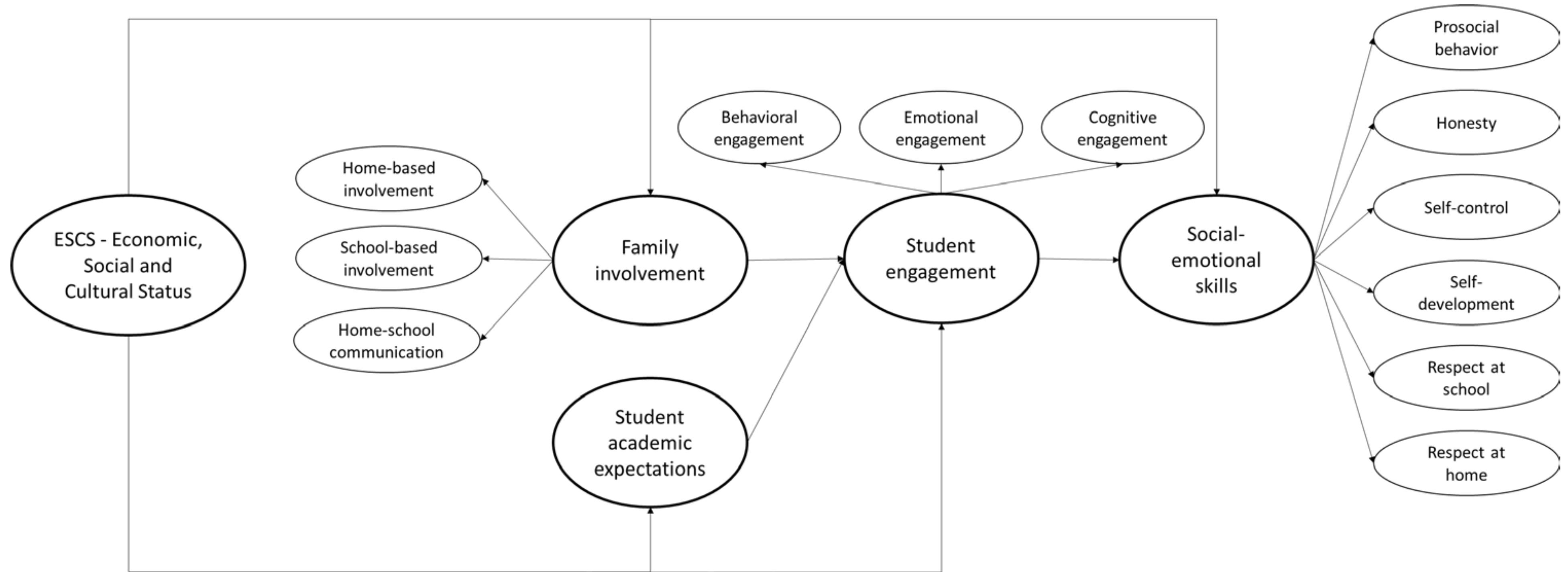
3. To Investigate the Impact of Family Involvement on Students' Social-Emotional Skills: Examine the influence of family involvement on students' social-emotional skills, with a focus on the mediational role of student engagement. This objective involves analyzing questionnaire data to understand how family involvement and parental practices contribute to the development of students' social-emotional skills and its underlying mechanisms.
4. To Explore the Effects of Student Academic Expectations on Student Engagement: Investigate the influence of student academic expectations on student engagement, with a particular emphasis on the moderating role of gender. This objective aims to identify gender differences in the strength of the association between student academic expectations and student engagement, with implications for gender-responsive school interventions and support strategies.
5. To Synthesize Findings and Implications: Synthesize findings from the empirical studies and literature review to generate insights into the complex interactions between the factors that influence social-emotional outcomes for disadvantaged student populations. This objective involves identifying patterns, common themes, and areas for further research, as well as implications for policy and practice in promoting equity and inclusion in education.

These objectives collectively contribute to the educational field by offering a nuanced understanding of how to effectively measure, support, and develop social-emotional skills,

thereby promoting positive student outcomes. By integrating theoretical insights and empirical findings, the research aims to provide a comprehensive framework that can inform educational practices, policies, and interventions. This framework will help educators and policymakers create inclusive and supportive environments that enhance social-emotional development among all students, with a special focus on those from low-income and diverse backgrounds.

Figure 1

The Overall Hypothesized Conceptual Model



Methodology

This section synthesizes the concrete methodologies of the four individual studies conducted as part of this thesis, highlighting the overall approach while delineating the unique methodological aspects of each study.

A common characteristic across all studies is that participants were selected based on their participation in the CaixaProinfancia program in the Basque Autonomous Community. CaixaProinfancia is a social and educational intervention by the Obra Social "la Caixa" Foundation. The program is designed to support children and adolescents aged 1 to 19 from economically vulnerable families who are at risk of social exclusion and meet the national poverty threshold. The program aims for student holistic development through community action networks, offering services like psychological support, educational support, and health promotion. Random sampling was used to ensure the sample accurately represents the target population, thereby improving the ability to generalize the research findings to a broader group. The sample selection followed two main criteria: (1) encompassing 80% of all students enrolled in the program, and (2) starting with 8-year-olds who met the minimum reading level necessary to independently complete the questionnaire. Data collection involved administering an online questionnaire via the Qualtrics platform. Program personnel administered the questionnaire, and participants were asked to read and accept the informed consent form before accessing and completing it. This study was carried out with the approval of the Research Ethics Committee at the University of Deusto. Necessary permissions were secured from the families of students involved in the survey and from officials representing the CaixaProinfancia program in the Basque Autonomous Community.

Study 1: Systematic Literature Review

Study 1 involved conducting a systematic literature review reported on the basis of the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines.

Searches were performed across Scopus, Web of Science (WoS), and Education Resources Information Center (ERIC) databases without language or date limitations until November 2, 2021. The search terms were selected using the PICO strategy and Boolean operators were employed. The search targeted research articles that developed instruments measuring social-emotional skills or evaluated their psychometric properties. Eligibility criteria included peer-reviewed articles in English from the past 20 years focusing on primary and/or secondary school-aged students and excluding studies on populations with special educational needs or non-peer-reviewed literature. The three authors independently screened titles and abstracts, resulting in 99 full-text articles, with 25 ultimately selected by consensus. Data extraction forms were developed to extract relevant data and the Joanna Briggs Institute (JBI) and Critical Appraisal Skills Programme (CASP) checklists were used for quality appraisal.

Study 2: Validation of the SECDS

Study 2 examined the validity of the Social-Emotional and Character Development Scale (SECDS). The final sample comprised 264 students aged 8 to 17 participating in the CaixaProinfancia program and selected through random sampling to ensure representativeness of the population. The SECDS, originally comprising 28 items across six dimensions, was translated and culturally adapted into Spanish through a four-step method. This process involved back translation, cultural adaptation, and pilot testing to ensure linguistic accuracy and cultural relevance. Psychometric analyses, including confirmatory factor analysis (CFA) and reliability assessments were performed using Jamovi software and a SEM analysis module. The CFA compared the fit of the hypothesized second-order model against alternative models, employing various fit indices and reliability coefficients (Cronbach's α and McDonald's ω) to test the adequacy and reliability of the SECDS in this sample.

Study 3: Mediation Analysis

Study 3 investigated the potential mediating role of student engagement in the association between family involvement and students' social-emotional skills. The sample for this study included 170 school-aged children and one of their primary caregivers, distinguishing it from Study 2 by incorporating both students and their families. These participants were drawn from the final sample of 264 children and adolescents enrolled in the CaixaProinfancia program. Instruments included Spanish adaptations of the Family Involvement Questionnaire (FIQ), the School Engagement Measure (SEM), and the SECDS. To accommodate the broader participant pool in this study, the online questionnaire administered via Qualtrics included personalized and anonymized URLs for each student and their parent. Data processing involved pairing student IDs with their primary caregivers' IDs. Statistical analyses were conducted using Jamovi software with a GLM Mediation Model module. Descriptive statistics and bivariate correlations were initially computed to assess linear relationships among variables. Additionally, mediation analyses were performed to test the hypothesized relations among the variables.

Study 4: Moderation Analysis

Study 4 examined the effect of student academic expectations on student engagement, moderated by gender. The sample, identical to that in Study 2, comprised 264 students aged 8 to 17 from the CaixaProinfancia program. Instruments included a composite measure for student academic expectations and the School Engagement Measure (SEM) for student engagement. The statistical analysis was performed using R Statistical Software. To measure and test the differential effect of the student academic expectations on student engagement as a function of gender, a multiple regression analysis was performed by adding an interaction term. This moderated multiple regression model was firstly tested on the total scores of student engagement as an outcome variable. Subsequently, the model was tested on the three

separate dimensions of student engagement as outcomes variables, resulting in four separate regression models.

It is evident that these studies encompass diverse methodologies and focal points. Study 1 focused on secondary data through a systematic literature review, whereas Studies 2, 3, and 4 involved primary data collection from participants. Study 2 exclusively assessed social-emotional skills using the SECDS, while Study 3 expanded to include family involvement and student engagement using multiple instruments. Study 4 specifically investigated the relationship between student academic expectations and student engagement, with a focus on gender moderation. The methodologies for data analysis varied: Study 1 employed a systematic literature review, Study 2 focused on instrument validation through psychometric analyses, while Study 3 focused on mediation analysis and Study 4 on moderation analysis. Studies 2, 3, and 4 were conducted with the review and approval of the Research Ethics Committee at the University of Deusto. For Study 1, however, ethical approval was not deemed necessary as it involved secondary data from a systematic review. These differences highlight varied research designs and analytical approaches tailored to address specific research questions.

Study 1: A Systematic Review of Instruments Measuring Social and Emotional Skills in School-aged Children and Adolescents

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Reproduced from [Martinez-Yarza, N., Santibáñez, R., & Solabarrieta, J. (2023). A systematic review of instruments measuring social and emotional skills in school-aged children and adolescents. *Child Indicators Research, 16*(4), 1475–1502. https://doi.org/10.1007/s12187-023-10031-3], under a Creative Commons License CC BY.

Strengthening social and emotional skills can be particularly relevant concerning the emerging skills need as it yields benefits for individuals' successful development. A growing body of research suggests that social and emotional competences are associated with well-being and positive life and academic outcomes. Despite the notable benefits of social and emotional skills, assessment tools are still scarce or target specific risk and problematic behaviors. This systematic review seeks to address this gap and identify instruments measuring social and emotional skills for students in elementary through secondary education. This review also aims to describe the study characteristics and key features of the identified instruments and to assess the extent to which the instruments comprehensively evaluate the five Collaborative for Academic, Social, and Emotional Learning (CASEL) areas of competence. A systematic search of the literature was carried out in Scopus, Web of Science and ERIC databases. This review resulted in the identification of 25 unique assessments over a 20-year period, reported on the basis of the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. Our results suggest a rapid growth and notable advancements of social and emotional skills assessment systems and demonstrate the direct influence of the CASEL framework. Our results also show that a combination of multi-method and multi-informant assessment should be employed to effectively assess social and emotional skills. Thus, this paper contributes to support school-based practitioners and psychologists in their efforts to lead social and emotional skills instruction and assessment in routine educational practice.

Literature Review

Ongoing megatrends such as technological breakthrough, climate change and ageing populations are shaping today's well-functioning society and future-fit skills are certainly gaining increasing popularity within the school setting (Elliott et al., 2018; OECD, 2015). Strengthening social and emotional skills can be particularly relevant concerning the

emerging skills need as it yields benefits on different spheres of individuals' life (Chernyshenko et al., 2018; Pancorbo et al., 2020). Until recently, social and emotional competences were not regarded as of vital importance unless individuals' accounted for deficiencies or problematic behaviors in this area. However, increasing attention has been paid to social and emotional skills' conceptualization and measurement tools over the past decade in children of different ages (Coryn et al., 2009; DeRosier & Thomas, 2018; Ee, 2014; Merrell et al., 2011; Thomson et al., 2018). To this end, schools have started implementing intervention programs targeting social and emotional skills (CASEL, 2022a; Mestre, 2020).

Conceptualization of Social and Emotional Skills

Social and emotional competences have been conceptualized and termed in multiple ways by individual research studies. This amalgam of different terms ranges from emotional intelligence by Salovey & Mayer (1989) or emotional literacy by Park and colleagues (2003) to Social Emotional Learning (SEL) by CASEL. The latter framework has been extensively researched and serves a reference framework for conceptualizing and categorizing social and emotional competences. CASEL covers most critical aspects of social and emotional skills outlined in major theoretical models and it is widely accepted by educators and scholars across the educational spectrum as a comprehensive framework of children´s and adolescents' social and emotional skills (Gresham et al., 2020; Zhou & Ee, 2012). CASEL defines SEL as the process through which individuals acquire the set of skills, attitudes and knowledge needed "to develop healthy identities, manage emotions and achieve personal and collective goals, feel and show empathy for others, establish and maintain supportive relationships, and make responsible and caring decisions" (CASEL, 2020b, para. 1).

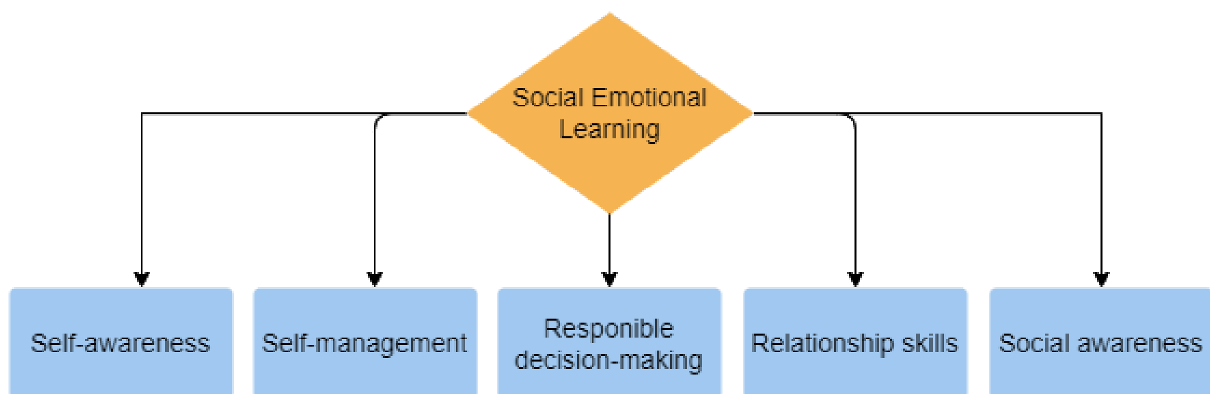
The Five Core CASEL Competences

There is considerable variability on the number and nature of the dimensions underlying social and emotional skills that often creates complexity and confusion in its

conceptualization and nature of assessment (Abrahams et al., 2019; LeBuffe et al., 2018). Although there is a lack of agreement on the components of social and emotional skills, there is substantial evidence that these skills can be grouped under the umbrella of the five CASEL areas of competence. CASEL proposes a framework of social and emotional skills consisting of five comprehensive and interrelated competences: self-awareness, self-management, responsible decision-making, relationship skills and social awareness (see Figure 2). For the present purposes, we adopt a conceptualization of social and emotional skills as a complex, multidimensional construct that integrates these five components.

Figure 2

The Five CASEL Areas of Competence



Self-awareness refers to the ability to recognize and identify one's emotions, thoughts and beliefs as well as to understand how they influence behavior and actions. This includes identifying one's strengths and weaknesses as well as possessing self-confidence and a sense of purpose. Self-management refers to the ability to accurately regulate one's emotions, thoughts and beliefs in a variety of situations. This include, for instance, stress management, organizational skills, self-discipline and self-motivation. The effective management of

emotions can play a crucial role when attempting to achieve personal and collective goals (CASEL, 2023).

Social awareness relates primarily to taking the perspective of others, demonstrating empathy and utilizing social support when needed. It emphasizes the ability to understand other's emotions and respond accordingly. Showing awareness for other people's emotions, thoughts and beliefs can lead to a better understanding and agreement between individuals. In addition to that, relationship skills refer to the ability to establish and maintain positive and healthy friendships with diverse individuals. This dimension highlights the importance of interacting with peers for the individual's integral development. This include, for example, clear communication, active listening, handling conflict constructively and cooperation (Elliott et al., 2018; Mantz et al., 2018; Zhou & Ee, 2012).

Responsible decision-making includes skills that allow individuals to make appropriate and respectful decisions about one´s behaviors and interactions with others. It refers to considering ethical standards, societal factors and safety issues when making choices. It emphasizes the process of evaluating the situation, analyzing the potential choices and anticipating the possible consequences for the individual and their environment. This includes, for instance, problem solving, open-mindedness and critical thinking (CASEL, 2023; Gresham et al., 2020).

Empirical Evidence Supporting Social and Emotional Skills

Evidence suggests the relevance of social and emotional skills for individuals' successful development in school and in life. Past empirical studies and meta-analyses have demonstrated the significant and positive association between social and emotional competences and students' academic performance. Social and emotional competences positively predicted pupils' academic achievement, including reading, mathematics, and science outcomes in fourth-grade and fifth-grade students (Yehui Wang et al., 2019).

Amongst other influential variables, decision-making skills appeared to be the most crucial variable in predicting students' academic performance in secondary student populations (Portela-Pino et al., 2021). In addition to that, CASEL found notable benefits of SEL in students' academic outcomes from a meta-analysis of over 200 school-based intervention programs. Students participating in SEL programs scored 11 percentile points higher in achievement test scores (Durlak et al., 2011).

A growing body of research suggests that social and emotional skills are also associated with well-being and positive life outcomes. Taylor and colleagues (2017) determined significant positive effects of SEL intervention on indicators of well-being such as fewer behavioral problems, less emotional distress and less drug use. Results from a latent profile analysis by Salmela-Aro & Upadyaya (2020) showed that high-school students who reported higher levels of social and emotional skills were more likely to belong to the engaged group of students rather than belonging to the stressed or burned out groups. The salient role of social and emotional skills was also highlighted in a study conducted by the World Bank, suggesting its notable benefits in labor market success (Guerra et al., 2014). The considerable positive impact of promoting social and emotional skills is therefore concluded as well as its complementary nature to promoting cognitive development in school-aged children and adolescents.

The Present Study

In spite of the notable benefits of SEL, instruments measuring social and emotional skills are still scarce (Chernyshenko et al., 2018). Most of the instruments are diagnostic in nature or target specific risk and problematic behaviors (Denham et al., 2009; Esen-Aygun & Sahin-Taskin, 2017; Malti et al., 2018). Others evaluate specific school-based intervention programs or assess social and emotional competences as part of a large-scale survey (Coryn et al., 2009). Although the multifaceted nature of social and emotional skills has been

stressed across the literature, measurement instruments usually target only one or two core competences and fail to assess the five CASEL areas of competence (Crowder et al., 2019; Doromal et al., 2019; Gresham et al., 2020). In many cases, payment for licensing fees is required to apply these assessment tools (Lawson et al., 2019). Accordingly, the need to engage in investigations of psychometrically sound and effective assessment tools and systems is determined.

To date, efforts to undertake a consolidated review of instruments measuring social and emotional skills is limited. This paper seeks to address this gap in the literature to support school-based practitioners and psychologists in their ongoing efforts to lead social and emotional skills instruction and assessment in routine educational practice. The main objective of this systematic review is to identify instruments measuring social and emotional skills for students in elementary through secondary education. The specific research objectives are threefold. First, we aim to describe the study characteristics of the research papers included in this review. Second, we also aim to identify and synthesize the key features of the identified instruments measuring social and emotional skills. Third, we aim to assess the extent to which the instruments comprehensively evaluate the five CASEL areas of competence.

Methodology

A systematic literature review was performed to address the research objectives. The present study is reported on the basis of the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines (Higgins et al., 2022; Moher et al., 2009), ensuring a comprehensive and transparent review. An initial search of the existing systematic reviews of the instruments available to assess social and emotional skills was conducted in the Cochrane Library of Systematic Reviews as well as in the International Prospective Register of Systematic Reviews (PROSPERO) and no records were found. The review

protocol for the present systematic review was registered with OSF Registries (see Appendix A). No ethical approval was required for this study.

Search Strategy

A systematic search of the literature was carried out in Scopus, Web of Science (WoS) and Education Resources Information Center (ERIC) databases up to 2 November 2021 with no language or date limitations to identify existing instruments measuring social and emotional skills. The search terms were selected using the PICO strategy (Landa-Ramírez et al., 2014; Richardson et al., 1995) and grouped into three main conceptual clusters: population, intervention and outcomes (see Table 3).

Table 3

Search Terms Grouped into Three Main Conceptual Clusters According to the PICO Strategy

PICO	[1] Population	[2] Intervention	[3] Outcomes
Key words	"elementary education" OR "elementary school*" OR "elementary student*" OR "elementary grad*" OR "primary education" OR "primary school*" OR "primary student*" OR "primary grad*" OR "secondary education" OR "secondary school*" OR "secondary student*" OR "secondary grad*" OR "middle school*" OR "middle-school*" OR "high school*" OR "high-school*" OR student*	instrument* OR measur* OR scale* OR questionnaire* OR survey* OR assess* OR screening	"social-emotional skills" OR "social-emotional development" OR "social-emotional competenc*" OR "social-emotional learning" OR "social emotional skills" OR "social emotional development" OR "social emotional competenc*" OR "social emotional learning" OR "social and emotional skills" OR "social and emotional development" OR "social and emotional competenc*" OR "social and emotional learning" OR "social-emotional" OR "social emotional" OR "social and emotional" OR "student strength*" OR "student asset*"

Search	**Scopus:** TITLE [3] AND TITLE-ABS [2] AND TITLE-ABS-KEY [1] **WoS:** TI [3] AND AB [2] AND TS [1] **ERIC:** TI [3] AND AB [2] AND AB [1]

The first conceptual cluster consists of search terms that capture the educational stage of the target individuals. Primary and secondary school-aged students were selected for the analysis given that the assessment of social and emotional skills is nearly a universal practice at preschool level for evaluating developmental progress. Search terms in the second cluster refer to the different types of measurement systems identified in the research methodology. The term “screening” is included given the nature of some instruments of social and emotional skills developed for universal and targeted screening in large-scale studies. Concerning the third conceptual cluster, a search of the term social and emotional skills and its variants was performed. Deletion of the hyphen and inclusion of a space produced several additional results.

Based on the CASEL framework, social and emotional skills consists of five comprehensive and interrelated areas of competence (i.e. self-awareness, self-management, responsible decision-making, relationship skills and social awareness). However, these specific competences were excluded from the search strategy as they resulted in incomplete instruments assessing solely one or two core competences and not precisely addressing the construct of social and emotional skills. Student strengths and assets were included amongst the search terms to incorporate strength-based approaches to assessment of social and emotional skills, being a guiding principle of the present theoretical framework.

The Boolean search modifier “*” was employed to cover variant spellings of the search terms. Furthermore, the Boolean operators “AND” and “OR” were used to group all the search terms in a single search in each of the databases. The “OR” operator was employed to combine search terms within a conceptual cluster and “AND” was placed between the

three clusters to include only results referring to the population, intervention and outcomes of interest. The search strategy combines title, abstract and keywords field tags.

Eligibility Criteria

The systematic review included published research articles describing the development of an instrument that measures social and emotional skills and/or assesses its psychometric properties. Research studies were not expected to have a predetermined definition of social and emotional skills to be selected for review given the multiple conceptualizations in the literature. If one of the instruments was detailed in more than one publication, the publication reporting the most complete information on the original instrument was retained. Additionally, instruments aimed at primary and/or secondary school-aged students were included. Excluded studies were those reporting on an instrument aimed at students with special educational needs and non-peer reviewed literature. Only peer-reviewed contributions published in English in the 20 years prior to the search were eligible for review. The grey literature was not considered for review. Table 4 shows the Inclusion Criteria (IC) and Exclusion Criteria (EC) employed to refine the results obtained.

Study Selection

The search initially resulted in a pool of 1460 articles from the databases: 527 studies in Scopus, 501 studies in WoS and 432 studies in ERIC. All the articles were exported to Mendeley and duplicates were removed (n=634). The result yielded a total of 826 research articles for review.

