

# Social-Emotional Development of Children in Asia: A Systematic Review

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## Research

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# Abstract

**Background:** There has been growing interest in the social-emotional development of children. However, the social-emotional development of children in Asia remains a knowledge gap. This systematic review identifies and summarises existing studies on the social-emotional development of children in Asia.

**Method:** We conducted a systematic review using the Guidelines for Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA). This review included primary social-emotional development studies conducted in Asia and published in English. The study findings were entered into Microsoft Excel, and data were summarized quantitatively and thematically.

**Results:** We reviewed 45 studies that met the inclusion criteria, and they were from 12 Asian countries, mostly the East Asia region (China and Hong Kong). Most of the studies were cross-sectional in design (n = 23, 51.1%). The majority of the studies focused on overall social-emotional development (n = 24, 53.3%), followed by social competence (n = 7, 15.6%), emotional development (n = 5, 11.1%), social-emotional learning (n = 3, 6.7%), problem behaviour (n = 3, 6.7%), self-regulation (n = 2, 4.4%), and 1 study (2.2%) focused on both social-emotional learning and problem behaviour. We did not perform the meta-analysis as the study findings were of heterogeneity.

**Conclusions:** Studies on children's social-emotional development in Asia are limited and mainly from the East Asia region. More diverse cultural studies on the social-emotional functioning of children in Asia are needed to understand children's social-emotional development in Asia. Finally, parent and teacher knowledge on children's social-emotional development should also be examined more closely.

**Systematic review registration:** The protocol for this review was registered in PROSPERO (CRD42021238826).

## Background

Social-Emotional is a process where an individual acquires and applies the knowledge, skills, and attitudes to develop healthy identities, manages emotions and achieves personal goals, the ability to show and feel empathy, builds positive relationships, and makes responsible decisions [1]. The social-emotional domain is an important developmental milestone in early childhood [2]. Bronfenbrenner's social-ecological model illustrated that the family environment closest to the child may influence the child's development status, including social-emotional development [3]. A positive or negative home environment might have a direct influence on the children social-emotional development.

Many studies have also shown that social-emotional development is associated with children's success in school, academic grades, and adulthood [2–5]. Recent studies have reported that social-emotional competence is a strong predictor for school readiness, academic achievements, and the psychological well-being of a child [6–8]. Children high in social-emotional competence reported having the ability to form positive relationships with others, regulate and express emotions in a culturally appropriate way, and display assertive self-regulatory behaviour that led to success in school, work, and daily life [9]. In contrast, children with low social-emotional competence were found to experiencing delinquency issues, academic failure, exhibiting behavioural problems in school, and substance use and abuse in later life [10]. Furthermore, poor social-emotional competence is also associated with poorer physical health, higher risk of financial struggles, more mental health issues, and more criminal offences in adulthood [11].

Cultural differences in social-emotional development have been an important aspect to consider in early childhood development research. Appropriate social behaviour or emotional expressivity in a country depends mainly on that country's cultural norms and values [12]. For example, emotions and feelings are rarely explicitly communicated in public among the East Asian culture. Group harmony and relatedness, and moderations in all matter of the heart is one of the core values within the East Asian culture [13]. However, in another culture, emotional expression is highly encouraged and

should be cultivated as it is viewed as individuality, autonomy, and true to self. Furthermore, studies have also shown that there are cultural differences between Eastern and Western cultures. Thus, it is vital to understand and interpret children's emotions and behaviour within the context of the children's culture itself [14–15].

As mentioned, social-emotional behaviour may be valued and perceived differently across different context and cultural groups [16–17]. However, research on social-emotional development is mainly from North America, Europe, United Kingdom, and Australia [18–19]. As the importance of social-emotional development in children is widely acknowledged by the parents, teachers, researchers, and policymakers outside of Asia, the studies on the social-emotional had begun to also gain attention in Asia in terms of the role of cultural differences and social-emotional development [17]. Although there are studies published on children's social-emotional development in Asia, these studies have not been systematically summarized. A synthesis of studies will help identify and map out the studies of social-emotional development done in Asia, thereby providing a more precise understanding of the research findings to date.

This review aims to explore and summarises the studies of social-emotional development conducted in Asian countries. This review answers the questions: (1) What are the Asian countries that have conducted studies on social-emotional development in children? (2) What study designs have been used to examine the social-emotional development of children in Asia? (3) What domains of social-emotional development have been studied in Asia? (4) What are their key findings? The goal of this review is to summarize the existing peer-reviewed social-emotional research conducted in Asia and provide suggestions for future research.

## Methods

This review study utilised a systematic review process to explore the social-emotional development researches conducted with children in Asia. We conducted this systematic review based on the Guidelines for Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) [20]. The protocol for this review was registered in PROSPERO (CRD42021238826). The systematic review involved the four stages below:

### Stage 1: Identify the search strategy

An electronic search was conducted in four electronic databases, including Google Scholar, PubMed, ScienceDirect, and Ebscohost, on January 4, 2021, using the following search terms:

("social-emotional" OR "socioemotional" OR "emotional intelligence" OR "social intelligence") AND ("self-regulation" OR "social competence" OR "problem behaviour" OR "social cognition") AND ("children" OR "toddler") AND ("Asia"). The complete search strategies are provided in the Appendix A.

Besides the databases search, the reviewers further searched the reference lists of retrieved studies for other potentially relevant studies. The reviewers only included primary research articles that were in line with the aims of this review. The reviewers did not restrict the years of the publication to minimise introduction to bias. The reviewers screened the databases for eligible studies based on titles and abstracts. Following that, the reviewers independently screened for full texts for potentially eligible studies. The reviewers used the Mendeley software to verify the existence of duplicate references. The selection procedure was documented according to PRISMA and reported in a flowchart (see Figure 1). The reviewers contacted the authors if the relevant articles were not available in full-text. All discrepancies among reviewers were resolved through discussion and guidance from the third reviewer.

### Stage 2: Inclusion and Exclusion Criteria

The inclusion criteria for this systematic review were: (1) original studies (both observational and experimental); (2) study participants aged  $\leq 18$  years; (3) social-emotional functioning must be either the main focus of the study or one of the main domains studied; and (4) studies conducted within Asia. The exclusion criteria were: (1) dissertations, book chapters,

unpublished manuscripts, conference abstracts, review articles; and (2) non-English articles. The definition of children varies across Asia. Thus, this review study defined children as any person aged 0 - 18 years old. This definition is consistent with the UNICEF Convention on the Rights of the Child definition [21]. Asia is the world largest and most populous continent that constituted about 60% of the world population [22]. The Asia continent consists of six main geographical regions; Northern Asia, Western Asia, Central Asia, Eastern Asia, Southern Asia, and Southeast Asia [23]. This review includes all regions of Asia to reduce the definition bias of Asia.

### **Stage 3: Data Extraction and Quality assessment**

The reviewers conducted the following steps to decide on the inclusion studies: (1) searching the four databases using the search strategy mentioned above; (2) remove duplication and merge the search results using Mendeley software; (3) removing non-eligible studies using titles and abstract; (4) retrieving and examining for full-text potential eligible studies; (5) applying the inclusion criteria and shortlisted the studies; (6) discussion between the reviewers on study inclusion and exclusion.

All data were independently extracted by the reviewers and entered in Microsoft Excel. Data extracted included the characteristics of the studies (author, year of publication, country of the study, aims of the study, the methods used in the studies (age range, disabilities or special population, subjects involved, screening or diagnostic measures, type of study design, social-emotional domains studied), as well as the summary and key findings of the studies. Three corresponding authors were contacted via email to obtain additional information when necessary, and only one author responded. The reviewers conducted an inter-rater reliability check based on ten papers to ensure appropriate categorisations, consistency, and credibility of the data. Any disagreements among the reviewers were discussed to reach a consensus. The reviewers then independently assessed the studies' quality using the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) statement assessment tool [24] (see Appendix B). Any discrepancies were resolved through discussion and guidance from the third reviewer.

### **Stage 4: Collating, summarizing, and reporting the results**

Each study findings were entered into Microsoft Excel. Data extraction and analysis were performed using Microsoft Excel. The reviewers were unable to perform a meta-analysis due to the clinical heterogeneity of the study characteristics and findings. Based on the Cochrane Handbook for Systematic Reviews of Interventions, performing meta-analysis with clinically diverse studies can be meaningless and the genuine differences may be obscured [25].

## **Results**

### **Search results**

The initial search yielded 3,377 records in total. A total of 3,360 records found from the four electronic search databases (2992 from Google Scholar, 183 from PubMed, 184 from ScienceDirect, and 1 from Ebscohost), and 17 studies were found by reviewing the reference lists and citation searching. There were 3,117 records after the duplicates were removed. Following the screening of title and abstracts for studies, 117 studies were selected for further evaluation. After further review and application of selection criteria, 45 studies were selected for inclusion in this review. A PRISMA flow diagram is prepared to illustrate the study selection process (see figure 1).