The three authors independently screened the search results based on a review of the titles and abstracts and against the inclusion and exclusion criteria. Studies that did not describe the development of an instrument and/or assess its psychometric properties were excluded (n=402); publications that did not report on the construct of social and emotional skills (n=63); research articles that did not refer to primary and/or secondary education

Table 4

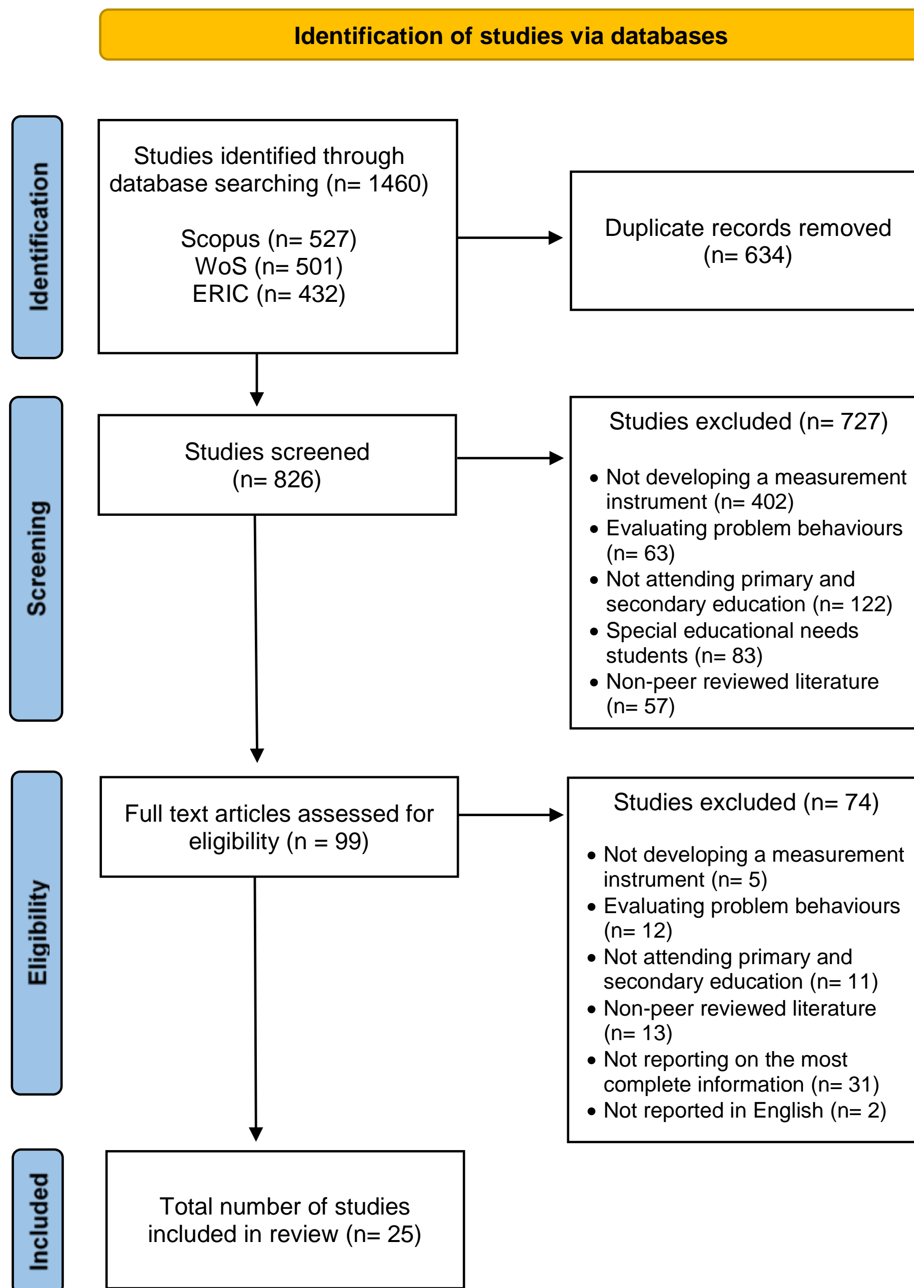
Review Question and Inclusion and Exclusion Criteria Employed

Review question	What instruments (intervention) are available to measure social and emotional skills (outcomes) in primary and secondary student populations (population)?	
	Inclusion criteria	**Exclusion criteria**
Population	Primary and/or secondary school-aged students	Not attending primary and/or secondary education (Preschool, Higher Education or Adult Education) Students with special educational needs
Intervention	Studies focused on the development of an instrument and/or assessment of its psychometric properties.	Studies focusing on program development and evaluation, correlational associations, clinical trials, theoretical reviews and group comparison studies.
Comparator	Not applicable	Not applicable
Outcomes	Outcomes related to social and emotional skills.	Outcomes related to problem or risk behaviours (e.g. social, emotional and behavioural difficulties, social-emotional maladjustment, emotional behaviour concerns) and other non-cognitive outcomes (character, school readiness etc.).
Study design	Peer reviewed studies	Non-peer reviewed literature

(n=122); research articles that were aimed at special education (n=83); studies that are not published in a peer-reviewed journal (n=57). The results of this first screening yielded a total of 99 full texts for analysis. Figure 3 illustrates the flow of information through the different selection phases.

Figure 3

PRISMA Flow Diagram of Information Through the Different Selection Phases



Note. From "The PRISMA 2020 statement: an updated guideline for reporting systematic reviews," by M. J. Page, J. E. McKenzie, P. M. Bossuyt, I. Boutron, T.C. Hoffmann, C. D. Mulrow, L. Shamseer, J. M. Tetzlaff, E. A. Akl, S. E. Brennan, R. Chou, J. Glanville, J. M.

Grimshaw, A. Hróbjartsson, M. M. Lalu, T. Li, E. W. Loder, E. Mayo-Wilson, S. McDonald... D. Moher, 2021, *The BMJ,* 372, p. 5 (https://doi.org/10.1136/bmj.n71). Copyright 2021 by The BMJ.

Subsequently, the full text of these studies was retrieved and screened for eligibility. The inclusion and exclusion criteria were applied independently by the three authors, leading to a final selection of 25 journal studies for this systematic review. Any questions or disagreements during the screening procedure were resolved by a consensus-based discussion between the three review authors.

Data Collection Process

Data collection forms were developed to extract relevant data and capture key characteristics from the identified studies. Information that was coded included the name of the instrument, the year in which the instrument was developed or validated, the purpose of the instrument, the type of assessment method (i.e., self-reported scale, multi-level rubrics or performance assessment), the total number of items, the domains assessed (i.e., relationship skills, self-management, social awareness), the grade level of the student sample, the psychometric data, the item format (i.e., Likert-type rating scale, situational judgment items, forced-choice items) and who completed the assessment (i.e., student, parent or teacher). Data items were identified for each of the instruments. In case of an item not being reported, 'Not reported' was registered. All articles were crosschecked by three authors to verify the accuracy of the coding.

Quality Appraisal

Two different appraisal tools were employed to guarantee the methodological quality of the study as well as an unbiased selection of publications. Authors independently appraised

each study applying the checklists for use with systematic reviews by Joanna Briggs Institute (JBI) (Lockwood et al., 2015) and the Critical Appraisal Skills Programme (Critical Appraisal Skills Programme (CASP), 2018), consisting of 8 and 12 questions respectively, and addressing the research objectives, method, results and impact of the study. For both of the appraisal tools, each question was answered as yes (met the criteria), no (did not meet the criteria) or unclear/can't tell. In some instances, not applicable "NA" was also provided as an option. The 25 selected studies met the criteria and are considered acceptable to the aims of the present systematic review. Refer to Appendix B for various examples of the CASP and JBI checklists employed in this study for quality appraisal purposes.

Results

This section reports the results of the systematic review in line with the initial research objectives. First, the study characteristics of the research papers included in this review are described. Second, the key features of the identified instruments measuring social and emotional skills are detailed. Finally, the extent to which the identified instruments comprehensively evaluate the five CASEL areas of competence is examined.

Study Characteristics

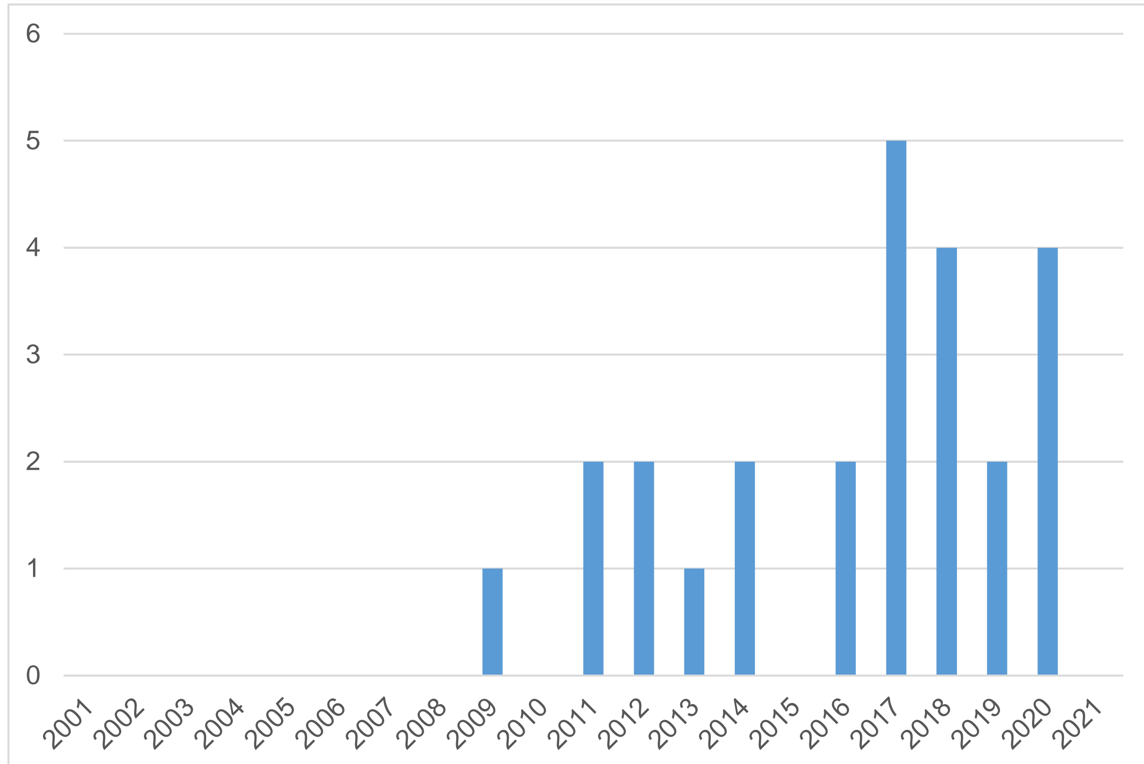
Across all 25 studies, the large majority (14; 56%) were conducted in the United States of America (USA). When considering other geographic locations, two studies were conducted in Singapore (8%), Spain (8%) and Brazil (8%). There is also evidence in Romania, Portugal, Australia, Turkey and Canada, comprising each 4% of the total studies. In the course of 20 years prior to the search, all the identified studies were published between 2009 and 2020. No published papers were found describing the development and validation of an instrument assessing students' social and emotional skills preceding 2009 (see Figure 4). An overall steep increase is pinpointed from 2017 until 2020, considering that more than

half of the works were published in this interval (n = 15; 60%). However, a decline is observed in the following year 2021, equaling the number of identified studies to zero.

Among the 25 analyzed studies, more than half of the studies (14; 56%) involved a primary focus on developing and validating an instrument to measure students' social and emotional competences. In addition to that, nine of the identified studies (36%) targeted solely the validation of an already existing instrument or any of its forms (short form, student form etc.). Two of the studies (8%) reviewed the development, validity evidence and application of an already existing instrument. Accordingly, the large majority of the studies (23; 92%) are based on original research while two of the studies (8%) do not report original research but summarize the findings of an existing instrument.

Figure 4

Distribution over Time of the Number of Instruments Developed or Validated



The average sample size amounted to N = 19,961 participants (Standard Deviation (SD) = 76,758.87; Median (Mdn) = 1,351; range, 268–378,456). The age ranges of participants varied significantly across studies. The most frequent age ranges were 5–9, 6–18, 8–10, 8–11, 10–18 and 11–19, and each comprised 8% of the studies reporting data on participant age. Eight years was the most recurring lower age limit across participant age ranges (7; 28%). On average, females made up 49.5% of the student population across identified studies. A majority of the studies reported on the participants' ethnicity (17; 68%) and included participants from diverse ethnic backgrounds. A detailed overview of the study characteristics of research papers included in this review is included in Table 5.

Table 5

Study Characteristics of Research Papers Included in the Review

First author (Year) Country	Study purpose	Sample characteristics
Aurora-Adina, 2011 Romania	Develop an instrument to measure social-emotional skills and test its validity and fidelity.	N = 274, Age range = 11-19 56.5% female
Coelho et al., 2016 Portugal	Test the factor structure of a short form of the Social and Emotional Competences Evaluation Questionnaire –Teacher's Version (QACSE-P).	N = 657, Age range = 8-16 (M= 11.3, SD= 1.8) 46.3% female
Coryn et al., 2009 USA	Develop and evaluate a measurement device to assess elementary-aged students' social-emotional learning needs.	N = 633, Age range = 8-12 50% female 38% Caucasian, 31% African American, 14% Other, 11% Hispanic, 6% American Indian
Crowder et al., 2019 USA	Provide validity evidence for the Washoe County School District Social-Emotional Competency Assessment (WCSD-SECA).	N = 6,581, Age range = 10-17 49% female 45% non-Hispanic White, 40% Hispanic
DeRosier & Thomas, 2018 USA	Establish the criterion validity of Zoo U's game-based social-emotional skills assessment.	N = 270, Age range = 8-10 43% female

First author (Year) Country	Study purpose	Sample characteristics
		58% Caucasian, 24% African American, 18% Multiracial
Ee, 2014 Singapore	Generate a new measure based on the Defining Issues Test (DIT) to assess the social-emotional competence of secondary school students.	N = 802, Age range = 12-14 (M=13.71) 46.5% female
Elliott et al., 2018 Australia	Design and validate a universal screening measure called Social Emotional Learning Screening Assessment (SELA).	N = 268, Age range = 5-9 46.3% female 11.6% Aboriginal, Torres Strait Islander
Esen-Aygun & Sahin-Taskin, 2017 Turkey	Develop a valid and reliable scale of social-emotional learning.	N = 439, Age range = 8-10
Ferrándiz et al., 2012 Spain	Study the validity of the Emotional Quotient Questionnaire for Youth Version (EQ-i:YV) in a Spanish sample.	N = 1655, Age range = 6-18 (M=11.10, SD=3.11) 47.1% female
Furlong et al., 2014 USA	Report on the preliminary development and validation of the Social Emotional Health Survey (SEHS).	N = 4189, Age range = 13-18 (M=15.1, SD=1.7) 51% female 73% Hispanic
Gresham et al., 2020 USA	Evaluate the psychometric properties of the scores from the Social Skills Improvement System Social Emotional Learning Edition Rating Forms (SSIS SEL RF).	N = 685, Age range= 3-18 51.2% female 73.8 Caucasian, 10.8% African American, 8.9% Hispanic, 6.3% Other
Ji et al., 2013 USA	Study the psychometric properties of the Social-Emotional and Character Development Scale (SECDS).	N = 593, Age range = 8-11 54% female 54% African American, 30% Hispanic, 11% Caucasian, 5% Asian
Kilgus et al., 2020 USA	Develop and validate the Intervention Selection Profile (ISP)-Skills.	N = 977, Age range = 5-12 (M=8.39, SD=1.9) 46% female 45% Caucasian, 31% African American, 17% Hispanic, 4% Other, 2% Multiracial
LeBuffe et al., 2018	Discuss the development and psychometric properties of the DESSA	N = 2494, Age range = 5-14 50.5% female

First author (Year) Country	Study purpose	Sample characteristics
USA	and DESSA-Mini for assessing student social-emotional competence.	82% Hispanic, 72.2% Caucasian, 22.3% African American, 3% Asian, 1.9% American Indian, 0.6% Native Hawaiian
Malti et al., 2018 USA	Introduce the Holistic Student Assessment tool and provide further evidence for the psychometric properties of its self-report scale.	N = 5946, Age range = 10-18 (M=13.16, SD=1.92) 49% female
Mantz et al., 2018 USA	Develop a valid and reliable self-report instrument that assesses students' social-emotional competences.	N = 32,414, Age range = 8-18 50.8% female 47% Caucasian, 26.1% African American, 12.9% Hispanic, 10.4% Multi-racial, 3.7% Asian
McKown, 2019 USA	Evaluate the psychometric properties and measurement invariance of the SELweb assessment tool.	N = 4,419, Age range = 5-9 (M=7.5, SD=1.1) 50% female 44.8% Caucasian, 13% African American, 31.9% Hispanic, 5.7% Asian, 4.7% Other
Merrell et al., 2011 USA	Create a strength-based social-emotional assessment tool, explore the latent structure of its constructs and evaluate its psychometric properties.	N = 1673, Age range = 5-18 49.5% female 49% Caucasian, 19.1% African American, 18.6% Hispanic, 8.1% Asian, 3.1% Multiracial, 1.2% Other, 0.2% Native American
Murano et al., 2021 USA	Develop and validate innovative item types to measure social-emotional skills in elementary school children.	N = 1047, Age range = 8-11 53.3% female 59.1% Caucasian, 13.9% African American, 8.2% Multiracial, 3.2% Hispanic, 2.2% American Indian, 1.2% Asian, 0.5% Native Hawaiian
Pancorbo et al., 2020 Brazil	Develop rubrics for the social-emotional skills domains and assess their	N = 7404, Age range = 12-15 (M=13.0, SD=0.94) 48% female

First author (Year) Country	Study purpose	Sample characteristics
	psychometric properties using IRT modelling.	70.7% Multiracial, 14.2% Caucasian, 6.9% Asian, 5.3% African American, 2.9% Indigenous
Primi et al., 2016 Brazil	Construct a comprehensive measure for large-scale studies in Brazilian schools and evaluate its psychometric properties.	N = 24,605, Age range = 10-18 41.8% female 40.4% Multiracial, 28.9% Caucasian, 21.1% African American, 5.9% Asian
Thomson et al., 2018 Canada	Discuss the conceptualization, development, validation and application of the Middle Years Development Instrument (MDI).	Age range = 9-12
West et al., 2018 USA	Provide an overview of CORE's School Quality Improvement system and present reliability and validity evidence from a 2015 field test.	N = 378,456, Age range = 9-18 5%0 female 71% Hispanic, 10% Asian, 10% Caucasian, 0.8% African American
Zhou & Ee, 2012 Singapore	Develop and validate a tool to measure children's and adolescents' social-emotional competence and assess the effectiveness of SEL programs.	N = 444, Age range = 8-16 57.8% female 73% Chinese, 15.9% Malay, 6.1% Indian, 2.9% English, 2% Other
Zych et al., 2018 Spain	Design and validate the Social and Emotional Competencies Questionnaire in adolescents and young adults.	N = 2,139, Age range = 11-19 (M=13.79, SD=1.40) 50.9% female

Instruments Measuring Social and Emotional Skills

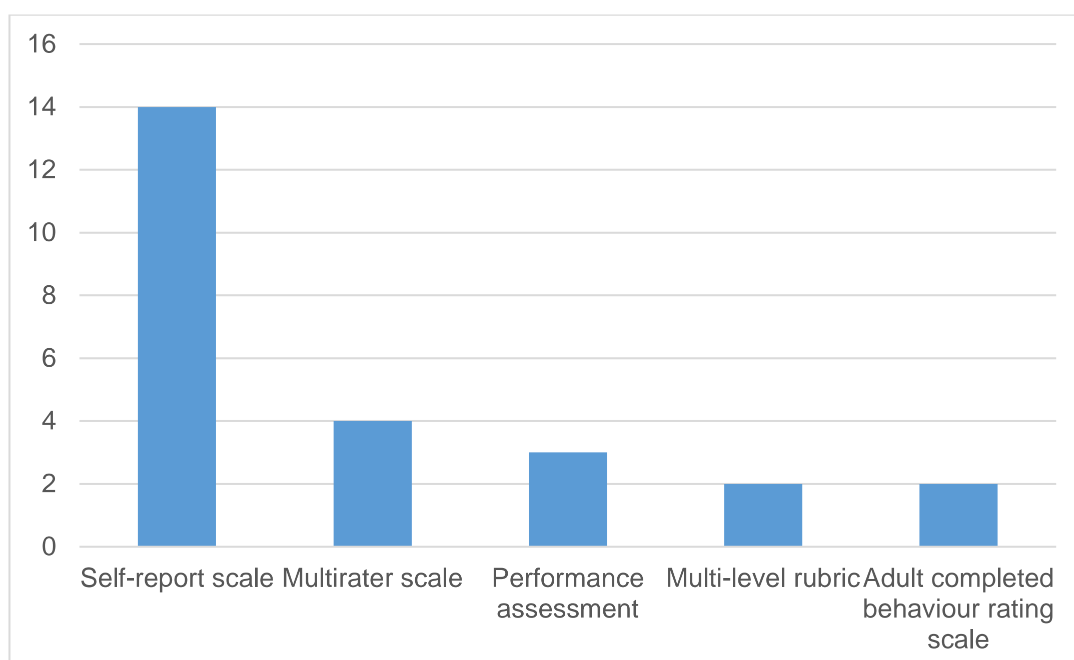
Among the 25 analyzed instruments, more than half (14; 56%) developed self-report rating scales of social and emotional skills (see Figure 5). In addition to the self-report forms, four identified instruments (16%) developed a cross-informant system that also included teacher and parent rating forms (i.e. multirater scale). Two of the instruments (8%) solely developed adult completed behavior rating scales for parents or teachers/staff. Other analyzed

instruments (3; 12%) validated performance-based assessment types or developed multi-level rubric systems (2; 8%). Across the 25 instruments, the large majority (22; 88%) were identified as indirect assessment methods gathering data through means other than actual samples of student work. Three of the instruments (12%) involved assessing the actual samples of student work and can be considered as direct assessment methods.

The instruments varied depending on who was responsible for completing the assessment in each study. Assessments completed by the student (i.e., self-report) were most common (20; 80%), followed by teacher informants (6; 24%). Other respondents included the parent or caregiver (2; 8%). Regarding the grade level of the student sample, the large majority of the instruments were applicable in upper elementary (20; 80%) and middle school grade levels (18; 72%). Around half of the identified instruments could be employed across high school grades (52%). However, solely ten instruments (40%) were applicable in lower elementary grade levels.

Figure 5

Number of Types of Assessment Methods Developed or Validated



The number of items per instrument varied greatly, ranging from 5 to 103 items (Mean = 41.1). The most frequent number of items across the instruments was 25 (3; 12%). Concerning response options, 17 instruments reported the use of Likert Type scales. Nine of the instruments using Likert Type scales reported using a 4-point scale, six reported using a 5-point scale, one reported using a 3-point scale and one other reported using a 6-point scale. Other instruments reported using innovative item types such as situational judgement items (2; 8%) and forced-choice items (2; 8%). Across the identified instruments, multi-level rubrics (2; 8%) employed 5-point and 7-point level descriptors as their response options. Other instruments reported using behaviorally anchored rating scale (1; 4%) and open-ended response options (1; 4%).

Additionally, psychometric data regarding each instrument's model fit, measurement invariance, reliability and validity were reported when available. Psychometric data were available for 24 of the 25 identified instruments (96%). A majority of the studies (17; 70%) provided data on model fit assessment. Across the identified instruments, model fit was principally analyzed using Confirmatory Factor Analysis (CFA) (8; 33%) or using a combination of CFA and Exploratory Factor Analysis (EFA) (6; 25%). Hardly any studies (1; 4%) analyzed model fit using EFA independently, Principal Components Analysis (PCA) (1; 4%) or Q-matrix validation (1; 4%). Data describing measurement invariance was only available for five of the instruments (20%) and it was performed across gender, age groups or participants' race/ethnicity.

Most of the studies (18; 75%) reported on instruments' internal consistency using Cronbach's alpha (α) coefficient (16; 66%) or Mcdonald's omega (ω) coefficient (2; 8%). Concerning other reliability measures, seven studies (29%) reported on test-retest reliability and three (12%) on interrater reliability. Across the identified instruments, criterion validity was most frequently provided (12; 50%) assessing correlations between the measure and one

or more criterion variables. In addition to that, seven studies (29%) reported data on construct validity. Few studies assessed incremental validity (1) and non-statistical content validity (1), comprising each 4% of the studies reporting data on psychometric data. See Table 6 for a detailed description of the key features of the identified instruments measuring social and emotional skills are detailed.

Table 6

The Main Features of Each of the Identified Instruments Assessing Social and Emotional Skills

Instrument	**Social- Emotional Skills Assessment Scale (SESAS)**	**Social and Emotional Competences Evaluation Questionnaire**	**Social-Emotional Learning Scale (SELS)**	**Washoe County School District (WCSD-SECA)**	**Zoo U**
Type of measure	Self-report scale	Multirater scale	Self-report scale	Self-report scale	Performance assessment
Items	75	30	20	40	6
Subscales	Self-awareness, emotional management, autonomy, social awareness, interpersonal management, life skills	Self-Control, social awareness, relationship skills, social isolation, social anxiety, responsible decision-making	Task Articulation, Peer Relationships and Self-Regulation	Self-awareness, self-management, social awareness, relationship skills and responsible decision-making	Communication, cooperation, empathy, emotion regulation, impulse control, social initiation
Use	6-12 grades	4-9 grades	K-5	5-12 grades	3-5 grades
Raters	Student	Teacher	Student	Student	Student
Psychometric properties	Internal consistency reliability (α), content validity, criterion validity (concurrent)	Model fit (PCA, CFA), internal consistency reliability (α), test-retest reliability	Model fit (CFA), internal consistency reliability (Ω)	Item Response Theory (IRT)	Criterion validity (concurrent and predictive), construct validity
Item format	5-point Likert type scale on level of agreement	4-point Likert scale on frequency	5-point Likert type on level of agreement	4-point Likert scale on difficulty	Situational judgement items

Instrument	Defining Issues Test (DIT)	Social Emotional Learning Screening Assessment (SELA)	Social-Emotional Learning Skills Scale (SELSS)	Emotional Quotient Questionnaire for Youth Version	Social and Emotional Health Survey (SEHS)
Type of measure	Performance assessment	Multi-level rubric	Self-report scale	Self-report scale	Self-report scale
Items	5	8	27	60	36
Subscales	Self-awareness, self-management, social awareness, relationship management and responsible decision-making	Social Emotional: Self-awareness, self-management, social awareness, relationship skills, responsible decision-making Academic functioning: Motivation to learn, reading, mathematics performance	Relationship among friends, perception of friendship, persistence, success, self-management, impulse control, self-confidence	Intrapersonal, interpersonal, stress management, adaptability, general mood	Belief in self, belief in others, emotional competence, engaged living
Use	7-11 grades	K-5	3-4 grades	1-12 grades	6-12 grades
Raters	Student	Teacher	Student	Student	Student
Psychometric properties	Not reported	Internal consistency reliability (α), test-retest reliability, criterion validity (concurrent and predictive)	Model fit (EFA, CFA), internal consistency reliability (α)	Model fit (EFA), internal consistency reliability (α), criterion validity (concurrent)	Model fit (CFA), measurement invariance (gender), construct validity (convergent and discriminant)
Item format	Open-ended	5-level descriptors on performance level	3-point Likert scale on frequency	4-point Likert type scale on 'Reflect me?'	4-point and 5-point Likert type scales

Instrument	Social Skills Improvement System (SSIS SEL)	Social-Emotional and Character Development Scale (SECDS)	Intervention Skills Profile (ISP)–Skills	Devereux Student Strengths Assessment (DESSA)	Holistic Student Assessment (HSA)
Type of measure	Multirater scale	Self-reported scale	Adult completed behavior rating scale	Adult completed behavior rating	Self-report scale
Items	46, 58, 51	28	14	72	25
Subscales	Self-awareness, self-management, social awareness, relationship skills, responsible decision-making	Prosocial behavior, honesty, self-development, self-control, respect at school and at home	Self-awareness, self-management, social awareness, relationship skills, responsible decision making & study skills, academic engagement, motivation	Self- and social-awareness, self-management, goal-directed behavior, relationship skills, personal responsibility, decision making, optimistic thinking	Optimism, emotion control, action orientation, self-reflection, trust, empathy, assertiveness
Use	K-12	K-5	K-6	K-8	4-12 grades
Raters	Student, teacher, parent	Student	Teacher	Teacher, parent	Student
Psychometric properties	Model fit (CFA), internal consistency reliability (α), test-retest reliability, interrater	Model fit (CFA), internal consistency reliability (α), test-retest reliability, criterion validity	Model fit (Q-matrix), criterion validity	Internal consistency reliability (α), test-retest reliability, interrater reliability, criterion and construct validity	Model fit (EFA, CFA), internal consistency reliability (Ω), measurement invariance (age group), construct validity
Item format	4-point Likert scale on frequency	4-point Likert type scale	5-point behaviorally anchored rating scale	5-point Likert type scale on frequency	4-point Likert scale on frequency