The extracted data were summarised by the studies' country, the type of study design, and the social-emotional domains studied. From the extracted data, six themes emerge; which is (1) Social-emotional development; (2) Social competence; (3) Emotional development; (4) Problem behaviour; (5) Self-regulation; (6) Social-emotional learning. There was one study that could not be categorised as it coded into more than one category. Three studies were collated into one category as they measured the same social-emotional domain but differed in the definition used.

## **Summary of the included study characteristics**

The majority of the studies were published in 2020 (n=11, 24.4%), followed by 7 (15.6%) studies in 2018 and 2019 and 6 (13.3%) studies in 2017. From 2010 to 2016, one to four (2.2 – 8.9%) studies were published annually (see Figure 2). A total of 46,625 participants involved in these social-emotional studies were children with typical development, parents or teachers, and 689 involved children with disabilities (physical or developmental). A vast majority of these studies involved only children as an informant 18 (40.0%). Followed by 17 studies (37.8%) involved either parent or teacher, 5 studies (11.1%) included all three as informants (parent, teacher, child), 3 studies (6.7%) involved teacher only, and only 2 studies (4.4%) involved the parent. Table 1 presents a summary of the characteristics of the included studies and their key findings.

## **Summary of social-emotional research in Asian countries**

All 45 studies included for qualitative synthesis were primary studies on social-emotional development published in English and were within the Asia continent. Out of the 45 studies, 13 studies originated from China, 7 studies from Hong Kong (HK), 3 studies each from South Korea, Malaysia, Singapore, Thailand, and Turkey, and 1 study from each of India, Japan, Pakistan, and Taiwan. Two studies compared social-emotional development in two countries; (India & China, US & South Korea) (see Figure 3).

## **Summary of the type of study design**

Among the 45 studies, 23 (51.1%) were cross-sectional, 5 (11.1%) interventional studies, 4 (8.9%) each of validation studies and longitudinal studies, 3 (6.7%) each of mixed-method studies and cohort studies, 2 (4.4%) experimental studies, and 1 (2.2%) observational study (see Figure 4).

## **Summary of the social-emotional domain studied**

The vast majority of the studies focused on overall social-emotional development domain (n = 24, 53.3%), followed by specific social competence domain (n = 7, 15.6%), emotional development (n = 5, 11.1%), social-emotional learning (n = 3, 6.7%), problem behaviour (n = 3, 6.7%), self-regulation (n = 2, 4.4%), and 1 study focused on social-emotional learning and problem behaviour (n = 1, 2.2%) (see Figure 5).

## **Summary of Social-Emotional Research Key Findings**

### **Social-Emotional (Overall)**

This systematic review coded the included studies according to the social-emotional development domains assessed. Overall social-emotional development is the most studied domain (n = 24, 53.3%) among the 45 studies reviewed. Overall social-emotional development in this systematic review is referred to studies that do not specify a specific construct within social-emotional development. There are nine studies conducted in China that examined the overall social-emotional development. From the nine studies conducted in China, five studies examined the association of social-emotional development and children's academic skills [13, 26-29].

The remaining three studies were on the family structure and home environment [30-32]. One study developed a social-emotional development scale for the Chinese population to measure boarding schools' effect on left-behind children and their development [33].

Out of these five studies, most of the findings were consistent with other studies whereby there is a negative correlation between children's social-emotional development and their academic skills. A study conducted by Ren et al. [27] found that father's parenting is not a mediator to the outcomes of children's social-emotional development and academic skills. This finding is inconsistent with the studies from other parts of the world whereby parenting was reported to be one of the

mediators in children's social-emotional functioning and academic skills [34-35]. Studies showed that gender bias in the parenting role of children development occurs within the Chinese culture [36-37]. Mothers are often the primary carer for the child, while fathers are less of the carer for the child and work towards providing for the family within the Asian culture [38]. Thus, it is possible that the Chinese father may be less involved in the children's development than the Chinese mother. However, this study did not examine the gender roles between parent in this study [27]. Furthermore, the researchers reported that the lack of correlation in fathers' parenting could be due to the idealistic parenting self-report instead of the actual parenting practice.

In Malaysia, Mohamed et al. [39] conducted a cross-sectional study to examine the influence of family socioeconomic status on children's social-emotional development. The researchers concluded that family socioeconomic status played a vital role in influencing children's social-emotional SE development. Similar to the study Ren et al. [27], this study also reported no significant difference in children's level of social-emotional development with the father's income. However, there is a strong relationship between children's level of social-emotional development with mother's education level and occupation (i.e., professional, semi-professional, non-professional, unemployed) and the parent's income status. The findings from Ren et al. [27] and Mohamed et al. [39] showed that fathers in the family might have a less significant parenting role within the Asia culture of parenting. The traditional parenting role where mothers are the primary carer for the family might still be rooted in Asia.

Mohamed et al. [40] conducted a cross-sectional study with 332 early childhood educators in Malaysia. This study found that the early educators in Malaysia had a good overview and knowledge on social-emotional development but lacked knowledge of the factors that influenced the development and how to foster it in the classroom. This study also reported a need to improve and equip teacher's knowledge of social-emotional development. One study developed and examined the feasibility of a preschool social-emotional competency inventory to screen for children with poor competency [41]. The Preschool Social Emotional Competency Inventory (P-SECI) has a reliability scores between .95 to .98 and was reported valid in predicting children's social-emotional competencies. Although this study might have high reliability scores, the researchers did not provide information on how the reliability and validity of the P-SECI were achieved. Furthermore, there was no information on whether the participant's social-emotional competencies were measured before the pilot study. The reliability and validity of the P-SECI remained questionable as the information provided by the researchers was lacking.

In Singapore, an interventional study examined the efficacy of a speech and drama programme on the social-emotional development of children with dyslexia [42]. The children who attended the intervention programme showed improvement in their social-emotional functioning. However, this interventional study did not include a control group. Thus, this study might suffer from low internal validity. Moreover, participants in this study were aware of the purpose of the intervention program. Therefore, the results might have been affected by criterion contamination.

Ong et al. [43] conducted a 9-year longitudinal study on social-emotional development in Singapore to investigate whether parenting was a moderator between children's early social-emotional competence and later mental health. The authors concluded that perceived parental care was associated with the early development of social-emotional functioning, while paternal care was especially important for children with more externalising problems. Yeo et al. [44] reported that children with physical disabilities were comparable in their self-esteem and academic achievements with typically developing children. However, children with physical disabilities experienced peer problems and were likely to participate less in school activities. This study's findings were crucial as there has been scant research on inclusive education in the Asian context.

In Hong Kong, Li et al. [45] developed and validated the teacher-reported Chinese Inventory of Children's Socioemotional Competence scale (CICSEC) for Chinese kindergarten children. The CICSEC were reported to have demonstrated good psychometric properties whereby the overall CICSEC and the four subscales had excellent internal consistencies. The criterion validity analysis against the Strength and Difficulties Questionnaires (SDQ) [46] positively correlated with school readiness and negatively with problem behaviours. The CISEC is one of the culturally relevant social-emotional scales

developed in Asia where the items in the questionnaires are consistent with the collectivistic culture in Asia. The exploratory and confirmatory analyses on the CICSEC have found that the children's social-emotional competence was best represented by a four-factor model that included cognitive control, emotion expressivity, empathy and prosocial behaviours, and emotion regulations across child gender and grade level. This exploratory and confirmatory finding of the four-factor model further confirmed the existing debate that children's social, emotional, and cognitive skills are interdependent yet distinct [2,17,47]. Lam et al. [14] examined family characteristics associated with social-emotional development and found that boys had lower social-emotional competence than girls, and older children had a higher level of social-emotional competence. This study also reported that having more siblings positively enhanced social-emotional competence in children. Another study conducted by Lam et al. [48] was a Social-emotional Well-being of Early Childhood (SEWEC) interventional study that evaluated the social-emotional well-being of participants in an early childhood project within a Hong Kong kindergarten. The intervention programme significantly improved social-emotional competence and reduced anxiety-withdrawal and anger-aggression in children post-intervention.

In Turkey, Seyhan et al. [49] examined the effects of the Promoting Alternative Thinking Strategies (PATHS) preschool program that measured children's social-emotional development, the perceived relationship between teacher and children, and teachers' ability to create a positive classroom environment. This experimental study found that students in the intervention group had significant improvement in social-emotional skills, interpersonal relationship skills, and emotion regulation compared to the control group. Furthermore, students and teachers in the intervention group perceived more positive and dependency in their relationship than those in the control group. However, it is important to note that the observer in this experiment was not blinded to the study, and the findings might therefore be subjected to observer bias. Another Turkish researchers performed a validation study on the Social-Emotion Assessment/Evaluation Measure-Preschool (SEAM) [50]. The confirmatory factor analysis for the Turkish SEAM supported the original factor structure. The researchers concluded that the SEAM measurement was reliable and valid measure for the Turkish population.