Instrument	The Delaware Social-Emotional Competency Scale (DSECS-S)	SELweb	Social-Emotional Assets and Resilience Scale, Teacher	ACT Tessera Social and Emotional Learning Assessment System	Social-emotional skills (SEMS) rubrics
Type of measure	Self-report scale	Performance assessment	Multirater scale	Self-report scale	Multi-level rubric
Items	12	103	41	96	8
Subscales	Responsible decision making, relationship skills, self-management, social awareness	Emotion recognition, social perspective-taking, social problem-solving, self-control	Self-regulation, empathy, responsibility, social competence	Grit, teamwork, resilience, curiosity, leadership	Self-management, open-mindedness
Use	3-12 grades	K-3	K-12	K-5	6-8 grades
Raters	Student	Student	Teacher	Student	Student
Psychometric properties	Model fit (CFA), internal consistency reliability (α), criterion validity, measurement invariance (grade, race/ethnicity, gender)	Model fit (CFA), internal consistency reliability (α), test-retest reliability, measurement invariance (time, sex, ethnicity)	Model fit (EFA, CFA), internal consistency reliability (α), construct validity (convergent)	Model fit (CFA), internal consistency reliability (α), construct validity (convergent and discriminant), criterion validity, incremental validity	Item Response Theory (IRT)
Item format	4-point Likert scale from on ‘Reflect me?’	Forced-choice items	4-point Likert type scale on frequency	Likert-type rating scale, situational judgment items, forced-choice items	7-level descriptors on performance levels

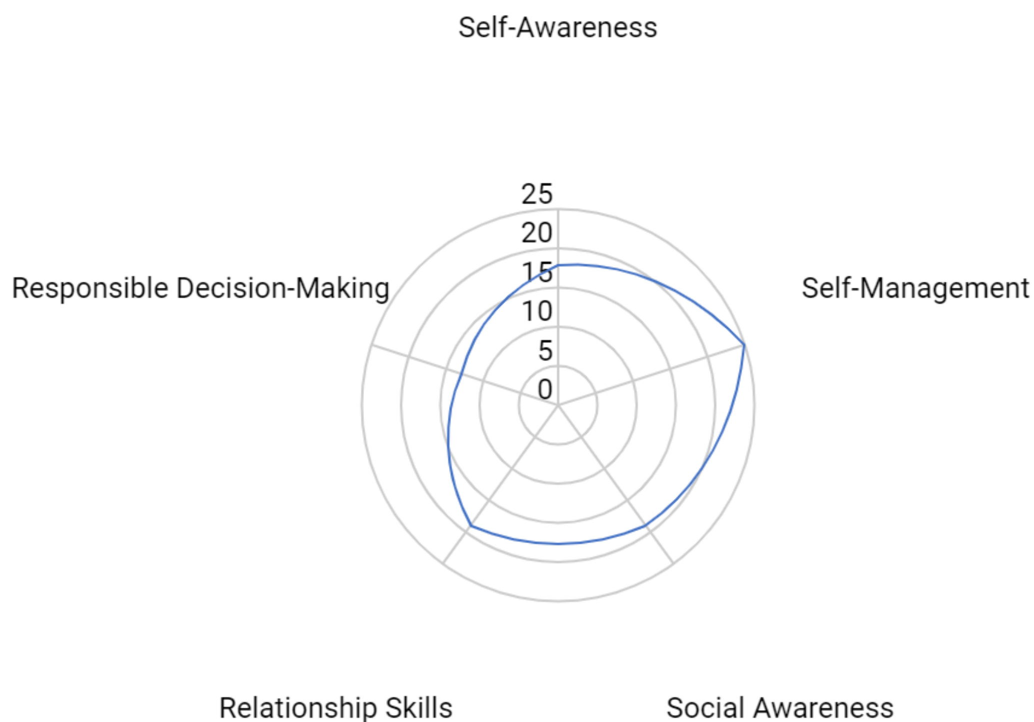
Instrument	SENNA 1.0	Middle Years Development Instrument (MDI)	California's CORE Districts' SEL survey	Social Emotional Competence Questionnaire (SECQ)	Social and Emotional Competencies Questionnaire (SEC-Q)
Type of measure	Self-report scale	Self-report scale	Multirater scale	Self-report scale	Self-report scale
Items	92, 62	71	25	25	16
Subscales	Conscientiousness, emotional stability, extraversion, agreeableness, open-mindedness, external locus of control	Social-emotional development, connectedness to peers and adults, school experiences, physical health and well-being, constructive use of after-school time	Growth mindset, self-efficacy, self-management, social awareness	Self-awareness, social awareness, self-management, relationship management, responsible decision-making	Self-awareness, self-management and motivation, social-awareness and prosocial behaviour, decision-making
Use	5-12 grades	4, 7 grades	4-12 grades	3-12 grades	6-12 grades
Raters	Student	Student	Student	Student	Student
Psychometric properties	Model fit (EFA, CFA), internal consistency reliability (α), measurement invariance (grade)	Model fit (EFA, CFA), internal consistency reliability (α), construct validity (convergent and discriminant)	Internal consistency reliability (α), test-retest reliability, interrater reliability, criterion validity (concurrent)	Model fit (CFA), internal consistency reliability (α), criterion validity (predictive)	Model fit (EFA, CFA), criterion validity (concurrent)
Item format	5-point Likert type scale	Not reported	Not reported	6-point Likert type scale on 'Reflect me?'	5-point Likert scale on level of agreement

Alignment with CASEL Theoretical Framework

Regarding the domains targeted by each of the identified instruments, the five areas of competence addressed by CASEL (2022b) were employed. As initially noted, CASEL proposes a framework of social and emotional skills consisting of five domains: self-awareness, self-management, responsible decision-making, relationship skills and social awareness. These domains were targeted to a varying degree by each of the identified instruments (see Figure 6).

Figure 6

Distribution of the Five CASEL Domains Across Identified Instruments



The self-management domain was the most frequent domain across the instruments, addressed by all the identified instruments. The least frequent domain was responsible decision-making, targeted by 13 instruments and comprising 52% of the identified instruments. Table 7 illustrates the distribution of the five CASEL areas of competence across

the instruments. It can be noted that 10 of the instruments (40%) addressed all five domains, while two instruments (8%) addressed only one or two domains respectively.

Table 7

The Five CASEL Domains Measured by Each of the Identified Instrument

Instrument	Self-Awareness	Self-Management	Social Awareness	Relationship Skills	Responsible Decision-Making
SESAS	X	X	X	X	
QACSE-P-SF		X	X	X	X
SELS	X	X	X	X	X
WCSD-SECA	X	X	X	X	X
Zoo U	X	X		X	
DIT	X	X	X	X	X
SELA	X	X	X	X	X
SELSS	X	X		X	
EQ-i: YV	X	X	X	X	
SEHS	X	X	X		
SSIS SEL RF	X	X	X	X	X
SECDS	X	X		X	X
ISP–S	X	X	X	X	X
DESSA	X	X	X	X	X
HAS	X	X	X		
DSECS-S		X	X	X	X
SELweb	X	X	X		
SEARS-T		X	X	X	
ACT Tessera		X			
SEMS		X			
SENNA 1.0		X		X	
MDI	X	X	X	X	X
CORE		X	X		
SECQ	X	X	X	X	X
SEC-Q	X	X	X	X	X

Discussion

The purpose of this systematic review was to identify instruments measuring social and emotional skills for students in elementary through secondary education. The present review resulted in the identification of 25 unique assessments over a 20-year period.

One of the primary findings of the current study is the growing popularity of social and emotional competences. Our results suggest a rapid growth and notable advancements of social and emotional skills assessment systems in recent decades. This is in line with the theoretical assumption that the need for reliable and valid measurement instruments increases with the upsurge of SEL research and programs (LeBuffe et al., 2018; Mantz et al., 2018; Murano et al., 2021; Thomson et al., 2018; Zhou & Ee, 2012). Based on the evidence reviewed, the majority of the identified studies were primary sources reporting on original research. There were also secondary sources synthesizing or discussing the findings of an already existing instrument, but these were scarce. Thus, the results of the present review were generally consistent with the primary study design for instrumentation purposes. In addition to that, a majority of the studies included participants from diverse racial and ethnic backgrounds in their samples. This is in line with the hypothesis that instruments measuring social and emotional skills may benefit from a racially and ethnically diverse sample if cultural bias is to be avoid (Thomas et al., 2021).

The reviewed studies showed that the most frequently used assessment method was indirect assessment. Assessment types can be conceptualized into two main groups including direct and indirect assessments, and provide different information as well as different sources of error. While direct assessment may only monitor a small number of behaviors and require time for training (Naglieri et al., 2013), indirect assessment may contain measurement error in the form of participants' subjectivity (LeBuffe et al., 2018). Based on the evidence reviewed, the most frequently used method of indirect assessment were behavior-rating scales with students as self-raters. However, the validity of self-report scales may be limited because of social desirability effects and the employment of third party raters is no without challenges as a high level of inference is demanded from the respondents (Mantz et al., 2018; McKown, 2019). We thus conclude in line with McKown (2015) and Mota and colleagues

(2011), that a combination of multi-method and multi-informant assessment should be employed to assess social and emotional skills in routine practice. Malti and colleagues (2018) also acknowledged the importance of incorporating additional types of assessment and sources of information within a comprehensive design.

Instruments measuring social and emotional skills identified in this review focused primarily on upper elementary and middle school grade levels. In fact, the instruments applicable in lower elementary and high school grades were limited. This is consistent with the lack of instrumentation for younger student populations evidenced by Merrell & Gueldner (2010). Zych and colleagues (2018) also acknowledged the need for reliable instruments including both social and emotional skills assessment in adolescents and young adults. Our results provide support for the need of developmentally tailored assessments of social and emotional skills targeting children and adolescents across all grade levels.

Of the instruments identified in this review, the number of items per measure varied greatly. Given the disadvantages of time-consuming instruments and in response to teachers and administrators' concerns, certain authors (DeRosier & Thomas, 2018; Mantz et al., 2018; Thomas et al., 2021; West et al., 2018) reported the need for brief and user-friendly measurement tools. We thus determine the importance of developing and validating short forms of instruments measuring social and emotional competences for practical utility purposes. The reviewed studies showed that the majority of the instruments relied on Likert items as an efficient response option. However, the validity of Likert items may be limited because of participants' response bias including reference or response pattern bias (Kankaraš, 2017). Murano and colleagues (2021) acknowledged the importance of item innovation in measuring social and emotional learning and focused on developing situational judgement test (SJT) and force choice (FC) items. Our results suggest the need to incorporate innovative types of items to collect more robust validity evidence.

With regard to psychometric data, the results across the studies yielded consistent findings supporting model fit, measurement invariance, reliability and validity. Careful attention should be paid to obtaining valid and reliable information about students' social and emotional skills. However, it is beyond the scope of this paper to evaluate the quality of the psychometric properties of identified instruments. Practitioners and researchers should make sure of employing empirically validated measurement instruments in schools.

Another important finding of the current study is the direct influence of the CASEL five model in the development of measurement instruments. Although the domains contained within the instruments was heterogeneous, all identified instruments targeted at least one of the five areas of competence. Based on the evidence reviewed, social and emotional competences appear to be a set of skills rather than only one skill. However, a majority of the identified instruments failed to assess all of the five CASEL domains. Thus, the results of the present review support the lack of consensus regarding the domains targeted in the SEL field (Abrahams et al., 2019; Duckworth & Yeager, 2015; Greshman, 2020; Mantz et al., 2018). The instruments identified were heterogeneous in nature and therefore pinpointing the types of instruments which performed best is out of the scope of the present study.

Finally, the present findings should be considered in light of the following methodological limitations. First, the systematic search of the literature was only conducted in three databases (Scopus, WoS and ERIC) and no additional manual searches were completed. Second, the search strategy was restricted to peer-reviewed contributions published in English in the 20 years prior to the search. Third, the five CASEL areas of competence were excluded from the search strategy as they resulted in incomplete instruments without precisely addressing the construct of social and emotional skills. To address these limitations, future research should extend the search strategy by considering other sources of information, a wider range of scholarly publications and other publication

languages than English. In addition to that, it could be enriching to include the five specific CASEL domains into the search strategy.

Conclusions

The main aim of this review was to consolidate the peer-reviewed literature on the measurement instruments that have been developed and validated to measure social and emotional skills in children and adolescents. Our purpose was to inform future research for potential administration of assessment tools and systems of social and emotional skills for use in schools to identify the child's strengths and needs. We believe that the present paper can contribute to support school-based practitioners and psychologists in their ongoing efforts to lead social and emotional skills instruction and assessment in routine educational practice. Social and emotional competences are certainly gaining increasing popularity as they influence different spheres of individuals' life. Accordingly, it is crucial to advance high quality assessment methods in educational research and to provide a deeper understanding of these widespread set of skills.

Study 2: Social-Emotional and Character Development Scale (SECDS): Validation of a Spanish Version in Low-Income Communities with Racially and Ethnically Diverse Youth

Study 3: The Impact of Family Involvement on Students' Social-Emotional Development: The Mediational Role of School Engagement

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Family involvement has been identified as a mechanism that explains the differences in academic performance and well-being between students from different socioeconomic backgrounds. The implications of family involvement in students' non-academic outcomes have often been overshadowed by a focus on the academic domain. This study focuses on one type of non-academic attributes which is currently most critical to navigate in school and beyond: social-emotional development. In addition to that, the potential mediating role of school engagement in the association between family involvement and students' social-emotional development remains to be explored. This study aimed to investigate whether family involvement was associated with students' school engagement and social-emotional development and to clarify the underlying mechanism in the relationship. The sample consisted of 170 students from 8 to 17 years old and their parents who live in economically vulnerable situations and experience social exclusion. The analyses were performed using Jamovi statistical software and a GLM Mediation Model module. To address the research objectives, a series of mediation analysis were performed to fit the hypothesized relations among the study variables. The mediational analysis suggested that home-based family involvement could not predict students' social-emotional development, and that the effect of home-based family involvement on students' social-emotional development was fully mediated by school engagement, a variable not included in previous research. The results suggest that families who are actively engaged in their child's education at home positively influence students' level of participation in school, which, in turn, promotes the development of students' social-emotional competences.

Literature Review

With numerous studies showing that parental socioeconomic status is passed down to children, there is no doubt of the potential disadvantages faced by students from low-income households (Broer et al., 2019). Data show that children from economically disadvantaged

households face additional challenges to achieving comparable educational outcomes to their counterparts from more privileged backgrounds, including higher dropout rates (Winding & Andersen, 2015; Wood et al., 2017) or lower educational performance (Chmielewski, 2019; Lawson & Farah, 2017; Reardon, 2018). In addition to that, parental socioeconomic status exerts a profound influence on students' well-being outcomes such as physical, psychological, and socio-emotional (Jury et al., 2017; OECD, 2020). The so-called intergenerational transmission of disadvantage or intergenerational mobility results then in a reduction of opportunities enjoyed by individuals, perpetuating inequality and limiting opportunities for upward mobility (Ayllón et al., 2022).

The latest findings from PISA assessments by the OECD (2023) paint a concerning picture of educational inequality. On average across OECD countries, students from socioeconomically advantaged backgrounds scored 93 points higher in mathematics than their disadvantaged peers. This performance gap related to socioeconomic status exceeded 93 score points in 22 countries, while in 13 countries, it was 50 points or less. In reading and science, disadvantaged students faced over five times higher odds of low performance compared to their advantaged peers, on average across OECD countries. According to these results, by the age of 15, students' performance in mathematics, reading, and science is significantly influenced by their socioeconomic status (OECD, 2023b). These results highlight the influence of socioeconomic status on academic achievement, with implications extending to students' aspirations for tertiary education and future career opportunities, as evidenced by research on the 'at risk of poverty or social exclusion' (AROPE) rate by Llano Ortiz and colleagues (2020). This study reported that 25% of the socioeconomically disadvantaged pupils, who wish to access a highly qualified job, do not believe they can complete tertiary education. Numbers drop to 9% for students who are not at risk of poverty and social exclusion. Despite these disparities, the potential disadvantages faced by students

from low-income households in terms of social-emotional development and personality traits have not been paid much attention unless individuals accounted for deficiencies or problematic behaviors in this area (Lechner et al., 2021; Poortvliet, 2021; Spengler et al., 2015).

Family involvement has been identified as a mechanism that explains the abovementioned differences in achievement and overall well-being between pupils from different social backgrounds. The family system is defined as the primary socialization setting and parenting practices are viewed as key drivers for children's educational success (Bronfenbrenner & Morris, 2006). Therefore, the protective potential of family involvement is highlighted, which acquires special importance for low-income, disadvantaged student populations (Bulotsky-Shearer et al., 2016). Family involvement is also proved to be a malleable construct, responsive to variations in the environment and a critical target for school interventions (Benner et al., 2016; Castro et al., 2015; Jeynes, 2007).

Family Involvement

The bioecological model by Bronfenbrenner and Morris (2006) constitutes a framework for conceptualizing family involvement. This model explains the existence of proximal microsystem contexts where the children reside and actively participate on a daily basis (e.g., school and family). Interactions between those proximal contexts occur at a mesosystem level and contribute to children's cognitive and social-emotional development. Mesosystem interactions, such as home–school partnerships, bridge two key and autonomous systems, namely, the school and family. This model identifies the family system as the most influential and proximal context for child development and recognizes the relevance of generating meaningful connections between school and family. These connections are proved to be beneficial for children's educational success (Bhargava et al., 2017; M. T. Wang & Sheikh-Khalil, 2014). These interactions are critical for low-income, disadvantaged families

due to the ongoing discontinuities between school and vulnerable communities (Bulotsky-Shearer et al., 2016).

Family involvement has been conceptualized in multiple ways by individual research studies (El Nokali et al., 2010; Fan & Chen, 2001; Grolnick & Slowiaczek, 1994; Hornby & Lafaele, 2011; Muhammad et al., 2013; Shute et al., 2011; Tan et al., 2020). Definitions of parental involvement range from the provision of resources by Grolnick & Slowiaczek (1994) or the investment level in the child's education by LaRocque and colleagues (2011), to more concrete parental behaviors at home and at school (El Nokali et al., 2010; Fantuzzo et al., 2000). For the present purpose, family involvement is defined as the participation of the primary caregivers in specific activities at home and at school, supporting children's academic and socio-emotional development (Epstein et al., 2002). This definition references the work of Epstein and colleagues (2002), a respected scholar in the field of family and school partnerships who formulated a well-established conceptual framework. It focuses on the participation of primary caregivers in activities both at home and at school as well as acknowledges that involvement goes beyond academic tasks to encompass broader aspects of a child's well-being. In addition to that, family involvement is best defined as a multifaceted construct comprising various parenting practices and behaviors (Epstein et al., 2002; Fan & Chen, 2001; Fantuzzo et al., 2000; Grolnick & Slowiaczek, 1994; Manz et al., 2004). Epstein's (2002) empirically supported multidimensional conceptualization continues to be one of the most widely referenced frameworks. As shown in Table 8, this model outlines six concrete types of family involvement behaviors: (1) parenting, (2) home-school communication, (3) volunteering, (4) home learning activities, (5) decision-making within school and (6) community partnerships.

Although the multidimensional nature of family involvement has been stressed across the literature, this construct is usually narrowly measured focusing solely on school-based

Table 8

Epstein's Typology of Family Involvement

Types of family involvement behaviors	
Parenting	Parents create an appropriate home environment for children's learning and development.
Home-school communication	Schools and children's primary caregivers maintain a regular two-way communication.
Volunteering	Parents voluntarily support various school and classroom activities.
Home learning activities	Parents assist students at home with schoolwork and discuss personal school experiences.
Decision-making within school	Primary caregivers participate in school governance and educational decision making at school.
Community partnerships	Families collaborate within the broader community.

Note. Adapted from *School, Family, and Community Partnerships: Your Handbook for Action* (2nd ed., p. 27), by J. L. Epstein, M. G. Sanders, B. S. Simon, K. C. Salinas, N. R. Jansorn, and F. L. Van Voorhis, 2002, Corwin Press. Copyright 2002 by Corwin Press.

behaviors (Manz et al., 2004). This lack of understanding of the variety of ways in which families get involved, could have mislead investigators to wrongful conclusions on the level of involvement of disadvantaged families. Families with a low SES, intervene less frequently in school-based activities due to structural barriers such as workplace challenges, lack of time or economic issues (Alameda-Lawson, 2014; Auerbach, 2012; Fantuzzo et al., 2013; Hampden-Thompson & Galindo, 2017; M. T. Wang & Sheikh-Khalil, 2014). Language and cultural differences could also widen the gap between school and vulnerable populations (Calzada et al., 2015; McWayne et al., 2015; Nyemba & Chitiyo, 2018). For the purpose of

the present study, we adopt a conceptualization of family involvement as a complex, multidimensional construct that integrates specific components in order to broaden the scope.

Family involvement is thought to decrease as children move up to secondary school and grow up into young adults (Bhargava et al., 2017; Cheung & Pomerantz, 2011; Desforges & Abouchaar, 2003; Spera, 2005). However, various research studies indicate that family involvement is highly influential regardless of the grade level (Suárez Fernández et al., 2011; Taseer et al., 2023; Wilder, 2014). These results are supported by one of the latest meta-analysis in the field by Boonk et al. (2018). It is reported that family involvement does not decrease over time but changes in nature as the child develops. While direct parental behaviors such as support with homework, decrease exponentially after the elementary school years, parental educational expectations and aspirations for their children become highly influential as students grow into young adults.

Family Involvement and Students' Social-Emotional Development

The implications of family involvement in students' non-academic outcomes have often been overshadowed by a focus on the academic domain. However, research across disciplines suggest that a wide range of non-cognitive skills or 21st century skills can substantially influence individuals' educational success and overall well-being, while also impacting the evolving landscape of workforce skills (Kennedy & Sundberg, 2020; Patrinos, 2021; World Economic Forum, 2023). The present study focuses on one type of non-academic attributes which research suggests is currently most critical to navigate in school and beyond: social-emotional development (Chernyshenko et al., 2018). Social-emotional development has been associated with a wide range of outcomes such as higher academic performance (Durlak et al., 2011; Portela-Pino et al., 2021; Wang et al., 2019), improved employability (Guerra et al., 2014) as well as a higher sense of well-being and positive life outcomes (Taylor et al., 2017; Salmela-Aro & Upadyaya, 2020). Social-emotional

development is an important basis for students to navigate in and out of school, as supported by extensive literature. When students possess strong social-emotional skills, they are better equipped to resolve conflicts, manage stress, make responsible decisions and establish positive relationships. By integrating social-emotional development into the school curriculum, schools provide students with the opportunity to develop holistically and contribute to positive classroom climate (Darling-Hammond & Cook-Harvey, 2018). Key competences in this domain include self-awareness, self-management, responsible decision-making, relationship skills and social awareness (CASEL, 2022b; Greenberg, 2023; Mestre, 2020).

Numerous research studies provide evidence for the significant and positive association between family involvement and students' social-emotional development (A. Li et al., 2023; S. Li et al., 2023; Maiya et al., 2020; Wong et al., 2018). Cosso and colleagues (2022) found notable benefits of family involvement in students' social-emotional skills from a meta-analysis of 39 parental involvement intervention programs. Parental involvement interventions resulted in positive and moderate effects on students' academic and non-academic outcomes from preschool to third grade. With regard to domain-specific intervention effects, family involvement positively predicted language–literacy and mathematics outcomes as well as students' social-emotional skills and behavior problems. In addition to that, Q. Li and colleagues (2023) investigated the influence of home-based parental involvement on the social-emotional adjustment of middle school students. The study specifically focused on two types of parental involvement, which are communication between parents and adolescents, and the time parents spent with their children. The study involved 8475 Chinese grade 7 students and their parents. The findings indicate that both forms of home-based parental involvement had a positive effect on adolescents' socio-emotional adjustment over time.

Another body of research supports the link between family involvement and students' social-emotional development while addressing seemingly contradictory findings (Puccioni, 2018; Ray et al., 2020; Trost et al., 2020; I. Y. Wang & Cheung, 2023). Parent-teacher cooperation activities positively predicted children's language and social-emotional skills at the age of three (F. Cohen & Anders, 2020). Regular participation in school meetings resulted in higher levels of receptive language skills and better prosocial behavior of the children. However, this study also suggested a negative link between the occurrence of door-talks between parents and teachers and children's disruptive behavior. Results from a latent profile analysis by McWayne & Bulotsky-Shearer (2013) revealed that students whose parents reported weekly involvement in educational activities at home were less likely to belong to the extremely dysregulated behavior type and more likely to belong to the socially competent type. In contrast, parents' involvement in educational activities at home was also associated with students being classified in the inattentive problems type. The different forms of family involvement can serve as predictive factors in students' social-emotional development. However, they can also indicate that higher levels of family involvement may stem from children's needs and areas requiring extra support. Together, these studies and many others demonstrate the positive implications of family involvement on students' social-emotional development, emphasizing the significance of fostering robust partnerships between families and schools to support students' holistic development.

School Engagement as a Potential Mediator

This study draws on the school engagement literature in predicting that students' engagement at school and classroom level will mediate the association between family involvement and students' social-emotional development. School engagement plays a key role in students' educational success and overall well-being, as highlighted by current research literature (Y. Li & Lerner, 2011; Upadyaya & Salmela-Aro, 2013). Numerous

studies have revealed the significant impact of school engagement on academic performance (Sukor et al., 2021; Usán Supervía & Salavera Bordás, 2019), on students' persistence versus dropout (Archambault et al., 2009; Janosz et al., 2008; M. T. Wang & Fredricks, 2014) as well as on their personal and cognitive development (Baroody et al., 2016; Grogan et al., 2014). School engagement was defined by Astin (1999) as "the amount of physical and psychological energy that the student devotes to the academic experience" (p. 518). Early works described school engagement as observable student behaviors such as student participation in the academic and extracurricular domain (Brophy, 1983; Natriello, 1984). Students' emotional reactions about school and learning were subsequently incorporated into the definition broadening the concept of school engagement. These affective reactions can include sense of belonging or interest in school activities, amongst others (Connell, 1990; Finn, 1989). Recently, aspects of student cognitive engagement have been studied as part of the school engagement literature and relate to the level of psychological investment exerted by students in the learning process (Fredricks et al., 2004).

Researchers and scholars have proposed different theoretical models on school engagement including different components or dimensions (Appleton et al., 2006; Finn, 1989; Fredricks et al., 2004; Linnenbrink-Garcia et al., 2011; Reeve & Tseng, 2011; Skinner et al., 2009). However, most of the scientific community now acknowledges that this construct is multifaceted and that a unidimensional conceptualization of school engagement may lead to an oversimplification of the construct. Based on the theoretical work of Fredricks and colleagues (2004), school engagement is described as a complex, multifaceted construct composed of three dimensions: cognitive, behavioral and emotional engagement. Behavioral engagement refers to students' participation in school and includes behaviors such as paying attention to the teacher, following school and classroom rules and the absence of disruptive or problematic behaviors. Emotional engagement encompasses emotional responses to teachers,

classmates, or school (e.g. boredom, anxiety, enjoyment, happiness). Cognitive engagement refers to the effort students are willing to put in their schoolwork in order to accomplish a specific learning task and encompasses problem-solving strategies, self-regulation and metacognitive strategies.

Several key factors contribute to the facilitation of student engagement in school and home settings. Research evidenced the existence of three main contextual predictors that facilitate school engagement: school, family and peers (Appleton et al., 2006; Sinclair et al., 2003). Firstly, school-level factors such as teacher support, classroom structure and task characteristics can significantly enhance students' motivation and involvement in their learning. Students' individual needs at school including the need for relatedness, autonomy and competence can play a crucial role in fostering student engagement (Curran & Standage, 2017; Fredricks et al., 2004). Furthermore, another key facilitator of student engagement is peer relationships. Peer support has been related to school engagement and active participation in the classroom (Perdue et al., 2009). Conversely, peer rejection or maltreatment has been linked to reduced classroom participation and an inclination to avoid school (Buhs et al., 2006). Lastly, home-level factors such as family involvement and parental structure can encourage students to take an active role in their education and strengthen their sense of ownership. Parental expectations, the value placed in education and the provision of rules and expectations amongst others, can greatly affect student engagement (Appleton et al., 2006; Fernández-Zabala et al., 2016; Wigfield et al., 2006). Addressing these facilitators of student engagement offers valuable insight into the extent to which engagement can be influenced by environmental variations. In addition to that, it can help identify particular school and home interventions that yield the most significant effects on behavioral, emotional, and cognitive engagement.

A significant body of the literature supports the link between school engagement and academic success. Nevertheless, the association between school engagement and non-academic attributes was rarely examined. Li and Lerner (2011) suggested that adolescents across grades 5 to 8 who exhibited the highest levels of behavioral and emotional school engagement tended to be less depressed and were less likely to be involved in delinquent activities, in contrast to their counterparts who displayed more problematic patterns. A research by Upadyaya and Salmela-Aro (2013) revealed a negative association between school engagement and students' well-being, including symptoms of depression and burnout. Staff ratings of student engagement in after-school activities were significantly associated with improvement in social competences within the school setting (Grogan et al., 2014). Multiple approaches to measuring student engagement (i.e., student-, teacher-, and observer reported measures) revealed significant associations with fifth grade students' social skills in math class (Baroody et al., 2016). Empirical evidence on the association between school engagement and students' non-academic attributes has accumulated in the areas of emotional well-being and social competences. Taken together, we presume that school engagement could be a pathway through which family involvement influence students' social-emotional development.

The Present Study

Accordingly, the significance of family involvement in explaining the variations in academic achievement and overall well-being among students from diverse socioeconomic backgrounds have been recognized. However, while much attention has been paid to the impact of family involvement on academic outcomes, its implications for students' non-academic outcomes such as social-emotional development have been relatively overlooked. This gap in research highlights the importance of investigating the broader impact of family

involvement beyond academic performance, as it may play a crucial role in shaping various aspects of students' social-emotional development.

To our knowledge, the potential mediating role of school engagement in the association between family involvement and students' social-emotional development remains to be explored. There has been little investigation of the mechanisms that explain this association. The present study aimed to investigate whether family involvement was associated with students' school engagement and social-emotional development and to clarify the underlying mechanism in the relationship between family involvement and social-emotional development. It was expected that family involvement would predict social-emotional development when the effect of students' school engagement was taken into account. See Figure 7 for a representation of the hypothesized conceptual model. The hypotheses were formulated below.

Hypothesis 1: Family involvement positively and directly predicts students' social-emotional development

Hypothesis 2: Family involvement positively predicts students' school engagement

Hypothesis 3: School engagement positively predicts students' social-emotional development

Hypothesis 4: School engagement mediates the relationship between family involvement and students' social-emotional development

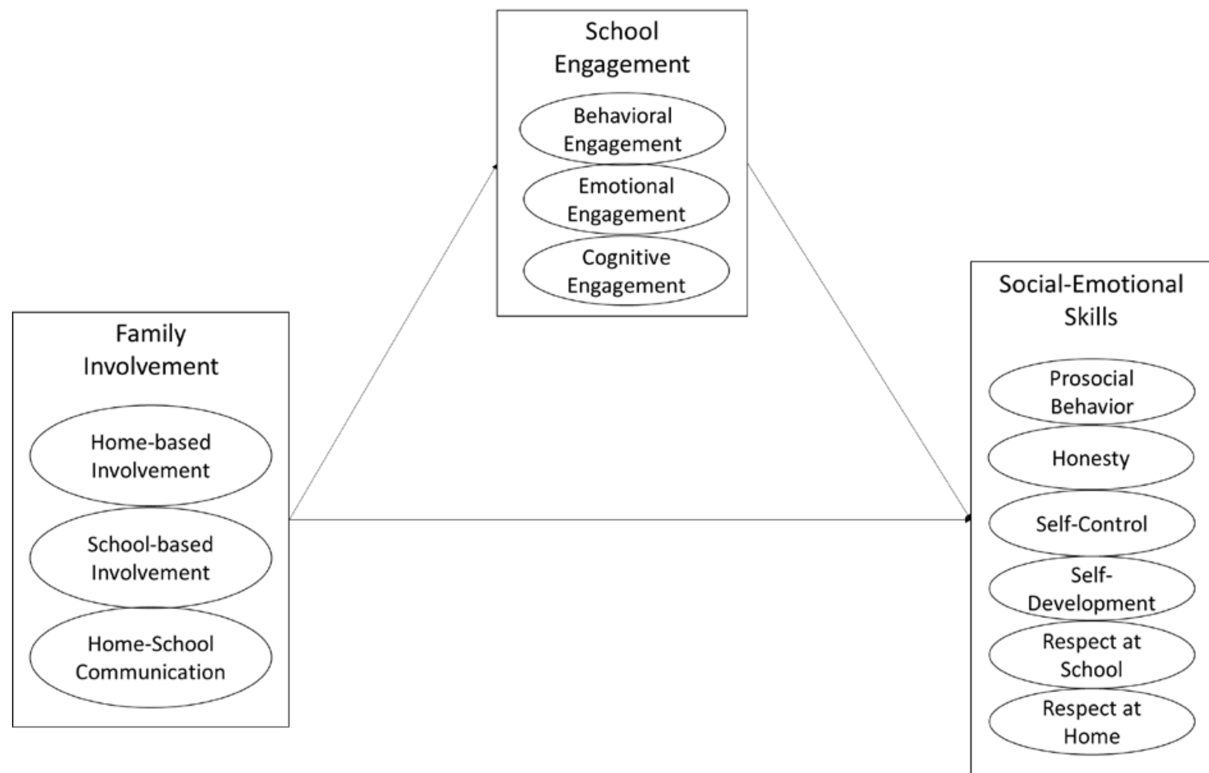
Methodology

Description of the Sample

The present sample consisted of 170 school-aged children and one of their primary caregivers, which corresponds to 170 parents. The total population from which the sample was drawn consists of 264 children and adolescents over the age of 8 years who are enrolled

Figure 7

The Hypothesized Conceptual Model for Study 3



in the CaixaProinfancia program and their primary caregiver. Random sampling was employed to ensure the sample is representative of the population and to enhance the generalizability of the research findings to the larger population. The present sample was selected based on two primary criteria: (1) including 80% of all students and their families enrolled in the program, and (2) beginning with 8-year-olds who met the minimum reading level required to independently complete the questionnaire. However, despite meeting this minimum threshold of 80% during the data collection, some of the data could not be retrieved during the process of linking IDs between parents and children (see the “Procedure” section). This occurred due to discrepancies in ID spellings and other related issues, resulting in the present sample consisting of 170 school-aged children and one of their primary caregivers. The criteria above were decided upon together with the program coordinator from the

CaixaProinfancia to ensure alignment with program objectives and ensure operational feasibility.

Participants in this study were selected for the analysis on the basis of their participation within the CaixaProinfancia program in the Basque Autonomous Community in Spain. CaixaProinfancia is a social and educational intervention program run by Obra Social “la Caixa” Foundation. During an initial stage, it was provided in the 10 most populated Spanish regions and with the highest child poverty rates: Balearic Islands, Barcelona, Bilbao, Gran Canaria, Madrid, Malaga, Murcia, Seville, Tenerife, Valencia, and Zaragoza. In the past years, many other Spanish cities have joined the program reaching out the entire Spanish territory. The program is aimed at children and adolescents ranged in age from 1 to 19 years and their families, who live in economically vulnerable situations and experience social exclusion. Families enrolled in the program meet the at-risk-of-poverty threshold established at national level. CaixaProinfancia pursues a holistic development of the participating children and their families through community action networks, and is divided into different services such as psychological support, educational support, and health promotion. The present study includes students across primary and secondary school years in order to identify the different trajectories of family involvement.

Parents or Primary Caregivers. Parent or primary caregivers participating in this study ranged in age from 26 to 74 years old (M= 41.1, SD=8.9). The sample was 88.2% female and was mainly comprised individuals with a migrant background (87% of the sample). The absence of male participants in the sample can be attributed to the focus of the CaixaProinfancia program targeting children and their primary caregivers who actively participate in their education. In the context of CaixaProinfancia program, the active caretakers are the mothers and therefore the ones predominantly participating in the data collection. The overrepresentation of female participants is also linked to the fact that a

significant portion of the sample consists of single-parent households headed by mothers. Based on responses on demographic items of the survey, 43.5% of the parents reported secondary education as the highest educational level that they attained, 33.5% reported primary education as the highest educational level attained and 12.3% reported having completed intermediate or higher level vocational training cycles. 8.8% of the parents surveyed reported having attained university studies and 1.7% reported not having completed primary education. Concerning parents' occupation, the present sample was characterized by the majority of the parents being unemployed and recipients of unemployment benefits (44.1%). 34.1% of the respondents reported having temporary occupations, 12.3% a permanent job and a minority of the parents reported being unemployed without receiving any employment benefits. Parents also reported their monthly household income: 49.7% (801€~ 1.100€), 24.2% (> 1.100€), 18.3% (501€~ 800€) and 7.6% (< 500€). Table 9 provides demographic data by grade level for the entire primary sample of 170 parents or primary caregivers who provided complete data on the survey.

Table 9

Demographic Data of the Parent Sample

Parent participants	**Total**	
	n	%
Full sample	170	100%
Gender		
Female	150	88.2%
Male	20	11.8%
Origin		
Migrant background	148	37.6%
Native-born	22	6.5%

Parent participants	Total	
Highest educational level		
Not having completed primary education	3	1.7%
Primary education	57	33.5%
Secondary education	74	43.5%
Intermediate or higher level vocational training cycles	21	12.3%
University studies	15	8.8%
Occupation		
Unemployed without receiving any employment benefits	13	7.6%
Unemployed and recipients of unemployment	75	44.1%
Temporary occupations	58	34.1%
Permanent job	21	12.3%
Monthly income		
< 500€	13	7.6%
501€~ 800€	31	18.3%
801€~ 1.100€	84	49.7%
> 1.100€	41	24.2%

Primary and Secondary School-Aged Students. Students participating in this study ranged in age from 8 to 17 years old (M=11.3, SD=2.76). They were 52 students enrolled in primary education and 85 students enrolled in secondary education. For the remaining 33 students, it was not possible to identify whether they were enrolled in primary or secondary education due to the absence of response to the specific question on students' grade level. Students must be enrolled in school to participate in the CaixaProinfancia program. However, if respondents have not answered specific questions in the self-reported questionnaire such as educational level, it cannot be assigned based on external sources. It is worth mentioning that the data collection procedure, which is explained below, conditioned this identification. The

sample was 40.9% female and was mainly comprised of students with an immigrant background. The following distinction was made between foreign-born and native-born students based on the OECD distinction (OECD, 2018). Based on students´ responses on demographic items of the survey, 43.6% first generation immigrant students (foreign-born students whose parents are both foreign-born), 39.2% of students were second-generation immigrant students (students born in Spain whose parents are both foreign born), 10.1% native students (students born in Spain whose parents are both native-born) and 6.9% native students with mixed heritage (students born in Spain who have one native-born and one foreign-born parent).

When completing the survey, students were also asked to indicate the language of schooling. There are three main types of schooling depending on the language of instruction in the Basque Autonomous Community:

- A language model: Education is entirely in Spanish, with Basque language as a compulsory subject.
- B language model: Education is mainly in Basque and subjects such as mathematics and literacy are in Spanish.
- D language model: Education is entirely in Basque, with Spanish language as a compulsory subject.

The present sample was characterized by the majority of students attending D language model (59.1%). Also, 33.1% of students were attending B language model and a minority of 7.6% of students were attending A language model. Table 10 provides demographic data by grade level for the entire primary sample of 170 students who had complete data on the survey.

Table 10

Demographic Data of the Student Sample

Student participants	**Total**	
	n	%
Full sample	170	100%
Gender		
Female	68	40.9%
Male	98	59%
Grade level		
Primary education	85	62.1%
Secondary education	52	37.9%
Origin		
First generation	69	43.6%
Mixed heritage	11	6.9%
Native students	16	10.1%
Second generation	62	39.2%
Language of schooling		
A	13	7.6%
B	56	33.1%
D	100	59.1%

Measures

The data collection was carried out through the application of three different questionnaires addressed to (1) parents or primary caregivers of primary school-aged students, (2) parents or primary caregivers of secondary school-aged students and (3) primary and secondary school-aged students. While the questionnaire for parents or primary caregivers varies depending on the age of the students, the questionnaire for students is the same across primary and secondary levels. For the complete version of the questionnaire, please refer to Appendix G. As shown in Table 11, the present study aims to obtain

information on family involvement, student engagement and students' social-emotional development.

Table 11

Measures for Data Collection

Construct	Instrument	Sample
Family Involvement	Spanish adaptation of the Family Involvement Questionnaire – Elementary version (FIQ-E) by Manz et al. (2004)	Parents or primary caregivers
	Spanish adaptation of the Family Involvement Questionnaire – High School version (FIQHS) by Dueñas et al. (2020)	
School engagement	Spanish adaptation of the School Engagement Measure (SEM) by Ramos-Díaz et al. (2016)	Primary and secondary school-aged students
Social-emotional skills	Spanish adaptation of the Social-Emotional and Character Development Scale (SECDS)	

Family Involvement. Family involvement of primary school-aged students was measured using a Spanish adaptation of the Family Involvement Questionnaire – Elementary version (FIQ-E) developed by Manz et al. (2004). In addition to that, family involvement of secondary school age students was measured using the Spanish adaptation of the Family Involvement Questionnaire – High School version (FIQHS) by Dueñas et al. (2020). Both of the questionnaires were designed in line with Epstein's (2002) empirically supported multidimensional typology of family involvement. Originally, they consisted of three dimensions: (1) Home-school communication, (2) home-based involvement and (3) school-based involvement. The home-school communication factor included the various forms of communication between the primary caregiver and school personnel, ranging from attendance at conferences to phone contact. The home-based involvement factor consisted of the learning activities happening out of school carried out by the primary caregiver, including

establishing bedtime routines, having a quiet place to study at home and discussing personal school experiences. The school-based involvement factor was comprised of the different ways in which parents engage in at school such as participating in workshops and volunteering.

For the purposes of the present study, the FIQ-E was translated and adapted into the Spanish language and socio-cultural context and the FIQHS was tested with our concrete socioeconomic sample. This resulted in the following adjustments. Concerning its factor structure, the school-based involvement factor indicated non-positive definite fit suggesting that the three-factor model may not be the most suitable measurement model for family involvement in the Spanish territory, at least for the type of population analyzed in the present study. With this in mind, the best fitting model was a two-factor model consisting of (1) home-school communication and (2) home-based involvement factors, respectively. The response format was adapted to a five-point Likert scale ranging from 1 (Never) to 5 (Always). Apart from reformulating the factor structure, items with low factor loadings were eliminated (i.e., <.40). As a result, the FIQ-E included 20 items and consisted of (1) home-school communication (12 items; α = 0.92) and (2) home-based involvement factors (8 items α = 0.83). The FIQHS included 16 items and consisted of (1) home-school communication factor (9 items; α = 0.89) and (2) home-based involvement factor (8 items; α = 0.8).

School Engagement. School engagement of school-aged students was measured using the Spanish version of the School Engagement Measure (SEM) by Ramos-Díaz et al. (2016). This is the Spanish adaptation of the School Engagement Measure (SEM) by Fredricks and colleagues (2004). It includes 19 items and consists of three dimensions: (1) behavioral engagement, (2) emotional engagement and (3) cognitive engagement. The behavioral engagement factor (5 items; α = 0.74) incorporates students' participation in school such as paying attention to the teacher, following school rules and the absence of

problematic behaviors (e.g. *I follow the rules at school*). The emotional engagement factor (6 items; α = 0.81) encompasses emotional responses to teachers, classmates, or school (e.g. *I feel happy in school*). The cognitive engagement factor (8 items; α = 0.77) refers to the student's investment level in the school work and includes individual effort and self-regulation strategies (e.g. *If I don't know what a word means when I am reading, I do something to figure it out*). The response format is a five-point Likert scale ranging from 1 (Never) to 5 (Always).

Social-Emotional Development. Social-emotional skills and character of primary and secondary students was measured using the Spanish adaptation of the SECDS developed by the authors. This questionnaire is intended to measure different dimensions of students' social-emotional skills and character. It includes 25 items and consists of six dimensions: (1) Prosocial behavior, (2) honesty, (3) self-control, (4) self-development, (5) respect at school and (6) respect at home. The prosocial behavior factor (5 items; α = 0.71) includes the ability to take the perspective of others and to develop positive and healthy relationship with peers. The honesty factor (4 items; α = 0.66) consists of skills that allow individuals to make appropriate and truthful choices about one´s behaviors and interactions with others. The self-control factor (4 items; α = 0.75) includes the ability to manage one's thoughts and behaviors in different situations. This include, for instance, stress management and self-discipline. The self-development factor (4 items; α = 0.76) factor includes the ability to achieve personal and collective goals. The respect at school factor (4 items; α = 0.81) is comprised of the skills required to demonstrate respect for rules and appropriate behavior towards authoritative figures at school settings. The respect at home factor (4 items; α = 0.83) is comprised of the ability demonstrate respect for rules and appropriate behavior towards authoritative figures at home settings. The response format is a 5-point Likert scale (0=Strongly disagree, 1=Disagree, 2=Neutral, 3=Agree, 4=Strongly agree).

Procedure

Data Collection. All divisions taking part in the CaixaProinfancia program in the Basque Autonomous Community were invited to participate in the survey, and their participation was voluntary. When a division agreed to participate, a contact person was established to coordinate the data collection procedure. To ensure a sufficient sample size per division, program personnel were asked to survey 80% of the total students and their families participating in the program. Participants were selected using a random participant generation procedure targeting students and their families who participated in the CaixaProinfancia program from January to May 2022.

The survey was administered in a small group format during afterschool hours as part of the CaixaProinfancia program and under the supervision of the program personnel. The survey was anonymous and the participants were informed about the right to withdraw from the study at any moment. Total testing time took approximately 20 min. Families and students were encouraged to request the assistance of program personnel if they needed help in answering the items. Program personnel administered an online version of the questionnaire via the Qualtrics platform. Participants read and accepted the informed consent form before accessing and responding the survey.

After the administration of the questionnaire, the data were integrated and prepared for statistical analyses. For data processing purposes, the online version of the questionnaire in Qualtrics included a personalized and anonymized URL for each student and his or her parent. The generation of a personalized URL was done by the program personnel before the administration of the questionnaire. Each URL was composed of the link to the online questionnaire and an anonymized ID (6-digit number). The same ID was employed for each student and his or her parent. This procedure allowed the anonymous linkage of the data of students and the corresponding parent in the analysis. However, given the complexity of the

procedure and the unfamiliarity of the participants with it, it was not possible to adequately identify some IDs.

Ethical Considerations. This research was conducted with the review and approval of the Research Ethics Committee at the institution where the authors are affiliated (see Appendix E). Appropriate research approvals were also obtained from the families of students participating in the survey and from the officials representing the CaixaProinfancia program in the Basque Autonomous Community.

Data Analysis

The analysis were performed using Jamovi statistical software and a GLM Mediation Model module (Gallucci & Jentschke, 2021; The jamovi project, 2023). To address the research objectives of the present study, we firstly conducted descriptive statistics and bivariate correlations of the study variables to assess the linear relationships among these variables. A correlation matrix was performed among all the variables.

Secondly, we performed a series of mediation analysis to fit the hypothesized relations among the study variables. In the mediation analyses, scores from family involvement were used as predictor variables while scores from students' social-emotional development were used as the outcome variable. The scores on students' school engagement were used as the mediator in the model. A general representation of the model can be seen in Figure 7. In the model, we used the individual components of the constructs of family involvement, school engagement and social-emotional development to identify their unique contributions to the outcome. A bootstrapping procedure with a 95% confidence interval was employed to assess the statistical significance of the mediation association (indirect effect) between variables (A. F. Hayes, 2014).

Results

Descriptive Statistics and Correlations Among Variables

Descriptive statistics and bivariate associations between the variables of interest are displayed in Table 12 and Table 13 respectively. The descriptive statistics provide insights into the main variables of School Engagement (SE), Social-Emotional Development (SED), and Family Involvement (FI), as well as their respective dimensions. School engagement encompasses a range of behaviors and attitudes towards schooling, with respondents reporting a moderate level (M=3.53, SD=0.708) of engagement on average. Behavioral engagement (M=4.07, SD=0.624) and emotional engagement (M=3.83, SD=0.983) were rated relatively higher, suggesting active participation and emotional investment in school-related activities. In contrast, cognitive engagement (M=3.04, SD=0.860) appeared lower, indicating potential challenges in cognitive aspects of engagement such as critical thinking and problem-solving skills. Social-emotional development emerged as a significant aspect, with respondents reporting relatively high levels (M=4.07, SD = 0.534) of development in this domain. Regarding the aspects of social-emotional development, the mean scores ranged from 3.64 to 4.18 (SD: 0.601 to 0.958), displaying consistently high levels across all dimensions, with moderate variability in responses. This suggests a positive socio-emotional climate and opportunities for growth in areas such as self-awareness, social skills, and emotional regulation.

Family involvement is another crucial variable, reflecting the extent to which caregivers participate in their children's education and well-being. The mean score for family involvement was moderate (M=3.64, SD=0.768), indicating a reasonable level of involvement overall. Dimensions within family involvement, such as home-school communication (M=3.62, SD=0.948) and home-based involvement (M=3.67, SD=0.914), also demonstrated moderate levels of involvement. These findings suggest that while there is some degree of family involvement, there may be room for improvement in enhancing

communication between home and school and increasing parental participation in activities outside of the school setting. Overall, these descriptive statistics shed light on the levels of engagement, social-emotional development, and family involvement among respondents.

Table 12

Descriptive Statistics

	Mean	**SD**
School Engagement (SE)	3.53	0.708
Behavioral Engagement	4.07	0.624
Emotional Engagement	3.83	0.983
Cognitive Engagement	3.04	0.860
Social-Emotional Development (SED)	4.07	0.534
Prosocial Behavior	4.18	0.601
Honesty	3.93	0.841
Self-Control	3.64	0.958
Self-Development	4.03	0.860
Respect at School	4.17	0.831
Respect at Home	4.18	0.839
Family Involvement (FI)	3.64	0.768
Home-School Communication	3.62	0.948
Home-based Involvement	3.67	0.914

The results showed that most of the correlations were in the expected directions. Family Involvement (FI) total scores were significantly related to School Engagement (SE) total scores (r= 0.188, p= 0.014) but not to Social-Emotional Development (SED) total scores (p= 0.226). When the individual dimensions of SE were examined, FI was only significantly related to the emotional engagement dimension (r=0.202, p=0.008) whilst it was not significantly associated to the two remaining dimensions namely behavioral and cognitive engagement. When accounting for individual SED dimensions, FI scores were not

significantly associated with any of SED dimensions (i.e. prosocial behavior, honesty, self-control, self-development, respect at school and respect at home).

In addition to FI total scores, there was a statistically significant association between Home-based Involvement (HBI) and SE total scores ($r= 0.316$, $p= < .001$) as well as SED total scores ($r= 0.215$, $p= 0.005$). When the individual dimensions of SE were examined, HBI was significantly related to all three dimensions of engagement (behavioral engagement $r=0.228$, $p= 0.003$; emotional engagement $r=0.304$, $p=< .001$; cognitive engagement $r=0.269$, $p=< .001$). However, the strength of the linear relationship between the correlated variables was the strongest between HBI and SE total scores with the highest correlation coefficients. When accounting for individual SED dimensions, HBI was only significantly associated to prosocial behavior ($r=0.155$, $p=0.044$) and self-control ($r=0.162$, $p=0.035$) whilst it was not significantly associated to the four remaining dimensions (i.e. honesty, self-development, respect at school and respect at home). The strength of the linear relationship between the correlated variables was the strongest between HBI and SED total scores with the highest correlation coefficients. Finally, Home-School Communication (HSC) was not significantly associated with SE total scores ($p= 0.504$) nor SED total scores ($p= 0.899$). Furthermore, HSC was not significantly associated with any of the SE or SED individual dimensions.

Given these findings, the HBI factor was used as a predictor variable in the mediation analyses addressing the present research questions and FI total scores and HSC were discarded. For the same reason, SE total scores were employed as the mediator variable and SED total scores as the outcomes variable. Individual dimensions of SE and SED were discarded for the present analysis, as their unique contribution to the analysis based on their correlation coefficient was weaker than the corresponding total score.

Table 13

Correlations Among the Variables

Variables		1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. School Engagement (SE)	R	-													
	p	-													
2. Behavioral Engagement	R	0.727	-												
	p	<.001	-												
3. Emotional Engagement	R	0.827	0.503	-											
	p	<.001	<.001	-											
4. Cognitive Engagement	R	0.911	0.530	0.583	-										
	p	<.001	<.001	<.001	-										
5. Social-Emotional Development (SED)	R	0.730	0.635	0.595	0.623	-									
	p	< .001	<.001	<.001	<.001	-									
6. Prosocial Behavior	R	0.528	0.405	0.507	0.420	0.765	-								
	p	<.001	<.001	<.001	<.001	<.001	-								
7. Honesty	R	0.535	0.357	0.397	0.529	0.757	0.528	-							

Variables		1	2	3	4	5	6	7	8	9	10	11	12	13	14
	p	<.001	<.001	<.001	<.001	<.001	<.001	-							
8. Self-Control	R	0.568	0.481	0.450	0.503	0.766	0.503	0.616	-						
	p	<.001	<.001	<.001	<.001	<.001	<.001	<.001	-						
9. Self-Development	R	0.524	0.318	0.424	0.506	0.721	0.554	0.679	0.512	-					
	p	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	-					
10. Respect at School	R	0.547	0.521	0.429	0.460	0.764	0.512	0.709	0.694	0.638	-				
	p	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	-				
11. Respect at Home	R	0.517	0.364	0.449	0.458	0.662	0.451	0.634	0.468	0.606	0.628	-			
	p	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	-			
12. Family Involvement (FI)	R	0.188	0.143	0.202	0.145	0.093	0.003	0.013	0.030	0.089	0.103	0.061	-		
	p	0.014	0.063	0.008	0.059	0.226	0.973	0.867	0.694	0.247	0.183	0.432	-		
13. Home-School Communication	R	0.052	0.043	0.081	0.022	-0.01	-0.09	-0.03	0.022	0.019	0.065	-0.006	0.886	-	
	p	0.504	0.581	0.294	0.772	0.899	0.220	0.669	0.780	0.803	0.400	0.936	< .001	-	
14. Home-based Involvement	R	0.316	0.228	0.304	0.269	0.215	0.155	0.087	0.162	0.038	0.120	0.139	0.721	0.318	-
	p	< .001	0.003	< .001	< .001	0.005	0.044	0.259	0.035	0.627	0.118	0.070	< .001	< .001	-

Mediation Effect Analysis

Mediation analysis were performed to assess the mediating role of school engagement on the association between home-based family involvement and students' social-emotional development, as indicated in the hypothesized model. The coefficients presented in Table 14 showed that the total effect of home-based family involvement on students' social-emotional development was significant (β= 0.215, p= 0.004, 95% CI [0.03, 0.21]). The total effects represent the effects calculated without the mediators, or, alternatively, they can be understood as the sum of the indirect and the direct effects.

Table 14

Coefficients from the Mediation Analysis

Indirect and Total effects				95% C.I. (a)				
Type	**Label**	**Estimate**	**SE**	**Lower**	**Upper**	**β**	**z**	**p**
Indirect	a·b	0.142	0.035	0.071	0.210	0.243	4.008	<.001
Component	a	0.245	0.059	0.126	0.361	0.316	4.097	<.001
	b	0.580	0.041	0.497	0.659	0.769	14.021	<.001
Direct	c'	-0.016	0.027	-0.070	0.036	-0.028	-0.609	0.543
Total	c+a·b	0.125	0.043	0.039	0.211	0.215	2.864	0.004

Note. Betas are completely standardized effect sizes.

Hypothesis 1: Family involvement directly and positively predicts students' social-emotional development

Findings indicated that the direct effect of home-based family involvement on students' social-emotional development was not statistically significant. Specifically,

the direct effect yielded a non-significant coefficient (β= -0.028, p= 0.543, 95% CI [-0.07, 0.03]). The direct effects represent the effects calculated holding the mediators constant, thereby reflecting the un-mediated effects. This suggests that home-based involvement did not exert a direct influence on students' social-emotional development. Consequently, Hypothesis 1, positing a direct and positive relationship between family involvement and students' social-emotional development, was not supported by the findings.

Hypothesis 2: Family involvement positively predicts students' school engagement

The analysis revealed a positive association between home-based family involvement and students' school engagement. Increased levels of family involvement were significantly associated with higher levels of students' school engagement (β= 0.316, p= < .001, 95% CI [0.12, 0.36]). This result supports Hypothesis 2, indicating that family involvement predicts higher levels of school engagement among students.

Hypothesis 3: School engagement positively predicts students' social-emotional development

Furthermore, the analysis demonstrated a positive relationship between school engagement and students' social-emotional development. Students with higher scores in school engagement exhibited greater social-emotional development (β= 0.769, p= < .001, 95% CI [0.49, 0.65]). This finding provides support for Hypothesis 3, indicating that school engagement is positively associated with students' social-emotional development.

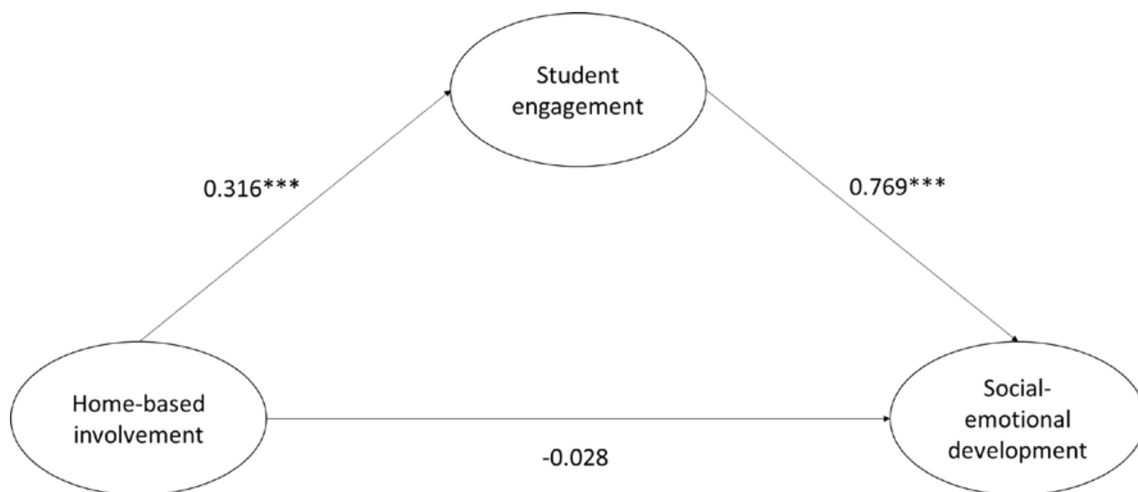
Hypothesis 4: School engagement mediates the relationship between family involvement and students' social-emotional development

Finally, the indirect effect of family involvement on students' social-emotional development through school engagement was examined. The results showed that the

indirect effect of family involvement on students' social-emotional development through school engagement was significant (β= 0.243, p= < .001, 95% CI [0.07, 0.21]), accounting for 82% of the total effect of family involvement on students' social-emotional development. Conversely, the direct effect of family involvement on students' social-emotional development, calculated without the mediator, was not significant as supported by Hypothesis 1. This indicates that the impact of family involvement on students' social-emotional development is fully mediated by students' school engagement, providing support for Hypothesis 4. The resulting mediation model is presented in Figure 8.

Figure 8

Standardized Estimates for the Mediation Analysis for the Total Sample



Note. *p < .05. **p < .01. ***p < .001

Discussion

The purpose of the present study was to determine the association of family involvement with students' school engagement and their social-emotional development, and examine whether school engagement mediated the relationship between family

involvement and students' social-emotional development. The mediational analysis suggested that home-based family involvement could not predict directly students' social-emotional development, and that the effect of home-based family involvement on students' social-emotional development was fully mediated by school engagement, a variable not included in previous research. The present results provide valuable insights into the effects of family involvement on students' non-academic attributes and sheds light on the underlying mechanism that intervenes in this relationship.

The Mediating Role of School Engagement

Our study provides evidence for the mediating role of students' school engagement in the relationship between home-based family involvement and students' social-emotional development. The results highlight significant indirect effects of home-based family involvement on students' social-emotional development via school engagement. This finding expands on those of previous studies reporting the mediating effects of school-related processes in the association between family involvement and children's social-emotional development.

S. Li and colleagues (2023) delved into the intricate relationship between home learning environment and children's social-emotional competence. In their model, internal elements of home learning environment such as structural family characteristics and parents' educational beliefs and interests served as independent variables, educational processes as mediating variables, and children's social-emotional competence as the dependent variable. Their findings revealed significant positive predictive effects of both structural family characteristics and parental beliefs and interests on children's social-emotional competence. Interestingly, the educational processes emerged as mediating the relationship between structural family characteristics, parental beliefs and interests, and children's social-emotional

competence. In addition to that, Wong and colleagues (2018) investigated the associations between parental educational involvement both at home and in school with the academic performance and psychosocial development of 507 Chinese Grade 3 schoolchildren in Hong Kong. Psychosocial development was assessed across five domains: conduct problems, hyperactivity/inattention, emotional problems, peer relationship problems, and positive prosocial behaviors. The study explored the underlying mechanism by examining school engagement as a mediator in these relationships. The findings indicated a positive association between home-based parental involvement and children's psychosocial wellbeing, with these associations mediated by engaging children with school. Specifically, home-based parental involvement directly impacted children's prosocial behaviors and also exerted an indirect influence through children's school engagement.

Similar patterns were observed in the study conducted by A. Li and colleagues (2023), indicating the mediation effect of the association between parent involvement in schools and middle-school age students' social-emotional development. Their study, involving 1062 Chinese adolescents, revealed that parent involvement in schools was linked to increased prosocial behaviors and reduced problem behaviors. Positive coping, measured through problem-solving, seeking social support, and positive rationalization, emerged as a mediating factor. Interestingly, parent involvement in schools positively influenced positive coping, which, in turn, was positively associated with prosocial behaviors and negatively correlated with problem behaviors. In their study, Maiya and colleagues (2020) also investigated the mediating influences of deviant peer affiliation and school connectedness in the relationship between parental involvement and prosocial behaviors among U.S. Latino/a adolescents. Through path analysis, they found that parental involvement had both direct and indirect associations with prosocial

behaviors, mediated by both deviant peer affiliation and school connectedness. Specifically, parental involvement was linked to lower levels of deviant peer affiliation, which, in turn, correlated with greater school connectedness. This increased school connectedness, in further consequence, was associated with increased levels of prosocial behaviors.

Compared to these earlier investigations, our research provides additional insights into the impact of home-based parental involvement on students' social-emotional development, revealing a pathway fully mediated by school engagement. This full mediation is characterized by the complete explanation of the relationship between home-based parental involvement and social-emotional development through school engagement. As a result, the effects of home-based involvement on social-emotional development become non-significant when the mediator is included in the model. This finding suggests that when families are actively engaged in their child's education at home, it positively influences students' level of participation in school, which in turn, promotes the development of social-emotional competences in primary and secondary school-aged students. We hypothesize a few reasons for this phenomenon: first, the learning activities happening outside school carried out by the primary caregiver, including providing support with schoolwork and discussing personal school experiences, play a fundamental role in shaping the way students interact and participate in school. Home-based family involvement highlights the value of school that will be internalized by the student and thus contribute to increase the student’s level of investment in school as well as improve their emotional responses to teachers, classmates and school. Furthermore, students’ successful participation in school setting equips them to resolve conflicts, manage stress, make responsible

decisions and establish positive relationships, which in turn, shapes students' social-emotional development.

Effects of Family Involvement on Students' Social-Emotional Development

Contrary to the findings of Q. Li and colleagues (2023b), our study suggested that home-based family involvement was not directly associated with students' social-emotional development. The involvement of families in their child's education, including bedtime routines, having a quiet place to study at home and discussing personal school experiences, did not predict directly students' social-emotional development. This finding is consistent with other investigations that found no statistical significant correlation between these variables or negative effects on students' social-emotional development and address seemingly contradictory findings.

Puccioni (2018), drawing upon data from the Early Childhood Longitudinal Study, determined that increased parental participation in home-based activities correlated positively with children's social skills. Nevertheless, their research did not reveal a link between parents' home-based involvement and children's self-regulatory skills. In addition to that, Ray and colleagues (2020) examined the impact of a preschool-based family-involvement intervention on children's cognitive and emotional self-regulation skills. No differences were observed in self-regulation skills between the intervention group and the control group in their preschool-based family-involving intervention program.

In the investigation led by I. Y. Wang and Cheung (2023), comparable trends were noted, providing partial support for mother and father involvement being related to higher levels of child adjustment. More precisely, mother and father involvement showed a positive correlation with children's prosocial behavior. Nonetheless, mother and father involvement did not demonstrate a significant relationship with children's

behavioral problems. Similarly, Trost and colleagues (2020) found that democratic parenting characterized by parents' openness to adolescents' viewpoints, and parental warmth displayed negative associations with behavioral constructs such as problematic peer relationships and behavioral problems, while parental warmth showed a non-significant association. Results from a latent profile analysis by McWayne and Bulotsky-Shearer (2013) concluded that students whose parents reported weekly involvement in educational activities at home were more likely to belong to the socially competent type but were also more likely to belong to the inattentive problems type. The socially competent type showed strong cognitive and social skills with positive learning attitudes, while the inattentive type exhibited low attention and negative learning attitudes along with hyperactive behavior. Overall, these findings may be counter intuitive at first but considering existing research on the matter, it can be assumed that children with behavioral and emotional needs may necessitate increased parental involvement.

While our results align with previous studies, there are some differences in the underlying mechanisms and implications highlighted in our study. These findings could be explained in light of the characteristics of our sample. The present sample is composed of students and their families who live in economically vulnerable situations and experience social exclusion. This is consistent with prior research suggesting that families belonging to a lower socioeconomic status (SES) tend to participate less frequently in school-based activities, primarily due to structural barriers such as workplace demands, time constraints, or economic issues (Hampden-Thompson & Galindo, 2017; McWayne & Melzi, 2014; Nyemba & Chitiyo, 2018; M. T. Wang & Sheikh-Khalil, 2014). In a study by Calzada and colleagues (2015), they showed that acculturation and enculturation amongst immigrant parents living in the U.S, predicted

home- and school-based family involvement. Families who were connected to their origin culture as well as the U.S. mainstream culture showed higher levels of home- and school-based involvement.

Limitations and Future Research

The present findings should be considered in light of the following limitations. First, this study relied on self-reported measures, which may introduce biases in the form of participants' subjectivity and social desirability effects. Future research should incorporate additional types of assessment and sources of information including third party raters and direct observations. Second, our data set comprised socioeconomically and ethnically diverse, low-income students and their parents. Although this data set provides concrete insights to better understand and address the unique challenges of these vulnerable populations, future investigations are necessary to confirm the association between the study variables with variety of socioeconomic and ethnic profiles. This will serve to further validate the conclusions that can be drawn from this study and clarify the effects of family involvement on students' non-academic attributes.

Conclusions

The mediating role of school engagement in the relationship between home-based family involvement and students' social-emotional development has not been examined in earlier works and we considered it noteworthy given the relevance of social-emotional development in primary and secondary school-aged students. To our knowledge, this is the first study that examines a mechanism by which family involvement is related to a child's social-emotional development through school engagement. Accordingly, the present findings prove the interconnectedness of home-based family involvement, students' school engagement and social-emotional

development, highlighting the need for more collaborative efforts between family and school in order to maximize students' social-emotional growth.

Furthermore, the present results point at the factors of family involvement that yielded school engagement the most amongst low SES families, and thus provide useful information on which factors should be addressed in home-school interventions. We ought to shed light on the capacity and the variety of ways in which low-income families get involved as well as underscore potential poverty-related barriers to family involvement in order to avoid wrongful conclusions on the level of involvement of disadvantaged families. The present study advances research on the different ways low SES families get involved and therefore provides practical information for the future professionalization of parent-school cooperation. It also highlights the benefits of home-based parental involvement for the school engagement in primary and secondary school-aged students.

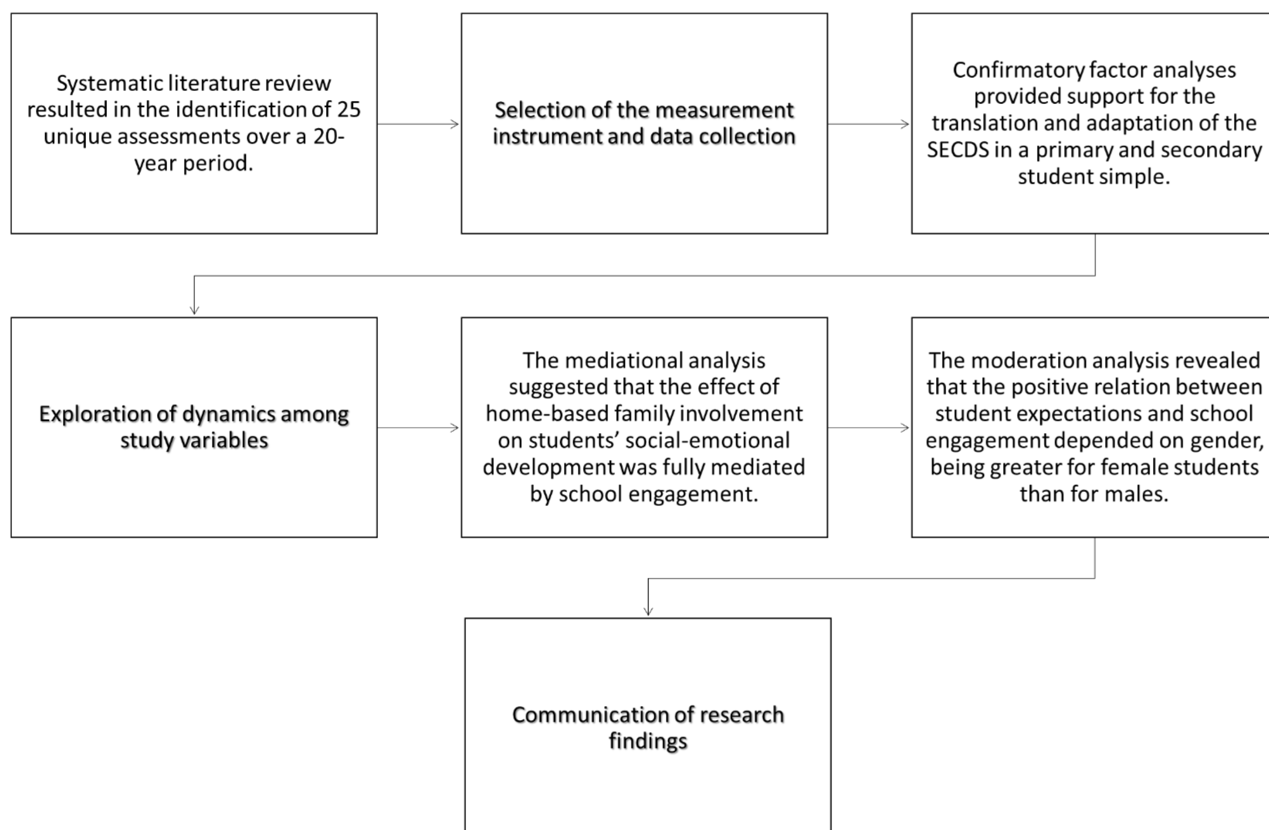
Study 4: The Moderating Effects of Gender in the Relation Between Student Academic Expectations and Student Engagement in Low-Income Communities

Summary of Results

In this section, I present a comprehensive overview of the key findings derived from the investigation. By synthesizing the main outcomes and trends observed across the research, this summary aims to provide a clear and concise overview of the significant contributions made by this thesis to the field of educational psychology. Figure 9 illustrates the main research outcomes along with the sequence of steps undertaken to complete the study.

Figure 9

Flowchart of the Main Research Outcomes



The initial finding from Study 1 highlights the increasing popularity of social-emotional skills. Based on the premise that with the upsurge of social-emotional research and programs comes an increased demand for reliable measurement tools, the results indicate a rapid growth and notable advancements in assessment systems for

social-emotional skills in recent decades. The studies examined within the scope of the systematic literature review, reveal that the most commonly utilized assessment approach is indirect assessment, with student self-rating scales being particularly prominent. Furthermore, the systematic review reveals that the majority of the instruments rely on Likert items as an efficient response option. While the domains covered by these instruments vary, they all target at least one of the five Collaborative for Academic, Social, and Emotional Learning (CASEL) areas of competence, indicating that social-emotional skills seem to encompass a range of skills rather than just a single skill.

Another primary finding of the research is that, overall, Study 2 offers support for the translation and adaptation of the Social-Emotional and Character Development Scale (SECDS) in samples of primary and secondary students within the Spanish territory. The analysis of the internal structure of the SECDS leads us to the conclusion that the correlated factor model is the most appropriate factor structure for the questionnaire. This alternative model consists of six factors (prosocial behavior, honesty, self-control, self-development, respect at school and respect at home) where all potential correlations between the factors are established. For the questionnaire to function the most optimally, it is recommended to remove three items from the Spanish-language version of the SECDS as well as employing a 5-point Likert scale to also capture the developmental level of secondary-aged students. In addition to that, the SECDS individual scales demonstrate reliability evidence for primary and secondary school-aged students with adequate internal consistency coefficients.

Next, Study 3 provides evidence for the mediating role of student engagement in the relationship between home-based family involvement and students' social-emotional skills, highlighting significant indirect effects. The impact of home-based

family involvement on students' social-emotional skills is fully mediated by student engagement, a variable often overlooked in previous research. In essence, the study suggests that active family involvement in a child’s education at home boost the child’s engagement in school, which in turn, supports the growth of social-emotional skills in students during their primary and secondary years. To my knowledge, this is the first study to investigate how family involvement influences a child's social-emotional skills through student engagement. The results reveal the close relationship between family involvement at home, student engagement, and the development of social-emotional skills, highlighting the significance of collaboration between families and schools in fostering students' social-emotional growth.

Finally, a notable finding of Study 4 is that the effect of student academic expectations on student engagement significantly depends on gender. The findings suggest that although academic expectations positively impact student engagement for both genders, the strength of this effect differs significantly between males and females. The connection between academic expectations and engagement is stronger for female students than for male students, indicating gender-based differences in how expectations influence engagement. This suggests that factors specific to gender may play a critical role in shaping this relationship. For female students, higher academic expectations may lead to greater engagement, possibly due to differences in socialization or the support systems available to them, compared to their male counterparts.

Final Conclusions

This section presents the final conclusions of this thesis, highlighting the study's contributions to the field of educational psychology, along with its novel insights and practical implications. Additionally, it addresses the research limitations and outlines potential avenues for future research, suggesting directions for further investigation and addressing any unresolved questions.

This thesis makes significant contributions by enhancing the understanding and assessment of social-emotional skills in children and adolescents, focusing on practical applications in educational settings. It addresses a crucial need for effective measurement tools, providing valuable insights for both researchers and practitioners. The research consolidates validated instruments for measuring social-emotional skills, offering a comprehensive guide that aids in the selection of appropriate tools for future studies. This consolidation supports the implementation of these assessments in schools, where they can inform instructional strategies and interventions. The successful adaptation and validation of the Social-Emotional and Character Development Scale (SECDS) for Spanish-speaking students offer a psychometrically reliable tool to assess various dimensions of social-emotional skills and character traits. By promoting a strength-based assessment approach, it shifts the focus from deficit-oriented evaluations to recognizing and fostering positive psychological traits. Furthermore, the results provide evidence for the multidimensionality of the construct of social-emotional skills and thus confirm prior investigations on the conceptualization of Social-Emotional Learning (SEL) as a multifaceted construct.

This thesis explores the mediating role of student engagement in the relationship between family involvement and social-emotional skills, particularly in low socioeconomic contexts. To my knowledge, this is the first study that identifies a mechanism linking family involvement with children's social-emotional skills via

student engagement. This novel insight underscores the importance of meaningful partnerships between families and schools to enhance students' social-emotional skills. The present study advances research on the different ways economically disadvantaged families get involved and therefore provides practical information for the future professionalization of parent-school cooperation. It highlights the need for targeted interventions that consider the unique challenges faced by low-income families. In addition to that, the findings also reveal that raising student academic expectations can significantly enhance student engagement, especially among female students. This suggests that gender-specific factors, such as socialization and motivation, play a crucial role in how academic expectations translate into student engagement. Understanding these dynamics allows educators to design tailored strategies that address the diverse needs of students. Consequently, educational strategies and interventions aimed at boosting student engagement may need to be tailored to address these gender-specific dynamics.

By supporting educators and psychologists in implementing effective assessments and interventions, this thesis fosters improved educational outcomes. It emphasizes the importance of recognizing students' strengths and provides practical guidance for overcoming barriers to family involvement and student engagement, ultimately enhancing students' social-emotional skills. This research not only advances academic knowledge but also provides actionable insights for practitioners. It helps shape effective educational practices and policies that cater to diverse needs, supporting student success across various life spheres.

Limitations and Future Research

This investigation highlights several shared limitations and offers corresponding recommendations for future research. All studies highlighted limitations related to the

composition or size of their samples, suggesting that future research should involve larger, more representative samples that encompass a broader range of socioeconomic and ethnic backgrounds to enhance generalizability. Additionally, limitations in research scope were identified, with recommendations to include additional constructs or variables and to explore other moderating and mediating factors. Methodological constraints, such as reliance on specific databases or self-reported measures, were also common, highlighting the need for expanded search strategies and the incorporation of diverse assessment methods. Addressing these issues in future research would improve the validity and applicability of the findings across different contexts and populations.

The findings of Study 1 should be understood within the context of certain methodological limitations. First, the literature search was conducted solely within three databases (Scopus, Web of Science (WoS) and Education Resources Information Center (ERIC)) without additional manual searches. Second, the search was limited to peer-reviewed articles published in English over the past 20 years. Third, the five CASEL areas of competence were excluded from the search strategy because their inclusion resulted in incomplete instruments that did not accurately capture the construct of social-emotional skills. To address these limitations, future research should broaden the search strategy to include other information sources, a wider range of academic publications, and research in languages other than English. Additionally, including the five specific CASEL domains in future searches would provide a more comprehensive understanding of the social-emotional construct.

The findings of Study 2 should also be considered in light of certain methodological constraints. The sample size was relatively small, necessitating the CFA to be conducted on the total sample. Additionally, the data set consisted only of socioeconomically and ethnically diverse, low-income students. To address these issues,

future studies should aim to increase the sample size and diversify the socioeconomic and ethnic backgrounds of the participants. It is recommended that the psychometric properties of the SECDS be assessed with a larger, more diverse sample from various provinces in Spain. Furthermore, measurement invariance of the SECDS was not analyzed, as it fell outside the scope of the current research. Future studies should explore the measurement invariance of the SECDS across different variables such as grade, race/ethnicity, and gender, using a new sample of school-aged students.

The findings of Study 3 should be interpreted with consideration of certain limitations. The study relied on self-reported measures, which may introduce bias due to participant subjectivity and the potential for social desirability effects. Future research should include alternative assessment methods, such as third-party ratings and direct observations, to minimize these biases. Additionally, as noted earlier, the data set was composed of socioeconomically and ethnically diverse, low-income students and their parents. While this data set offers valuable insights into the challenges faced by these populations, further research is needed to validate the relationships between the study variables across a broader spectrum of socioeconomic and ethnic backgrounds. This will help to confirm the study's conclusions and clarify the impact of family involvement on students' social-emotional skills.

The findings of Study 4 should be interpreted within the context of specific methodological limitations. First, the study focused only on the moderating role of gender, potentially limiting the scope of the results. Future research should explore additional moderating and mediating variables to gain a deeper understanding of the relationship between student academic expectations and student engagement. Furthermore, consistent with Studies 2 and 3, the data set only included students from socioeconomically disadvantaged backgrounds. While this offers valuable insights into

the unique challenges faced by these students, further studies are needed to verify the relationship between the study variables across a more diverse range of student demographics. Future research should examine the influence of students' socioeconomic and cultural backgrounds on the dynamics between student academic expectations and student engagement. Gaining insight into how these factors affect the relationship could lead to more targeted interventions and policies that improve academic outcomes and overall school experiences for students from diverse backgrounds.

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Appendix A: Protocol for the Systematic Review

Registration The review protocol for the systematic review was registered with OSF Registries. Registration DOI: https://doi.org/10.17605/OSF.IO/NVJA2

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Disclaimer This protocol reflects only the authors' view and the Research Executive Agency is not responsible for any use that be made of the information it contains.

Rationale In recent decades, social and emotional skills have gained particular importance in school settings due to their positive association with students' academic performance and their general well-being. Despite the advantages of strengthening social and emotional skills amongst school-aged students, the number of instruments measuring social and emotional competences is still limited.

Objective This systematic review aims to identify instruments that measure social and emotional skills in elementary and secondary education.

Eligibility criteria The present review will include articles describing an instrument that measures social and emotional skills in school-aged students. Peer-reviewed research papers in English published in the course of 20 years prior to the search will be included.

Information sources	A systematic search of the literature will be carried out in the following databases: Scopus, Web of Science (WoS) and Education Resources Information Center (ERIC).
Search strategy	The PICO search strategy was employed to select the search terms. The selected terms were grouped into three main groups: 1. Population: Primary and secondary school-aged students 2. Intervention: Measurement instruments 3. Outcomes: Social and emotional skills
Study records:	
Data management	Excel is the mechanism that will be used for the management of the screening and data extraction stages of the systematic review process. Customised workbooks and spreadsheets were designed for the review process.
Selection process	Three independent raters will screen the research papers against the inclusion and exclusion criteria.
Data collection process	Data items will be identified for each paper and cross checked by the three independent raters.
Outcomes and prioritization	The main outcomes for which data will be sought are instruments that measure social emotional skills and their key features.
Risk of bias in individual studies	Two different appraisal tools will be employed. The checklists for use with systematic reviews by Joanna Briggs Institute (JBI) (Lockwood et al., 2015) and the Critical Appraisal Skills Programme (CASP, 2021).
Data synthesis	Thematic analysis including conceptual model.

The PRISMA-P (Preferred Reporting Items for Systematic review and Meta-Analysis Protocols) 2015 checklist was employed for the preparation of this protocol. The copyright for PRISMA-P (including checklist) is held by the PRISMA-P Group and is distributed under a Creative Commons Attribution Licence 4.0.

From: Shamseer L, Moher D, Clarke M, Ghersi D, Liberati A, Petticrew M, Shekelle P, Stewart L, PRISMA-P Group. Preferred reporting items for systematic review and meta-analysis protocols (PRISMA-P) 2015: elaboration and explanation. BMJ. 2015 Jan 2;349(jan02 1):g7647.

Appendix B: Quality Appraisal Tools

Example 1: CASP Checklist

- Study ID: SELS2009
- Reviewer: Martinez-Yarza, Nerea
- Date: 18/01/2022

CASP Checklist: 12 questions to help you make sense of a Cohort Study

How to use this appraisal tool: Three broad issues need to be considered when appraising a cohort study:

- Are the results of the study valid? (Section A)
- What are the results? (Section B)
- Will the results help locally? (Section C)

The 12 questions on the following pages are designed to help you think about these issues systematically. The first two questions are screening questions and can be answered quickly. If the answer to both is "yes", it is worth proceeding with the remaining questions. There is some degree of overlap between the questions, you are asked to record a "yes", "no" or "can't tell" to most of the questions. A number of italicised prompts are given after each question. These are designed to remind you why the question is important. Record your reasons for your answers in the spaces provided.

About: These checklists were designed to be used as educational pedagogic tools, as part of a workshop setting, therefore we do not suggest a scoring system. The core CASP checklists (randomised controlled trial & systematic review) were based on JAMA 'Users' guides to the medical literature 1994 (adapted from Guyatt GH, Sackett DL, and Cook DJ), and piloted with health care practitioners.

For each new checklist, a group of experts were assembled to develop and pilot the checklist and the workshop format with which it would be used. Over the years overall adjustments have been made to the format, but a recent survey of checklist users reiterated that the basic format continues to be useful and appropriate.

Referencing: we recommend using the Harvard style citation, i.e.: *Critical Appraisal Skills Programme (2018). CASP (insert name of checklist i.e. Cohort Study) Checklist. [online] Available at: URL. Accessed: Date Accessed.*

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CASP
Critical Appraisal Skills Programme

Paper for appraisal and reference: SELS2009

Section A: Are the results of the study valid?

1. Did the study address a clearly focused issue?

Yes	✔
Can't Tell	
No	

HINT: A question can be 'focused' in terms of
- the population studied
- the risk factors studied
- is it clear whether the study tried to detect a beneficial or harmful effect
- the outcomes considered

Comments: The study clearly focused on the development and evaluation of the Social-Emotional Learning Scale (SELS) to assess the social-emotional learning needs of elementary-aged students.

2. Was the cohort recruited in an acceptable way?

Yes	✔
Can't Tell	
No	

HINT: Look for selection bias which might compromise the generalisability of the findings:
- was the cohort representative of a defined population
- was there something special about the cohort
- was everybody included who should have been

Comments: The sample consisted of 633 fourth, fifth, and sixth-grade students from 11 public schools in a midsized Midwestern U.S. city. This method appears to be appropriate and adequately described.

Is it worth continuing?

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3. Was the exposure accurately measured to minimise bias?

Yes ✔
Can't Tell ☐
No ☐

HINT: Look for measurement or classification bias:
- did they use subjective or objective measurements
- do the measurements truly reflect what you want them to (have they been validated)
- were all the subjects classified into exposure groups using the same procedure

Comments: The exposure, in this case, is the assessment using the SELS. The instrument was carefully developed and reviewed by an advisory group, ensuring the measurement was accurately captured.

4. Was the outcome accurately measured to minimise bias?

Yes ✔
Can't Tell ☐
No ☐

HINT: Look for measurement or classification bias:
- did they use subjective or objective measurements
- do the measurements truly reflect what you want them to (have they been validated)
- has a reliable system been established for detecting all the cases (for measuring disease occurrence)
- were the measurement methods similar in the different groups
- were the subjects and/or the outcome assessor blinded to exposure (does this matter)

Comments: The outcomes of interest were the reliability and validity of the SELS. The study used established statistical methods (e.g., factor analysis using maximum likelihood estimation) to evaluate these properties.

CASP
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5. (a) Have the authors identified all important confounding factors?

- Yes ☐
- Can't Tell ☐
- No ☑

HINT:
- list the ones you think might be important, and ones the author missed

Comments: The study does not explicitly mention confounding factors or how they were addressed. It focuses mainly on the psychometric properties of the SELS.

5. (b) Have they taken account of the confounding factors in the design and/or analysis?

- Yes ☐
- Can't Tell ☐
- No ☑

HINT:
- look for restriction in design, and techniques e.g. modelling, stratified-, regression-, or sensitivity analysis to correct, control or adjust for confounding factors

Comments:

6. (a) Was the follow up of subjects complete enough?

- Yes ☐
- Can't Tell ☑
- No ☐

HINT: Consider
- the good or bad effects should have had long enough to reveal themselves
- the persons that are lost to follow-up may have different outcomes than those available for assessment
- in an open or dynamic cohort, was there anything special about the outcome of the people leaving, or the exposure of the people entering the cohort

6. (b) Was the follow up of subjects **long** enough?

- Yes ☐
- Can't Tell ☑
- No ☐

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Comments: This criterion is more applicable to longitudinal studies. Since this study was cross-sectional, follow-up does not apply.

Section B: What are the results?

7. What are the results of this study?

HINT: Consider
- what are the bottom line results
- have they reported the rate or the proportion between the exposed/unexposed, the ratio/rate difference
- how strong is the association between exposure and outcome (RR)
- what is the absolute risk reduction (ARR)

Comments: The study found that the SELS is a reliable and valid tool for assessing social-emotional learning in elementary-aged students. The three-factor model (Task Articulation, Peer Relationships, and Self-Regulation) was supported by the data.

8. How precise are the results?

HINT:
- look for the range of the confidence intervals, if given

Comments: The results were precise and statistically significant, as indicated by various fit indices (CFI = .908, GFI = .921, RMSEA = .058, etc.). All freely estimated unstandardized parameters were statistically significant ($p < .001$).

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9. Do you believe the results?

Yes ✔
Can't Tell
No

HINT: Consider
- big effect is hard to ignore
- can it be due to bias, chance or confounding
- are the design and methods of this study sufficiently flawed to make the results unreliable
- Bradford Hills criteria (e.g. time sequence, dose-response gradient, biological plausibility, consistency)

Comments: The statistical methods and the description of the development and evaluation process provide credibility to the results.

Section C: Will the results help locally?

10. Can the results be applied to the local population?

Yes ✔
Can't Tell
No

HINT: Consider whether
- a cohort study was the appropriate method to answer this question
- the subjects covered in this study could be sufficiently different from your population to cause concern
- your local setting is likely to differ much from that of the study
- you can quantify the local benefits and harms

Comments: The sample was specific to a midsized Midwestern U.S. city, so while the results are promising, they may need further validation in different populations and settings.

11. Do the results of this study fit with other available evidence?

Yes ✔
Can't Tell
No

Comments: The results are consistent with other studies aiming to develop and validate social-emotional learning assessments, as the authors have referenced relevant literature and similar constructs.

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Skills Programme

12. What are the implications of this study for practice?

Yes ✔
Can't Tell
No

HINT: Consider
- one observational study rarely provides sufficiently robust evidence to recommend changes to clinical practice or within health policy decision making
- for certain questions, observational studies provide the only evidence
- recommendations from observational studies are always stronger when supported by other evidence

Comments: The SELS could be used by educators and program planners to assess and address the social-emotional learning needs of elementary-aged students. It provides a reliable and valid tool for this purpose. Further research could explore its application in different contexts and populations.

Example 2: CASP Checklist

- Study ID: SEHS2013
- Reviewer: Santibañez-Gruber, Rosa
- Date: 07/03/2022

CASP
Critical Appraisal Skills Programme

www.casp-uk.net
info@casp-uk.net
Summertown Pavilion, Middle Way Oxford OX2 7LG

CASP Checklist: 12 questions to help you make sense of a **Cohort Study**

How to use this appraisal tool: Three broad issues need to be considered when appraising a cohort study:

- Are the results of the study valid? (Section A)
- What are the results? (Section B)
- Will the results help locally? (Section C)

The 12 questions on the following pages are designed to help you think about these issues systematically. The first two questions are screening questions and can be answered quickly. If the answer to both is "yes", it is worth proceeding with the remaining questions. There is some degree of overlap between the questions, you are asked to record a "yes", "no" or "can't tell" to most of the questions. A number of italicised prompts are given after each question. These are designed to remind you why the question is important. Record your reasons for your answers in the spaces provided.

About: These checklists were designed to be used as educational pedagogic tools, as part of a workshop setting, therefore we do not suggest a scoring system. The core CASP checklists (randomised controlled trial & systematic review) were based on JAMA 'Users' guides to the medical literature 1994 (adapted from Guyatt GH, Sackett DL, and Cook DJ), and piloted with health care practitioners.

For each new checklist, a group of experts were assembled to develop and pilot the checklist and the workshop format with which it would be used. Over the years overall adjustments have been made to the format, but a recent survey of checklist users reiterated that the basic format continues to be useful and appropriate.

Referencing: we recommend using the Harvard style citation, i.e.: *Critical Appraisal Skills Programme (2018). CASP (insert name of checklist i.e. Cohort Study) Checklist. [online] Available at: URL. Accessed: Date Accessed.*

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Paper for appraisal and reference: SEHS2013

Section A: Are the results of the study valid?

1. Did the study address a clearly focused issue?

- Yes: ✔
- Can't Tell: ☐
- No: ☐

HINT: A question can be 'focused' in terms of
- the population studied
- the risk factors studied
- is it clear whether the study tried to detect a beneficial or harmful effect
- the outcomes considered

Comments: The study aimed to develop and validate the Social and Emotional Health Survey (SEHS) for measuring the psychological building blocks of adolescents' positive mental health.

2. Was the cohort recruited in an acceptable way?

- Yes: ✔
- Can't Tell: ☐
- No: ☐

HINT: Look for selection bias which might compromise the generalisability of the findings:
- was the cohort representative of a defined population
- was there something special about the cohort
- was everybody included who should have been

Comments: The participants were adolescent students from 12 schools in central California, with a reasonable representation of grade levels and demographics.

Is it worth continuing?

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3. Was the exposure accurately measured to minimise bias?

Yes ✔
Can't Tell ☐
No ☐

HINT: Look for measurement or classification bias:
- did they use subjective or objective measurements
- do the measurements truly reflect what you want them to (have they been validated)
- were all the subjects classified into exposure groups using the same procedure

Comments: The SEHS used well-established constructs and psychometric methods to ensure accurate measurement of psychological traits.

4. Was the outcome accurately measured to minimise bias?

Yes ✔
Can't Tell ☐
No ☐

HINT: Look for measurement or classification bias:
- did they use subjective or objective measurements
- do the measurements truly reflect what you want them to (have they been validated)
- has a reliable system been established for detecting all the cases (for measuring disease occurrence)
- were the measurement methods similar in the different groups
- were the subjects and/or the outcome assessor blinded to exposure (does this matter)

Comments: The outcomes, including students' subjective well-being, academic achievement, and other factors, were measured using established self-report surveys and validated scales.

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5. (a) Have the authors identified all important confounding factors?

Yes ✔
Can't Tell
No

HINT:
- list the ones you think might be important, and ones the author missed

Comments: While the study controls for several variables like gender and ethnicity, it does not mention control for all possible confounders such as socioeconomic status or pre-existing mental health conditions.

5. (b) Have they taken account of the confounding factors in the design and/or analysis?

Yes ✔
Can't Tell
No

HINT:
- look for restriction in design, and techniques e.g. modelling, stratified-, regression-, or sensitivity analysis to correct, control or adjust for confounding factors

Comments:

6. (a) Was the follow up of subjects complete enough?

Yes
Can't Tell ✔
No

HINT: Consider
- the good or bad effects should have had long enough to reveal themselves
- the persons that are lost to follow-up may have different outcomes than those available for assessment
- in an open or dynamic cohort, was there anything special about the outcome of the people leaving, or the exposure of the people entering the cohort

6. (b) Was the follow up of subjects long enough?

Yes
Can't Tell ✔
No

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Comments: This study is cross-sectional, focusing on the development and validation of the SEHS rather than following participants over time.

Section B: What are the results?

7. What are the results of this study?

HINT: Consider
- what are the bottom line results
- have they reported the rate or the proportion between the exposed/unexposed, the ratio/rate difference
- how strong is the association between exposure and outcome (RR)
- what is the absolute risk reduction (ARR)

Comments: The results of confirmatory factor analyses, invariance analysis, and latent means testing all provided evidence supporting the theoretical model of the SEHS. They suggest that the second-order covitality model was the most suitable fit for both males and females.

8. How precise are the results?

HINT:
- look for the range of the confidence intervals, if given

Comments: The study provides detailed statistical analyses, including confirmatory factor analyses, invariance analysis, and path-modeling, to support the validity and reliability of the SEHS.

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9. Do you believe the results?

- Yes: ✔
- Can't Tell: ☐
- No: ☐

HINT: Consider
- big effect is hard to ignore
- can it be due to bias, chance or confounding
- are the design and methods of this study sufficiently flawed to make the results unreliable
- Bradford Hills criteria (e.g. time sequence, dose-response gradient, biological plausibility, consistency)

Comments: The results are supported by robust statistical methods and clear reporting of the findings.

Section C: Will the results help locally?

10. Can the results be applied to the local population?

- Yes: ✔
- Can't Tell: ☐
- No: ☐

HINT: Consider whether
- a cohort study was the appropriate method to answer this question
- the subjects covered in this study could be sufficiently different from your population to cause concern
- your local setting is likely to differ much from that of the study
- you can quantify the local benefits and harms

Comments: Yes, but with caution. While the sample is representative of central Californian adolescents, differences in demographics and educational contexts elsewhere may limit direct applicability.

11. Do the results of this study fit with other available evidence?

- Yes: ✔
- Can't Tell: ☐
- No: ☐

Comments: The study builds on existing literature on positive youth development and social-emotional learning, aligning with established findings in the field.

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12. What are the implications of this study for practice?

Yes ✔
Can't Tell ☐
No ☐

HINT: Consider
- one observational study rarely provides sufficiently robust evidence to recommend changes to clinical practice or within health policy decision making
- for certain questions, observational studies provide the only evidence
- recommendations from observational studies are always stronger when supported by other evidence

Comments: The SEHS can be used to assess and support the psychological health of adolescents, providing a tool for educators and psychologists to identify areas for intervention and support.

Example 3: JBI Checklist

- Study ID: SENNA2016
- Reviewer: Martinez-Yarza, Nerea
- Date: 27/01/2022

CHECKLIST FOR ANALYTICAL CROSS SECTIONAL STUDIES

Critical Appraisal tools for use in JBI Systematic Reviews

Introduction

JBI is an JBI is an international research organisation based in the Faculty of Health and Medical Sciences at the University of Adelaide, South Australia. JBI develops and delivers unique evidence-based information, software, education and training designed to improve healthcare practice and health outcomes. With over 70 Collaborating Entities, servicing over 90 countries, JBI is a recognised global leader in evidence-based healthcare.

JBI Systematic Reviews

The core of evidence synthesis is the systematic review of literature of a particular intervention, condition or issue. The systematic review is essentially an analysis of the available literature (that is, evidence) and a judgment of the effectiveness or otherwise of a practice, involving a series of complex steps. JBI takes a particular view on what counts as evidence and the methods utilised to synthesise those different types of evidence. In line with this broader view of evidence, JBI has developed theories, methodologies and rigorous processes for the critical appraisal and synthesis of these diverse forms of evidence in order to aid in clinical decision-making in healthcare. There now exists JBI guidance for conducting reviews of effectiveness research, qualitative research, prevalence/incidence, etiology/risk, economic evaluations, text/opinion, diagnostic test accuracy, mixed-methods, umbrella reviews and scoping reviews. Further information regarding JBI systematic reviews can be found in the JBI Evidence Synthesis Manual.

JBI Critical Appraisal Tools

All systematic reviews incorporate a process of critique or appraisal of the research evidence. The purpose of this appraisal is to assess the methodological quality of a study and to determine the extent to which a study has addressed the possibility of bias in its design, conduct and analysis. All papers selected for inclusion in the systematic review (that is – those that meet the inclusion criteria described in the protocol) need to be subjected to rigorous appraisal by two critical appraisers. The results of this appraisal can then be used to inform synthesis and interpretation of the results of the study. JBI Critical appraisal tools have been developed by the JBI and collaborators and approved by the JBI Scientific Committee following extensive peer review. Although designed for use in systematic reviews, JBI critical appraisal tools can also be used when creating Critically Appraised Topics (CAT), in journal clubs and as an educational tool.

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JBI CRITICAL APPRAISAL CHECKLIST FOR ANALYTICAL CROSS SECTIONAL STUDIES

Reviewer_Martinez-Yarza, Nerea______________________ Date_27/01/2022____________________

Author_Primi et al.______________________________ Year_2016____ Record Number_SENNA2016__

	Yes	No	Unclear	Not applicable
1. Were the criteria for inclusion in the sample clearly defined?	X	☐	☐	☐
2. Were the study subjects and the setting described in detail?	X	☐	☐	☐
3. Was the exposure measured in a valid and reliable way?	X	☐	☐	☐
4. Were objective, standard criteria used for measurement of the condition?	X	☐	☐	☐
5. Were confounding factors identified?	X	☐	☐	☐
6. Were strategies to deal with confounding factors stated?	X	☐	☐	☐
7. Were the outcomes measured in a valid and reliable way?	X	☐	☐	☐
8. Was appropriate statistical analysis used?	X	☐	☐	☐

Overall appraisal: Include X Exclude ☐ Seek further info ☐

Comments (Including reason for exclusion)

The study appears comprehensive and methodologically sound, with clear criteria for inclusion, detailed descriptions of subjects and settings, valid and reliable measurements, identification and handling of confounding factors, and appropriate statistical analyses. No reason for exclusion is evident based on the provided information.

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Explanation of analytical cross sectional studies critical appraisal

How to cite: Moola S, Munn Z, Tufanaru C, Aromataris E, Sears K, Sfetcu R, Currie M, Qureshi R, Mattis P, Lisy K, Mu P-F. Chapter 7: Systematic reviews of etiology and risk . In: Aromataris E, Munn Z (Editors). *JBI Manual for Evidence Synthesis.* JBI, 2020. Available from https://synthesismanual.jbi.global

Analytical cross sectional studies Critical Appraisal Tool

Answers: Yes, No, Unclear or Not/Applicable

1. Were the criteria for inclusion in the sample clearly defined?

The authors should provide clear inclusion and exclusion criteria that they developed prior to recruitment of the study participants. The inclusion/exclusion criteria should be specified (e.g., risk, stage of disease progression) with sufficient detail and all the necessary information critical to the study.

2. Were the study subjects and the setting described in detail?

The study sample should be described in sufficient detail so that other researchers can determine if it is comparable to the population of interest to them. The authors should provide a clear description of the population from which the study participants were selected or recruited, including demographics, location, and time period.

3. Was the exposure measured in a valid and reliable way?

The study should clearly describe the method of measurement of exposure. Assessing validity requires that a 'gold standard' is available to which the measure can be compared. The validity of exposure measurement usually relates to whether a current measure is appropriate or whether a measure of past exposure is needed.

Reliability refers to the processes included in an epidemiological study to check repeatability of measurements of the exposures. These usually include intra-observer reliability and inter-observer reliability.

4. Were objective, standard criteria used for measurement of the condition?

It is useful to determine if patients were included in the study based on either a specified diagnosis or definition. This is more likely to decrease the risk of bias. Characteristics are another useful approach to matching groups, and studies that did not use specified diagnostic methods or definitions should provide evidence on matching by key characteristics

5. Were confounding factors identified?

Confounding has occurred where the estimated intervention exposure effect is biased by the presence of some difference between the comparison groups (apart from the exposure investigated/of interest). Typical confounders include baseline characteristics, prognostic factors, or concomitant exposures (e.g. smoking). A confounder is a difference between the comparison groups and it influences the direction of the study results. A high quality study at the level of cohort design will identify the potential confounders and measure them (where possible). This is difficult for studies where behavioral, attitudinal or lifestyle factors may impact on the results.

6. Were strategies to deal with confounding factors stated?

Strategies to deal with effects of confounding factors may be dealt within the study design or in data analysis. By matching or stratifying sampling of participants, effects of confounding factors can be adjusted for. When dealing with adjustment in data analysis, assess the statistics used in the study. Most will be some form of multivariate regression analysis to account for the confounding factors measured.

7. Were the outcomes measured in a valid and reliable way?

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Read the methods section of the paper. If for e.g. lung cancer is assessed based on existing definitions or diagnostic criteria, then the answer to this question is likely to be yes. If lung cancer is assessed using observer reported, or self-reported scales, the risk of over- or under-reporting is increased, and objectivity is compromised. Importantly, determine if the measurement tools used were validated instruments as this has a significant impact on outcome assessment validity.

Having established the objectivity of the outcome measurement (e.g. lung cancer) instrument, it's important to establish how the measurement was conducted. Were those involved in collecting data trained or educated in the use of the instrument/s? (e.g. radiographers). If there was more than one data collector, were they similar in terms of level of education, clinical or research experience, or level of responsibility in the piece of research being appraised?

8. Was appropriate statistical analysis used?

As with any consideration of statistical analysis, consideration should be given to whether there was a more appropriate alternate statistical method that could have been used. The methods section should be detailed enough for reviewers to identify which analytical techniques were used (in particular, regression or stratification) and how specific confounders were measured.

For studies utilizing regression analysis, it is useful to identify if the study identified which variables were included and how they related to the outcome. If stratification was the analytical approach used, were the strata of analysis defined by the specified variables? Additionally, it is also important to assess the appropriateness of the analytical strategy in terms of the assumptions associated with the approach as differing methods of analysis are based on differing assumptions about the data and how it will respond.

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Example 4: JBI Checklist

- Study ID: EQ-i:YV2012

- Reviewer: Solabarrieta-Eizaguirre, Josu

- Date: 15/03/2022

CHECKLIST FOR ANALYTICAL CROSS SECTIONAL STUDIES

Critical Appraisal tools for use in JBI Systematic Reviews

Introduction

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JBI Critical Appraisal Tools

All systematic reviews incorporate a process of critique or appraisal of the research evidence. The purpose of this appraisal is to assess the methodological quality of a study and to determine the extent to which a study has addressed the possibility of bias in its design, conduct and analysis. All papers selected for inclusion in the systematic review (that is – those that meet the inclusion criteria described in the protocol) need to be subjected to rigorous appraisal by two critical appraisers. The results of this appraisal can then be used to inform synthesis and interpretation of the results of the study. JBI Critical appraisal tools have been developed by the JBI and collaborators and approved by the JBI Scientific Committee following extensive peer review. Although designed for use in systematic reviews, JBI critical appraisal tools can also be used when creating Critically Appraised Topics (CAT), in journal clubs and as an educational tool.

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JBI CRITICAL APPRAISAL CHECKLIST FOR ANALYTICAL CROSS SECTIONAL STUDIES

Reviewer_Solabarrieta-Eizaguirre, Josu_______________Date__15/03/2022_____________________

Author__Ferrándiz et al._________________________Year_2012___ Record Number_EQ-i:YV2012

	Yes	No	Unclear	Not applicable
1. Were the criteria for inclusion in the sample clearly defined?	X	☐	☐	☐
2. Were the study subjects and the setting described in detail?	X	☐	☐	☐
3. Was the exposure measured in a valid and reliable way?	X	☐	☐	☐
4. Were objective, standard criteria used for measurement of the condition?	X	☐	☐	☐
5. Were confounding factors identified?	X	☐	☐	☐
6. Were strategies to deal with confounding factors stated?	X	☐	☐	☐
7. Were the outcomes measured in a valid and reliable way?	X	☐	☐	☐
8. Was appropriate statistical analysis used?	X	☐	☐	☐

Overall appraisal: Include X Exclude ☐ Seek further info ☐

Comments (Including reason for exclusion)

Based on the application of the JBI Critical Appraisal Checklist for Analytical Cross-Sectional Studies, the article appears to be well-designed with clearly defined inclusion criteria, detailed descriptions of the study subjects and setting, valid and reliable measurement of exposure, and appropriate handling of confounding factors. The outcomes are measured in a reliable way, and the statistical analysis used is appropriate for the study's goals.

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Explanation of analytical cross sectional studies critical appraisal

How to cite: Moola S, Munn Z, Tufanaru C, Aromataris E, Sears K, Sfetcu R, Currie M, Qureshi R, Mattis P, Lisy K, Mu P-F. Chapter 7: Systematic reviews of etiology and risk . In: Aromataris E, Munn Z (Editors). *JBI Manual for Evidence Synthesis.* JBI, 2020. Available from https://synthesismanual.jbi.global

Analytical cross sectional studies Critical Appraisal Tool

Answers: Yes, No, Unclear or Not/Applicable

1. Were the criteria for inclusion in the sample clearly defined?

The authors should provide clear inclusion and exclusion criteria that they developed prior to recruitment of the study participants. The inclusion/exclusion criteria should be specified (e.g., risk, stage of disease progression) with sufficient detail and all the necessary information critical to the study.

2. Were the study subjects and the setting described in detail?

The study sample should be described in sufficient detail so that other researchers can determine if it is comparable to the population of interest to them. The authors should provide a clear description of the population from which the study participants were selected or recruited, including demographics, location, and time period.

3. Was the exposure measured in a valid and reliable way?

The study should clearly describe the method of measurement of exposure. Assessing validity requires that a 'gold standard' is available to which the measure can be compared. The validity of exposure measurement usually relates to whether a current measure is appropriate or whether a measure of past exposure is needed.

Reliability refers to the processes included in an epidemiological study to check repeatability of measurements of the exposures. These usually include intra-observer reliability and inter-observer reliability.

4. Were objective, standard criteria used for measurement of the condition?

It is useful to determine if patients were included in the study based on either a specified diagnosis or definition. This is more likely to decrease the risk of bias. Characteristics are another useful approach to matching groups, and studies that did not use specified diagnostic methods or definitions should provide evidence on matching by key characteristics

5. Were confounding factors identified?

Confounding has occurred where the estimated intervention exposure effect is biased by the presence of some difference between the comparison groups (apart from the exposure investigated/of interest). Typical confounders include baseline characteristics, prognostic factors, or concomitant exposures (e.g. smoking). A confounder is a difference between the comparison groups and it influences the direction of the study results. A high quality study at the level of cohort design will identify the potential confounders and measure them (where possible). This is difficult for studies where behavioral, attitudinal or lifestyle factors may impact on the results.

6. Were strategies to deal with confounding factors stated?

Strategies to deal with effects of confounding factors may be dealt within the study design or in data analysis. By matching or stratifying sampling of participants, effects of confounding factors can be adjusted for. When dealing with adjustment in data analysis, assess the statistics used in the study. Most will be some form of multivariate regression analysis to account for the confounding factors measured.

7. Were the outcomes measured in a valid and reliable way?

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Read the methods section of the paper. If for e.g. lung cancer is assessed based on existing definitions or diagnostic criteria, then the answer to this question is likely to be yes. If lung cancer is assessed using observer reported, or self-reported scales, the risk of over- or under-reporting is increased, and objectivity is compromised. Importantly, determine if the measurement tools used were validated instruments as this has a significant impact on outcome assessment validity.

Having established the objectivity of the outcome measurement (e.g. lung cancer) instrument, it's important to establish how the measurement was conducted. Were those involved in collecting data trained or educated in the use of the instrument/s? (e.g. radiographers). If there was more than one data collector, were they similar in terms of level of education, clinical or research experience, or level of responsibility in the piece of research being appraised?

8. Was appropriate statistical analysis used?

As with any consideration of statistical analysis, consideration should be given to whether there was a more appropriate alternate statistical method that could have been used. The methods section should be detailed enough for reviewers to identify which analytical techniques were used (in particular, regression or stratification) and how specific confounders were measured.

For studies utilizing regression analysis, it is useful to identify if the study identified which variables were included and how they related to the outcome. If stratification was the analytical approach used, were the strata of analysis defined by the specified variables? Additionally, it is also important to assess the appropriateness of the analytical strategy in terms of the assumptions associated with the approach as differing methods of analysis are based on differing assumptions about the data and how it will respond.

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Appendix C: Expert Validation Form with Incorporated Feedback

Validación de cuestionarios por expertos/as

Nos dirigimos a usted, dada su experiencia y su conocimiento en el área de educación, con el fin de solicitar su colaboración en la revisión y validación de un conjunto de cuestionarios que serán utilizados en un trabajo de investigación sobre las necesidades socioeducativas en la infancia en situación de pobreza.

La investigación analizará la medida en la que la implicación familiar contribuye a reducir las desigualdades educativas del alumnado de educación primaria y secundaria en la Comunidad Autónoma Vasca. Para ello, se ha diseñado un cuestionario específico para cada destinatario adaptado a su perfil. Se trata de un instrumento dirigido a niños, niñas y adolescentes (NNA) y otros dos instrumentos dirigidos a familias con hijos/as en educación primaria y secundaria.

Dada su experiencia, le pedimos su colaboración para la validación de los cuestionarios en lo que refiere a la comprensión y adecuación del lenguaje y contenido de las personas encuestadas. A continuación, encontrará cada uno de los cuestionarios dirigido a:

1. Niños, niñas y adolescentes (6-18 años) que participan en el programa
2. Padres, madres y/o tutores legales de menores en educación primaria
3. Padres, madres y/o tutores legales de menores en educación secundaria

En cada fila, encontrará un espacio sombreado en el lado derecho ("Comentarios") para que pueda anotar en él lo que estime oportuno sobre posibles cambios o sugerencias. Si cree que el ítem es comprensible, no es necesario que anote nada. Por el contrario, si cree que el ítem podría mejorarse, le agradeceríamos que nos indique qué aspecto cree que es mejorable y, si es posible, nos sugiera alguna alternativa.

Una vez que termine, guarde por favor los cambios en este documento y envíelo a la persona que se lo hizo llegar.

Agradecemos de antemano su predisposición para colaborar en esta investigación.

Cuestionario para niños, niñas y adolescentes:

Medida de implicación en la escuela
Escala de Likert (de 1= nunca a 5= siempre)
		Comentarios
		• He modificado algunas frases que creo más adecuadas para la edad (vocabulario, añadir contexto o actualizar).
		• En relación a la implicación en la escuela me parece que faltaría indagar en algunos aspectos sobre:
		  o La participación y comunicación activa del niño/a en el aula o en el centro: “Puedo hablar tranquilamente en el aula”. Colaboro con los compañeros/as en tareas diarias.
		  o La posibilidad de ser creativo y ofrecerlo al centro.
		  o El apoyo que tiene de los profesores/as y de la familia. (Podría ser: cuando un tema me interesa sé que mi profesor/a va a apoyarme en que busque información o en hacer un proyecto interesante para mi. Impulsan el que sea creativo en la escuela. Los profesores/as me apoyan en mis estudios.)
		  o El esfuerzo en los estudios.
		• Se propone también la inclusión de realización de tareas compartidas por red social. En edades más avanzadas es una práctica muy extendida y tiene su parte muy positiva.

1	Sigo las reglas que marca mi centro educativo	Con “reglas”, ¿se refiere a normas? En ese caso, optaría por normas. Usaría un vocabulario más básico en primaria: “Sigo las normas que tiene mi centro educativo”
2	Cuando estoy en clase me dedico a trabajar (estudiar)	Omitiría “me dedico a”: “Cuando estoy en clase trabajo (estudio)”
3	Presto atención en clase	
4	Termino mi tarea a tiempo	Especificaría “Termino mi tarea en el aula a tiempo”
5	Me gusta estar en mi centro educativo	Escuela/instituto
6	Me siento contento/a con mi trabajo en el centro educativo	
7	Me divierto estando en clase	“Me gusta estar en clase”
8	Estoy interesado/a por el trabajo que tengo que hacer en mi centro educativo	“Me interesa el trabajo que hago en mi centro educativo”.
9	Me siento contento/a en mi centro educativo	

10	Corrijo mis deberes en busca de errores	"Corrijo mis deberes y busco errores"
11	Estudio en casa aunque no tenga exámenes	
12	Intento ver programas en televisión sobre cosas que hacemos en mi centro educativo	Separar el tema de la Tv y vídeos con el de internet. Un poco más explícito, o poner otro ítem, referente a vídeos en el ordenador y en el móvil relacionado con asuntos de clase… e incluso aprovecharía para poner otro ítem sobre lo mismo, pero no relacionado con temas de clase. Creo que no es actual para los/as niñas/os y adolescentes. Pondría: "Intento ver en diversos medios (televisión, web, redes sociales…) temas que tratamos en el aula."
13	Cuando leo un libro me hago preguntas para asegurarme de que entiendo lo que leo	
14	Leo libros extra sobre cosas que hacemos en mi centro educativo	Quitar extra
15	Si no sé lo que significa una palabra cuando leo, hago algo para averiguarlo	
16	Hablo con gente de fuera de mi centro educativo sobre lo que aprendo en clase	

Medida de competencias socioemocionales *Escala de Likert (NO!, no, sí, ¡SÍ!)*		Comentarios • En relación a la petición de ayuda: "Pido ayuda si la necesito." • Me falta alguna pregunta sobre género e inclusión: "Puedo tener amigos y amigas", "la diferencias del alumnado (sexo, origen, nivel académico), enriquecen los trabajos de colaboración en el aula . "Las chicas y los chicos pueden dedicarse a lo que quieran". "Hay trabajos específicos de chicas y otros de chicos". • Falta alguna pregunta sobre la resiliencia (mirar factores: buen humor, comunicación, apoyo…) • Preguntas sobre bullying • Uso del móvil, internet, teléfono móvil, videojuegos.
17	Juego bien con los demás	Los y las
18	Hago cosas que son buenas para el grupo	
19	Trato a mis amigos/as de la manera en la que me gusta que me traten	
20	Soy agradable con los niños/as que son diferentes a mi	mí

21	Intento animar a otros niños/as si se sienten tristes	
22	Soy un buen amigo/a de los demás	“Soy un buen amigo”
23	Me disculpo cuando he hecho algo mal	“Pido perdón”
24	Digo la verdad cuando he hecho algo mal	
25	Digo la verdad a los demás	
26	Cumplo las promesas que hago a los demás	
27	Admito mis errores	
28	Mejoro como persona	Es muy abstracta y difícil de valorar. Se debería acotar en que situación mejoro como persona (Mejoro como persona cuando estudio, cuando vengo al centro, cuando hablo con mis compañeros/as…) “I make myself a better person”, tiene intencionalidad.
29	Sigo intentando algo hasta que lo consigo	
30	Me fijo objetivos a mí mismo (hago planes para el futuro)	Mejor “Hago planes para el futuro”
31	Intento ser mi mejor versión	¿? No creo que la entiendan en los primeros cursos de primaria.
32	Espero mi turno pacientemente en la fila	“tranquilo”
33	Controlo mi genio cuando tengo una discusión con otros/as niños/as	“Cuando me enfado con otros niños”
34	Sigo las reglas incluso cuando nadie está mirando	“Normas” aunque no haya nadie. “Aunque no esté la profesora”
35	Ignoro a los demás niños/as cuando se burlan de mí o me insultan	“No hago caso”
36	Hablo educadamente a mi profesor/a y otros adultos en la escuela	“Con respeto”
37	Obedezco a mi profesor/a y otros adultos en la escuela	“Hago caso”
38	Sigo las indicaciones de mi profesor/a y de otros adultos en la escuela	“Hago caso”
39	Escucho (sin interrumpir) a mi profesor/a y otros adultos en la escuela	“No interrumpo cuando habla mi profesor u otras personas”
40	Sigo las reglas de la escuela	“Normas”
41	Hablo educadamente a mis padres	Dada la diversidad familiar actual, propongo: “A mi familia”. O, en su caso, “A mi madre y a mi padre” para apostar por un lenguaje inclusivo a pesar de que no represente esa diversidad familiar. Con respeto “ a mi madre, padre”
42	Obedezco a mis padres	Dada la diversidad familiar actual, propongo: “A mi familia”.

		O, en su caso, "A mi madre y a mi padre" para apostar por un lenguaje inclusivo a pesar de que no represente esa diversidad familiar. "Hago caso" "a mi madre, padre"
43	Escucho (sin interrumpir) a mis padres	Dada la diversidad familiar actual, propongo: "A mi familia". O, en su caso, "A mi madre y a mi padre" para apostar por un lenguaje inclusivo a pesar de que no represente esa diversidad familiar. No interrumpo a mi padres cuando me hablan "a mi madre, padre"
44	Sigo las reglas en casa	"normas"

Medida de expectativas educativas			Opciones de respuesta	Comentarios Cómo te ves dentro de 20 años: estudiando, buscando trabajo, trabajando, viviendo con mi familia actual, viviendo solo/a...
45	¿Qué nivel de estudios crees que vas a conseguir?		No terminaré la ESO, sólo terminaré la ESO, módulo grado medio, bachillerato, módulo grado superior o estudios universitarios.	"Que estudios crees que vas a realizar (hacer)" PRIMARIA ESO MODULO BACHILLERATO ..
46	*Primaria*	¿Cómo crees que te irá en estas asignaturas?	Matemáticas, lengua castellana y euskera (de 1= nada bien a 5= muy bien)	"¿Qué nota crees que vas a sacar en las estas asignaturas?" 1.MUY MALA 2.MALA 3.REGULAR 4. BIEN. 5.MUY BIEN Especificarles los números
	Secundaria	¿Qué nota crees que vas a sacar en las estas asignaturas?	Matemáticas, lengua castellana y euskera (0-10)	1.MUY MALA 2.MALA 3.REGULAR 4. BIEN. 5.MUY BIEN Especificarles los números

Cuestionario para familias con menores en Educación Primaria:

	Medida de implicación familiar *Escala de Likert (de 1= raramente a 4= siempre)*	Comentarios • Tener en cuenta la formación: formal, no formal e informal. • Profesorado, dirección, AMPA, actividades extraescolares: centro, fuera del centro (club tiempo libre, club deportivo), apoyos o recursos de otros servicios locales, actividades familiares (juego, culturales, etc.) • Tener en cuenta la compañía, permanencia de la familia: ida-vuelta del cole, tiempo de juego con otros iguales, tiempo soledad, papeles aita-ama. • Si utilizan WhatsApp de clase o no. En Primaria es muy corriente y tiene su parte positiva y su gran parte muy negativa que crea dinámicas problemáticas en las aulas.
1	Asisto a reuniones con el/la profesor/a para hablar sobre el aprendizaje o comportamiento de mi hijo/a	voy
2	Me pongo en contacto con el/la profesor/a o el/la directora/a para obtener información	¿"Equipo directivo" en lugar de director/a? En ocasiones, se contacta con la jefatura de estudios.
3	Hablo con el/la profesor/a de mi hijo/a sobre su programa escolar diario	¿A qué hace referencia el término programa escolar? Considero que puede generar confusión. Propondría "horario escolar" o "asignaturas diarias"
4	Limito la cantidad de televisión y videos que mi hijo/a ve	Medición del tiempo ante una pantalla o con el móvil Controlo, superviso, regulo
5	Reviso los deberes de mi hijo/a	
6	Llevo a mi hijo/a a la biblioteca municipal	Del barrio
7	Sugiero actividades para clase y excursiones escolares al profesor/a	
8	Asisto a cursos o formación que ofertan en la escuela de mi hijo/a	
9	Hablo con el/la profesor/a de mi hijo/a sobre las normas de clase	
10	Llevo a mi hijo/a a la escuela por la mañana	La preposición "a" aparece en dos ocasiones
11	Mantengo un horario fijo de sueño para mi hijo/a	
12	Elogio a mi hijo/a por su trabajo en la escuela delante del profesor/a	Bien. Otra opción: "felicito" Aplaudo, alabo
13	Comparto historias con mi hijo/a de cuando yo iba a la escuela	Le cuento a mi hijo/a historias de cuando…

14	Llevo a mi hijo/a a sitios del municipio para que aprenda cosas especiales (museos, iglesias)	La preposición "a" aparece en dos ocasiones "Llevo a mi hijo a museos, iglesias, bibliotecas y otros lugares para que aprenda …"
15	Llamo al profesor/a si estoy preocupado/a por cosas que mi hijo/a me cuenta acerca de la escuela	En el instrumento para NNA sobre implicación en la escuela se utiliza el término "centro educativo" en lugar de "escuela". Sugiero unificar el término
16	Hablo con el/la profesor/a acerca de cómo se lleva mi hijo/a con sus compañeros/as en la escuela	Para saber cómo es la relación de mi hijo
17	Me aseguro de que mi hijo/a tenga un lugar en casa donde poder guardar sus libros o materiales escolares	
18	Colaboro como voluntario/a en clase de mi hijo/a	participo
19	Participo en actividades de recaudación de fondos en la escuela de mi hijo/a	
20	El/La profesor/a y yo nos escribimos notas sobre mi hijo/a o las actividades escolares	Si la relación con el profesorado se hace también con correo electrónico. Es una herramienta que cada vez se utiliza más y tiene sus grandes ventajas.
21	Hablo con el/la profesor/a sobre los logros de mi hijo/a	
22	Leo con mi hijo/a	
23	Llevo a casa materiales didácticos para mi hijo/a (cintas, videos, libros)	Vídeos Materiales para que mi hijo aprenda
24	Voy a excursiones escolares con mi hijo/a	
25	Participo en actividades sociales para padres/madres y familias en la escuela de mi hijo	
26	Establezco normas claras en casa que mi hijo/a debe obedecer	
27	Hablo con el/la profesor/a de mi hijo/a sobre sus dificultades en la escuela	
28	Le pregunto a mi hijo/a cómo fue su día en la escuela	
29	Organizo ratos en casa en los que los/las compañeros/as de mi hijo/a puedan venir a jugar	
30	Hablo con otros padres y madres sobre reuniones y eventos escolares	
31	Recojo a mi hijo/a de la escuela por la tarde	
32	Hablo con personas de la escuela de mi hijo/a sobre oportunidades de formación o desarrollo profesional para mí	

33	Hablo con el/la profesor/a de mi hijo/a sobre los deberes que debe hacer en casa	
34	Hablo con el/la profesor/a de mi hijo/a sobre asuntos personales y familiares en el caso de que afecten al trabajo de mi hijo/a en la escuela	
35	Mi hijo/a tiene asignadas tareas domésticas	
36	Siento que los/las profesores/as y el/la directora/a animan a los padres y madres a involucrarse en la escuela	
37	Siento que los padres y madres de la escuela de mi hijo/a se apoyan mutuamente	
38	Realizo actividades creativas con mi hijo/a (como cantar, dibujar y cuentacuentos)	"o" en lugar de "y"
39	Paso tiempo trabajando con mi hijo/a las competencias matemáticas	
40	Asisto a asociaciones de padres y madres en la escuela de mi hijo/a	
41	Hablo con el/la profesor/a de mi hijo/a o director/a sobre problemas disciplinarios	De disciplina y comportamiento
42	Ayudo a mi hijo/a con los deberes	
43	Hablo con el/la profesor/a de mi hijo/a por teléfono	
44	Hablo con familiares y amigos/as sobre cómo le va a mi hijo/a en la escuela	
45	Hablo con mi hijo/a sobre cómo la escuela me ha ayudado	Me ayudo cuando era pequeña
46	Quedo con otras familias de clase de mi hijo/a fuera de la escuela	

Medida expectativas educativas		Opciones de respuesta	Comentarios Cómo te ves dentro de 20 años
47	¿Qué nivel de estudios cree que conseguirá su hijo/a?	No terminará la ESO, sólo terminará la ESO, módulo grado medio, bachillerato, módulo grado superior o estudios universitarios.	
48	¿Cómo cree que le irá a su hijo/a en las siguientes asignaturas?	Matemáticas, lengua castellana y euskera (de 1= nada bien a 5= muy bien)	

Cuestionario para familias con menores en Educación Secundaria:

	Medida de implicación familiar *Escala de Likert (de 1= raramente a 4= siempre)*	**Comentarios** • Tener en cuenta la formación: formal, no formal e informal. • Profesorado, dirección, AMPA, actividades extraescolares: centro, fuera del centro (club tiempo libre, club deportivo,), apoyos o recursos de otros servicios locales, actividades familiares(juego, culturales, etc.) • Tener en cuenta la compañía , permanencia de la familia: ida-vuelta del cole, tiempo de juego con otros iguales, tiempo soledad, papeles aita-ama.
1	Asisto a reuniones con profesores/as para hablar del aprendizaje o comportamiento de mi hijo/a adolescente	
2	Contacto con el instituto de mi hijo/a para pedir información	
3	En casa, limito el tiempo que mi hijo/a pasa delante del televisor o del ordenador	Medición del tiempo ante una pantalla o con el móvil
4	Me aseguro de que mi hijo/a termine sus deberes	
5	Sugiero actividades o excursiones a los/las profesores/as	Sugerencia: Profesorado
6	Asisto a talleres o cursos de formación para padres y madres que ofrece el instituto de mi hijo/a	
7	Hablo con el personal del instituto sobre las normas de clase y del centro	
8	Me aseguro de que mi hijo/a tenga manera de llegar al instituto por la mañana	
9	Le cuento historias a mi hijo/a sobre cuando yo iba al instituto	
10	Me aseguro de que mi hijo/a disponga de recursos para informarse sobre oportunidades académicas posteriores a la educación secundaria (por ejemplo, universidades o formación profesional)	Disponga de información sobre estudios que puede realizar después de secundaria
11	Me comunico con el personal del instituto si estoy preocupado por cosas que mi hijo/a me comenta acerca del mismo	
12	Hablo con el personal del centro sobre la preparación de mi hijo/a para la vida después del instituto	
13	Me aseguro de que mi hijo/a tenga algún sitio tranquilo en casa, donde pueda hacer los deberes	

14	Soy voluntario en el instituto de mi hijo/a	
15	Participo en actividades de recaudación de fondos en el instituto de mi hijo/a	
16	Hablo con los/las profesores/as sobre los progresos de mi hijo/a	
17	Participo en actividades sociales, familiares y comunitarias en el instituto de mi hijo/a (por ejemplo, partidos, representaciones, festivales)	
18	Establezco normas claras en casa que mi hijo/a debe obedecer	
19	Le pregunto a mi hijo/a cómo ha ido el día en el instituto	
20	Animo a mi hijo/a a que invite a sus amigos/as a venir a casa	
21	Me aseguro de que mi hijo/a tenga formas de llegar a casa después de las clases	
22	Hablo con el personal del instituto sobre los trabajos que mi hijo/a tiene que hacer en casa	
23	Hablo con el personal del instituto sobre asuntos personales y familiares si afectan al rendimiento de mi hijo/a en el instituto	
24	Hablo con mi hijo/a acerca de cómo será su vida después de terminar el instituto	
25	Mi hijo/a tiene asignadas tareas domésticas	
26	Enseño a mi hijo/a cómo hacer tareas domésticas básicas (por ejemplo, hacer la colada, lavar los platos, el mantenimiento del coche)	
27	Ayudo a mi hijo/a con los contenidos académicos que más le cuestan	
28	Hablo con mi hijo/a sobre las posibles profesiones que le interesen	
29	Participo en asociaciones integradas por familias y personal del centro de mi hijo/a (por ejemplo, reuniones del AMPA)	
30	Hablo con el personal del instituto sobre los problemas y procedimientos disciplinarios	
31	Ayudo a mi hijo/a con los deberes o voy a verlo cuando los está haciendo	
32	Hablo con los/las profesores/as de mi hijo/a por teléfono o correo electrónico	
33	Hablo con mi hijo/a sobre para qué me sirvió estudiar	

Medida de expectativas educativas	Opciones de respuesta	Comentarios

34	¿Qué nivel de estudios cree que conseguirá su hijo/a?	No terminará la ESO, sólo terminará la ESO, módulo grado medio, bachillerato, módulo grado superior o estudios universitarios.	
35	¿Qué nota cree que sacará su hijo/a en las siguientes asignaturas?	Matemáticas, lengua castellana y euskera (0-10)	

Appendix D: Informed Consent and Information Letter for Participants

Informed Consent and Information Letter for Primary Caregivers

Consentimiento informado y carta informativa

Investigadores Principales: Nerea Martinez Yarza, Josu Solabarrieta Eizaguirre y Rosa Santibáñez Gruber

[Documento de Consentimiento Informado para familias que participan en el programa CaixaProinfancia]

El documento del Consentimiento Informado tiene dos partes:

1. Carta informativa (proporciona información sobre el estudio)

2. Párrafo final para el Consentimiento (para firmar si está de acuerdo en participar)

PARTE I: Carta informativa

Si no entiende algo en el cuestionario o quiere realizar alguna observación, puede preguntar a la persona del programa que le ha invitado a participar, o preguntar en la siguiente dirección de correo electrónico: brechas.proinfancia.cae@deusto.es

Esta investigación intenta conocer en qué medida la implicación de las familias en la educación de sus hijos/as contribuye a su éxito escolar.

Se ha seleccionado a las familias que participan en el programa CaixaProinfancia en la Comunidad Autónoma Vasca. No debe preocuparse por haber sido seleccionada. La selección de familias se ha hecho en base a la comunidad autónoma. Las familias no han sido elegidas porque les suceda nada especial, sino que se han elegido todas las familias que participan en el programa CaixaProinfancia pertenecientes a este territorio.

Le solicitamos que responda a las siguientes preguntas. Es usted libre de elegir participar en el estudio o no. Puede retirarse del estudio cuando quiera. Si decide no contestar, no tiene que dar explicaciones sobre ello.

A continuación, encontrará algunas preguntas. Creemos que no le llevará más de 15 minutos responderlas.

Sus respuestas son confidenciales. Las personas del equipo de investigación no saben quién es usted. Cuando el equipo de investigación publique los resultados, será imposible saber de qué persona proviene ninguna respuesta.

Los resultados de la investigación serán publicados a través del programa CaixaProinfancia.

Puede retirarse del estudio cuando quiera. Si decide no contestar, no tiene que dar explicaciones sobre ello.

Esta propuesta ha sido revisada y aprobada por [nombre del comité de evaluación ética institucional local], que es un comité cuya tarea es asegurarse de que se protege de daños a los participantes en la investigación.

PARTE II: Párrafo final para el consentimiento

He leído o me ha sido leída la información sobre mi participación en este estudio. He tenido la oportunidad de preguntar sobre ella y se me ha contestado satisfactoriamente a las preguntas que he realizado. Consiento voluntariamente a participar en esta investigación como participante y entiendo que tengo derecho a retirarme de la investigación en cualquier momento, sin que me afecte de ninguna manera.

Nombre del Participante:

Firma del Participante:

Fecha Día/mes/año:

Informed Consent and Information Letter for Students

Consentimiento informado y carta informativa

Investigadores Principales: Nerea Martinez Yarza, Josu Solabarrieta Eizaguirre y Rosa Santibáñez Gruber

[Documento de Consentimiento Informado para niños, niñas y adolescentes que participan en el programa CaixaProinfancia]

El documento del Consentimiento Informado tiene dos partes:

1. Carta informativa (proporciona información sobre el estudio)

2. Párrafo final para el Consentimiento (para firmar si está de acuerdo en participar)

PARTE I: Carta informativa

Si no entiendes algo en el cuestionario o quieres hacer alguna observación, puedes preguntar a la persona del programa que te ha invitado a participar, o preguntar en la siguiente dirección de correo electrónico: brechas.proinfancia.cae@deusto.es

Queremos conocer mejor si la participación de las familias en la educación de sus hijos/as ayuda a mejorar sus resultados en la escuela.

Hemos seleccionado a los y las menores que como tú participáis en el programa CaixaProinfancia en la Comunidad Autónoma Vasca. No debes preocuparte por haber sido seleccionado/a. No te hemos elegido porque te suceda nada especial, sino que hemos elegido a todos los menores que participan en el programa CaixaProinfancia en este territorio.

Te pedimos que contestes a estas preguntas. Eres libre de elegir participar en el estudio o no. Puedes retirarte cuando quieras. Si decides no contestar, no tienes que dar explicaciones sobre ello.

A continuación, encontrarás algunas preguntas. Creemos que no te llevará más de 10 minutos responderlas.

Tus respuestas son confidenciales. Las personas del equipo de investigación no saben quién eres tú. Cuando el equipo de investigación publique los resultados, será imposible saber de qué persona viene cada respuesta.

Los resultados de la investigación serán publicados a través del programa CaixaProinfancia.

Puedes retirarte del estudio cuando quieras. Si decides no contestar, no tienes que dar explicaciones sobre ello.

PARTE II: Párrafo final para el consentimiento

He leído o me ha sido leída la información sobre mi participación en este estudio. He tenido la oportunidad de preguntar sobre ella y se me ha contestado satisfactoriamente a las preguntas que he realizado. Consiento voluntariamente a participar en esta investigación como participante y entiendo que tengo derecho a retirarme de la investigación en cualquier momento, sin que me afecte de ninguna manera.

Nombre del Participante:

Firma del Participante:

Fecha Día/mes/año:

Informed Consent and Information Letter for Program Personnel

Consentimiento informado y carta informativa

Investigadores Principales: Nerea Martinez Yarza, Josu Solabarrieta Eizaguirre y Rosa Santibáñez Gruber

[Documento de Consentimiento Informado para profesionales de las entidades en el programa CaixaProinfancia]

El documento del Consentimiento Informado tiene dos partes:

1. Carta informativa (proporciona información sobre el estudio)

2. Párrafo final para el Consentimiento (para firmar si está de acuerdo en participar)

PARTE I: Carta informativa

Si no entiende algo en el cuestionario o quiere realizar alguna observación, puede preguntar a la persona del programa que le ha invitado a participar, o preguntar en la siguiente dirección de correo electrónico: brechas.proinfancia.cae@deusto.es

Esta investigación intenta conocer en qué medida la implicación de las familias en la educación de sus hijos/as contribuye a su éxito escolar.

En su caso, le pedimos que responda a este cuestionario específico para los/las profesionales del programa.

Se ha seleccionado a los y las profesionales de las entidades del programa CaixaProinfancia en la Comunidad Autónoma Vasca.

Le solicitamos que responda a las siguientes preguntas. Es usted libre de elegir participar en el estudio o no. Puede retirarse del estudio cuando quiera. Si decide no contestar, no tiene que dar explicaciones sobre ello.

A continuación, encontrará algunas preguntas. Creemos que no le llevará más de 15 minutos responderlas.

Sus respuestas son confidenciales. Las personas del equipo de investigación no saben quién es usted. Cuando el equipo de investigación publique los resultados, será imposible saber de qué persona proviene ninguna respuesta. Se adoptarán las medidas oportunas para que sea imposible identificar la respuesta de ninguna persona.

Los resultados de la investigación serán publicados a través del programa CaixaProinfancia.

Puede retirarse del estudio cuando quiera. Si decide no contestar, no tiene que dar explicaciones sobre ello.

Esta propuesta ha sido revisada y aprobada por [nombre del comité de evaluación ética institucional local], que es un comité cuya tarea es asegurarse de que se protege de daños a los participantes en la investigación.

PARTE II: Párrafo final para el consentimiento

He leído o me ha sido leída la información sobre mi participación en este estudio. He tenido la oportunidad de preguntar sobre ella y se me ha contestado satisfactoriamente a las preguntas que he realizado. Consiento voluntariamente a participar en esta investigación como participante y entiendo que tengo derecho a retirarme de la investigación en cualquier momento, sin que me afecte de ninguna manera.

Nombre del Participante:

Firma del Participante:

Fecha Día/mes/año:

Appendix E: Ethics Committee Approval

Deusto
Research Ethics Committee

UNIVERSITY OF DEUSTO RESEARCH ETHICS COMMITTEE REPORT
Ref.: ETK-52/20-21

Assessment of the PhD project entitled *The role of family involvement in narrowing down social and educational inequalities amongst disadvantaged populations,* submitted by Rosa Mº Santibañez Gruber, in her capacity as co-supervisor of the PhD project, carried out Nerea Martínez Yarza.

As documented in the record of the proceedings of the meeting held on 30 September 2021, the University of Deusto Research Ethics Committee qualifies the project as: FAVOURABLE REPORT

After reading the provided documentation, the research ethics committee of the University of Deusto states that the project is appropriate from an ethical point of view.

The project purpose is clearly defined and its implications regarding interaction with people and data gathering. The project deals with the concrete ethical issues. Aspects such as how research participants will be recruited, informed consent procedures to be applied, management of personal data and interaction with vulnerable people are all suitably addressed from an ethical standpoint. The project demonstrates being aware of the ethical aspects associated to their execution and suggests suitable mechanisms to control those ethical aspects.

The project takes into account the new Data Protection Regulation (EU) 2016/679, which was approved by the EU Commission and Council in April 2016, about 1) consent form activities; 2) access to own data and right to be forgotten; 3) the use of data for public interest and profiling and 4) responsibilities of the controller and the processor.

Issued, placed on record and signed in Bilbao on 4 October 2021.

DE LA CRUZ AYUSO MARIA CRISTINA - 30626305B

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Appendix F: Social-Emotional and Character Development Scale (SECDS)

SECDS subscale	Item
Prosocial Behavior	1. Me relaciono bien con los demás
	2. Hago cosas que son buenas para el grupo
	3. Trato a mis amigos/as de la manera en la que me gusta que me traten
	4. Soy agradable con los chicos/as que son diferentes a mi
	5. Intento animar a otros chicos/as si se sienten tristes
Honesty	6. Me disculpo cuando he hecho algo mal
	7. Digo la verdad a los demás
	8. Cumplo las promesas que hago a los demás
	9. Admito mis errores
Self-development	10. Intento ser mejor persona
	11. Sigo intentando algo hasta que lo consigo
	12. Me fijo objetivos a mí mismo (hago planes para el futuro)
	13. Intento ser mi mejor versión
Self-control	14. Espero mi turno tranquilamente en clase
	15. Controlo mi genio cuando tengo una discusión con otros chicos/as
	16. Sigo las normas incluso cuando nadie está mirando
	17. No hago caso a los demás chicos/as cuando se burlan de mí o me insultan
Respect at school	18. Hablo educadamente a mi profesor/a y a otros adultos en la escuela
	19. Obedezco a mi profesor/a y a otros adultos en la escuela
	20. Escucho (sin interrumpir) a mi profesor/a y a otros adultos en la escuela
	21. Sigo las normas de la escuela
Respect at home	22. Hablo educadamente a mi padres
	23. Obedezco a mi padres
	24. Escucho (sin interrumpir) a mis padres
	25. Sigo las normas en casa

Appendix G: Final Version of the Complete Questionnaire

Questionnaire for Primary and Secondary School Students

Preguntas sociodemográficas	
1	¿Cuántos años tienes?
2	¿En qué curso estás?
3	Sexo
4	¿Cuántos chicos y chicas menores de 18 años (contándote también a ti mismo/a) vivís en tu casa?
5	¿Qué idioma hablas en casa?
6	En tu escuela, ¿a qué modelo lingüístico vas?
7	¿Has nacido en España?
8	¿Tu madre ha nacido en España?
9	¿Tu padre ha nacido en España?
10	¿Cuánto tiempo al día utilizas dispositivos electrónicos (móvil, ordenador, tablet, videoconsola...) fuera de la escuela?

Student Engagement Measure *Escala Likert de 5 Puntos (1= nunca, 5= siempre)*	
11	Sigo las reglas que marca mi escuela
12	Cuando estoy en clase me dedico a trabajar (estudiar)
13	Presto atención en clase
14	Termino mi tarea a tiempo
15	Me gusta estar en mi escuela
16	Me siento contento/a con mi trabajo en la escuela
17	Me divierto estando en clase
18	Me interesa el trabajo que tengo que hacer en mi escuela
20	Corrijo mis deberes en busca de errores
21	Estudio en casa aunque no tenga exámenes
22	Intento ver en la televisión, internet, redes sociales... temas que tratamos en mi escuela
23	Cuando leo un libro me hago preguntas para asegurarme de que entiendo lo que leo
24	Leo libros extra sobre cosas que hacemos en mi escuela
25	Si no sé lo que significa una palabra cuando leo, hago algo para averiguarlo
26	Hablo con gente de fuera de mi escuela sobre lo que aprendo en clase

Social-Emotional and Character Development Scale *Escala Likert de 5 Puntos (1= muy en desacuerdo, 5= muy de acuerdo)*	
27	Me relaciono bien con los demás
28	Hago cosas que son buenas para el grupo
29	Trato a mis amigos/as de la manera en la que me gusta que me traten
30	Soy agradable con los niños/as que son diferentes a mi
31	Intento animar a otros niños/as si se sienten tristes
32	Soy un buen amigo/a
33	Me disculpo cuando he hecho algo mal
34	Digo la verdad a los demás
35	Cumplo las promesas que hago a los demás
36	Admito mis errores

37	Intento ser mejor persona
38	Sigo intentando algo hasta que lo consigo
39	Me fijo objetivos a mí mismo (hago planes para el futuro)
40	Intento ser mi mejor versión
41	Espero mi turno pacientemente en clase
42	Controlo mi genio cuando tengo una discusión con otros chicos/as
43	Sigo las reglas incluso cuando nadie está mirando
44	No hago caso a los demás chicos/as cuando se burlan de mí o me insultan
45	Hablo educadamente a mi profesor/a y otros adultos en la escuela
46	Obedezco a mi profesor/a y otros adultos en la escuela
47	Sigo las indicaciones de mi profesor/a y de otros adultos en la escuela
48	Escucho (sin interrumpir) a mi profesor/a y otros adultos en la escuela
49	Sigo las normas de la escuela
50	Hablo educadamente a mis padres
51	Obedezco a mis padres
52	Escucho (sin interrumpir) a mis padres
53	Sigo las reglas en casa

54	¿Cómo crees que te irá en estas asignaturas?	Matemáticas, lengua castellana y euskera (de 1= nada bien a 5= muy bien)
55	¿Qué nivel de estudios crees que vas a conseguir?	No terminaré la ESO, sólo terminaré la ESO, módulo grado medio, bachillerato, módulo grado superior o estudios universitarios.

Questionnaire for Primary Caregivers of Primary School Students

Preguntas sociodemográficas	
1	Año de nacimiento
2	Sexo
3	Número de menores a su cargo (niños, niñas, adolescentes)
4	¿Cuánto euskera sabe para ayudar a sus hijos/as a hacer los deberes en euskera?
5	¿Cuánto castellano sabe para ayudar a sus hijos/as a hacer los deberes en castellano?
6	¿Usted ha nacido en España?
7	¿Cuál es su nivel de estudios?
8	¿Cuál es su situación laboral?
9	Aproximadamente, en su familia, ¿cuánto dinero ganan al mes?

Family Involvement Questionnaire - Elementary *Escala Likert de 5 Puntos (1= nunca, 5= siempre)*	
10	Asisto a reuniones con el profesor/a de mi hijo/a para hablar sobre su aprendizaje o comportamiento
11	Me pongo en contacto con el profesor/a o el equipo directivo para obtener información
12	Hablo con el profesor/a de mi hijo/a sobre sus actividades escolares diarias
13	Limito la cantidad de televisión y videos que mi hijo/a ve
14	Reviso los deberes de mi hijo/a
15	Llevo a mi hijo/a a la biblioteca municipal
16	Animo a mi hijo/a a participar en actividades o excursiones escolares
17	Asisto a cursos o formación que ofertan en la escuela de mi hijo/a
18	Hablo con el profesor/a de mi hijo/a sobre las normas de clase
19	Llevo a mi hijo/a a la escuela por la mañana
20	Mantengo un horario fijo de sueño para mi hijo/a
21	Felicito a mi hijo/a por su trabajo en la escuela delante del profesor/a
22	Le cuento historias a mi hijo/a sobre cuando yo iba a la escuela
23	Llevo a mi hijo/a a sitios de la ciudad para que aprenda cosas diferentes (museos, iglesias)
24	Llamo o escribo al profesor/a si estoy preocupado/a por cosas que mi hijo/a me cuenta acerca de la escuela
25	Hablo con el profesor/a acerca de cómo se lleva mi hijo/a con sus compañeros/as en la escuela
26	Me aseguro de que mi hijo/a tenga un lugar en casa donde poder guardar sus libros o materiales escolares
27	El profesor/a y yo nos escribimos notas sobre mi hijo/a o sobre las actividades escolares
28	Hablo con el profesor/a sobre los logros de mi hijo/a
29	Leo con mi hijo/a
30	Llevo a casa materiales didácticos para mi hijo/a (videos, libros)
31	Voy a excursiones escolares con mi hijo/a
32	Voy a los partidos, representaciones, festivales… en la escuela de mi hijo/a
33	Establezco normas claras en casa que mi hijo/a debe obedecer
34	Hablo con el profesor/a de mi hijo/a sobre sus dificultades en la escuela
35	Le pregunto a mi hijo/a cómo fue su día en la escuela
36	Organizo ratos en casa en los que los compañeros/as de mi hijo/a puedan venir a jugar
37	Hablo con otros padres y madres sobre reuniones y eventos escolares

38	Recojo a mi hijo/a de la escuela por la tarde
39	Hablo con personas de la escuela de mi hijo/a sobre oportunidades de formación o desarrollo profesional para mí
40	Hablo con el profesor/a de mi hijo/a sobre los deberes que debe hacer en casa
41	Hablo con el profesor/a de mi hijo/a sobre asuntos personales y familiares en el caso de que afecten al trabajo de mi hijo/a en la escuela
42	Mi hijo/a tiene asignadas tareas domésticas
43	Siento que el profesorado y equipo directivo animan a las familias a involucrarse en la escuela
44	Siento que las familias de la escuela de mi hijo/a se apoyan mutuamente
45	Realizo actividades creativas con mi hijo/a (como cantar, dibujar o cuentacuentos)
46	Paso tiempo con mi hijo/a trabajando las asignaturas que más le cuestan
47	Participo en asociaciones integradas por familias y personal de la escuela de mi hijo/a (por ejemplo, el AMPA)
48	Hablo con el profesor/a de mi hijo/a o equipo directivo sobre problemas disciplinarios
49	Ayudo a mi hijo/a con los deberes
50	Hablo con el profesor/a de mi hijo/a por teléfono
51	Hablo con familiares y amigos/as sobre cómo le va a mi hijo/a en la escuela
52	Hablo con mi hijo/a sobre para que me sirvió estudiar
53	Quedo con otras familias de clase de mi hijo/a fuera de la escuela

54	¿Cómo cree que le irá a su hijo/a en las siguientes asignaturas?	Matemáticas, lengua castellana y euskera (de 1= nada bien a 5= muy bien)
55	¿Qué nivel de estudios cree que conseguirá su hijo/a?	No terminará la ESO, sólo terminará la ESO, módulo grado medio, bachillerato, módulo grado superior o estudios universitarios.

Questionnaire for Primary Caregivers of Secondary School Students

Preguntas sociodemográficas	
1	Año de nacimiento
2	Sexo
3	Número de menores a su cargo (niños, niñas, adolescentes)
4	¿Cuánto euskera sabe para ayudar a sus hijos/as a hacer los deberes en euskera?
5	¿Cuánto castellano sabe para ayudar a sus hijos/as a hacer los deberes en castellano?
6	¿Usted ha nacido en España?
7	¿Cuál es su nivel de estudios?
8	¿Cuál es su situación laboral?
9	Aproximadamente, en su familia, ¿cuánto dinero ganan al mes?

Family Involvement Questionnaire – High School *Escala Likert de 5 Puntos (1= nunca, 5= siempre)*	
10	Asisto a reuniones con el profesorado para hablar del aprendizaje o comportamiento de mi hijo/a adolescente
11	Contacto con el instituto de mi hijo/a para pedir información
12	En casa, limito el tiempo que mi hijo/a pasa delante del televisor, ordenador o teléfono móvil
13	Me aseguro de que mi hijo/a termine sus deberes
14	Animo a mi hijo/a a participar en actividades o excursiones escolares
15	Asisto a talleres o cursos de formación para familias que ofrece el instituto de mi hijo/a
16	Hablo con el profesorado sobre las normas de clase y del centro
17	Me aseguro de que mi hijo/a tenga manera de llegar al instituto por la mañana
18	Le cuento historias a mi hijo/a sobre cuando yo iba al instituto
19	Me aseguro de que mi hijo/a disponga de información sobre estudios que puede realizar después de secundaria (por ejemplo, universidades o formación profesional)
20	Me comunico con el profesorado y personal del instituto si estoy preocupado/a por cosas que mi hijo/a me comenta acerca del mismo
21	Hablo con el profesorado y personal del instituto sobre la preparación de mi hijo/a para la vida después del instituto
22	Me aseguro de que mi hijo/a tenga algún sitio tranquilo en casa, donde pueda hacer los deberes
23	Hablo con el profesorado sobre los progresos de mi hijo/a
24	Voy a los partidos, representaciones, festivales… en el instituto de mi hijo/a
25	Establezco normas claras en casa que mi hijo/a debe obedecer
26	Le pregunto a mi hijo/a cómo ha ido el día en el instituto
27	Animo a mi hijo/a a que salga a jugar con sus amigos/as
28	Me aseguro de que mi hijo/a tenga formas de llegar a casa después de las clases
29	Hablo con el profesorado sobre los trabajos que mi hijo/a tiene que hacer en casa
30	Hablo con el profesorado y personal del instituto sobre asuntos personales y familiares si afectan al rendimiento de mi hijo/a en el instituto
31	Hablo con mi hijo/a acerca de cómo será su vida después de terminar el instituto
32	Mi hijo/a tiene asignadas tareas domésticas
33	Enseño a mi hijo/a cómo hacer tareas domésticas básicas (por ejemplo, hacer la colada, lavar los platos, el mantenimiento del coche)
34	Ayudo a mi hijo/a con los contenidos académicos que más le cuestan

35	Hablo con mi hijo/a sobre las posibles profesiones que le interesen
36	Participo en asociaciones integradas por familias y personal del centro de mi hijo/a (por ejemplo, reuniones del AMPA)
37	Hablo con el profesorado y personal del instituto sobre problemas disciplinarios
38	Ayudo a mi hijo/a con los deberes o voy a verlo cuando los está haciendo
39	Hablo con los profesores/as de mi hijo/a por teléfono o correo electrónico
40	Hablo con mi hijo/a sobre para qué me sirvió estudiar

41	¿Cómo cree que le irá a su hijo/a en las siguientes asignaturas?	Matemáticas, lengua castellana y euskera (de 1= nada bien a 5= muy bien)
42	¿Qué nivel de estudios cree que conseguirá su hijo/a?	No terminará la ESO, sólo terminará la ESO, módulo grado medio, bachillerato, módulo grado superior o estudios universitarios.

Appendix H: R Code

```
# Open CSV file
Data <- read.csv("R.csv")

# Display first six lines of dataset
head(Data)

## Compute interaction term
xy <- Data$Total.Expectativas * Data$Gender_scale

# Fit multiple regression models
Model1 <- lm(Data$School_Engagement ~
             Data$Total.Expectativas + Data$Gender_scale + xy)

Model2 <- lm(Data$Behavioural_Engagement ~
             Data$Total.Expectativas + Data$Gender_scale + xy)

Model3 <- lm(Data$Emotional_Engagement ~
             Data$Total.Expectativas + Data$Gender_scale + xy)

Model4 <- lm(Data$Cognitive_Engagement ~
             Data$Total.Expectativas + Data$Gender_scale + xy)

# Display summaries of the models
summary(Model1)
summary(Model2)
summary(Model3)
summary(Model4)

# Model1: generate plot to visualize interaction effect
plot(Data$Total.Expectativas, Data$School_Engagement,
     type='n',
     xlab='Student academic expectations',
     ylab='Student engagement')
```

```
# for female students
abline(3.67, .59,
      lty=2,
      col='red')

# for male students
abline(3.52, .4)

# Add the legend
legend('topleft',
      legend=c('Male', 'Female'),
      lty=c(1,2),
      col=c('black', 'red'))

# Add scatter plot
points(Data$Total.Expectativas[Data$Gender_scale==1],
      Data$School_Engagement[Data$Gender_scale==1],
      col='red')
points(Data$Total.Expectativas[Data$Gender_scale==2],
      Data$School_Engagement[Data$Gender_scale==2],
      col='black')

# Set up the plotting area to have 1 row and 3 columns
par(mfrow = c(1, 3))

# Model2: generate plot to visualize interaction effect
plot(Data$Total.Expectativas, Data$Behavioural_Engagement,
      type='n',
      xlab='Student academic expectations',
      ylab= 'Behavioural engagement',
      main= 'Model 2: Behavioural Engagement')

# for female students
abline(4.37, .37,
```

```
      lty=2,
      col='red')

# for male students
abline(4.14, .26)

# Add the legend
legend('bottomleft',
      legend=c('Male', 'Female'),
      lty=c(1,2),
      col=c('black', 'red'))

# Add scatter plot
points(Data$Total.Expectativas[Data$Gender_scale==1],
      Data$Behavioural_Engagement[Data$Gender_scale==1],
      col='red')
points(Data$Total.Expectativas[Data$Gender_scale==2],
      Data$Behavioural_Engagement[Data$Gender_scale==2],
      col='black')

# Model3: generate plot to visualize interaction effect
plot(Data$Total.Expectativas, Data$Emotional_Engagement,
      type='n',
      xlab='Student academic expectations',
      ylab= 'Emotional engagement',
      main= 'Model 3: Emotional Engagement')

# for female students
abline(3.73, .85,
      lty=2,
      col='red')

# for male students
abline(3.74, .56)
```

```
# Add the legend
legend('bottomleft',
      legend=c('Male', 'Female'),
      lty=c(1,2),
      col=c('black', 'red'))

# Add scatter plot
points(Data$Total.Expectativas[Data$Gender_scale==1],
      Data$Emotional_Engagement[Data$Gender_scale==1],
      col='red')
points(Data$Total.Expectativas[Data$Gender_scale==2],
      Data$Emotional_Engagement[Data$Gender_scale==2],
      col='black')

# Model4: generate plot to visualize interaction effect
plot(Data$Total.Expectativas, Data$Cognitive_Engagement,
      type='n',
      xlab='Student academic expectations',
      ylab= 'Cognitive engagement',
      main= 'Model 4: Cognitive Engagement')

# for female students
abline(3.23, .58,
      lty=2,
      col='red')

# for male students
abline(3.02, .4)

# Add the legend
legend('topleft',
      legend=c('Male', 'Female'),
      lty=c(1,2),
```

```
      col=c('black', 'red'))

# Add scatter plot
points(Data$Total.Expectativas[Data$Gender_scale==1],
      Data$Cognitive_Engagement[Data$Gender_scale==1],
      col='red')
points(Data$Total.Expectativas[Data$Gender_scale==2],
      Data$Cognitive_Engagement[Data$Gender_scale==2],
      col='black')

# Reset the plotting area to default
par(mfrow = c(1, 1))
```