In Thailand, Intusoma et al. [51] reported that educational television viewing was beneficial for children's social-emotional development. The study reported that 30 to 120 minutes of the educational program per day reduced the risk of poor social-emotional competence relative to non-viewers. However, television viewing for more than 2 hours was reported unhealthy for social-emotional competence. Unfortunately, the researchers did not indicate whether the educational television programme in this study was consistent across all participants. It is unclear which educational television programme was beneficial for the children's social-emotional competencies. The researchers also categorised documentaries as education programmes due to the narrative nature that is slower in pace. van Driessche et al. [52] conducted a cross-sectional study in India to assess the predictive factors of caregiver's burden, psychological comorbidities in the families of children with hearing impairments. This study found that low educational attainment and domestic violence were associated with caregiver's burden in parents of children with hearing disabilities. Dissatisfaction with family support, behavioural problems in children, and domestic violence were strong predictors for parental psychological morbidities, and they influenced social-emotional development in children with hearing disabilities. However, there was no formal hearing assessment conducted on the participants involved in this study. There is a possibility for children with a mild hearing problem not reported in this study and considered normal hearing.

A cross-sectional study was conducted in Korea to examine the relationship between social-emotional development, gender, age, temperament, and maternal parenting behaviours [53]. Consistent with most studies, this study found that caregivers evaluated boys with more externalising behaviour problems than girls. There was a negative correlation between children's adaptability and externalising behaviour problems. Kim et al. reported that overprotective or permissive parenting was associated with low social ability in children [53]. On the other hand, refusal or neglect parenting was associated with externalising problem behaviours in children. In Indonesia, an observational study was conducted to examine the effect of an environmental education project approach on children's social-emotional development [54]. This study found that the approach significantly improved children's social-emotional development by 22% and increased children's opportunity to interact with other people.

## Social Competence

For this review study, social skills and social competence were coded into one theme, as various studies used different terms to describe children's social competence. Five of the seven studies conducted on social competence used the term social competence, while the two studies in Hong Kong used the term social skills to measure children's social domain [55-56].

In Hong Kong, Ren et al. [55] conducted a longitudinal study to examine the antecedents, such as the child's gender, family socioeconomic status and extra-curricular activities involvement, associated with the children's social skills. This study found that only children from the lower socioeconomic status participated in the extra-curricular activities had significant improvement in mathematics and reading skills, and not those from higher socioeconomic status. Moreover, this study also reported that parent of children from the higher socioeconomic status were more likely to enrol their children in non-academic extra-curricular activities than those of lower socioeconomic status. This finding highlighted the possible differences in parent socioeconomic background and their preference in extra-curricular activities for their children (i.e., academic versus non-academic). However, Ren et al. [55] reported no correlation between extra-curricular activities and the development of social skills.

Tong et al. [56] conducted a mixed-methods study to examine school-wide behaviour interventions implemented in Hong Kong schools and explore teachers' beliefs about the social skills programs implemented in schools. This study found that most teachers were aware of the benefit of the intervention and support the school-wide behaviour intervention implementation for children with social-emotional behaviour difficulties. The findings in this study were consistent with the study in Malaysia, where teachers were aware of the benefit of social-emotional development. However, they lacked the training to implement the intervention in school [40]. The teacher's knowledge of social-emotional development was not examined in this study.

Lee et al. [57] conducted a cross-sectional study and found that both the Korean and United States student in the gifted group has a higher level of social competence than the non-gifted groups. The study also found differences between Korean and United States gifted children in how they rated their social competence ability. The gifted Korean students rated themselves as better at resolving conflicts. In contrast, the gifted United States students rated themselves as better at asserting influence and getting along well with others. Furthermore, Lee et al. reported that female students had a greater ability to make close friends than males. The study finding is in contrast with the others, which reported that gifted children might experience more difficulty creating a relationship with their peers [58-59]. Gifted students in this study could make friends with others, possibly because they recruited samples from the same academic centre. The samples might have the same level of giftedness. It is unclear whether gifted students can establish a relationship with others that are of average intelligence.

Bimla et al. [60] examined the association between social competency and self-concept with rural children in India. This study found a significant positive relationship between children's self-concept and social competence. Yoleri [61] found a significant positive relationship between children's temperament traits and social competence in Turkey. Yoleri also reported a significant positive relationship between the level of anger and the reactivity/ withdrawal temperament. The findings from both the studies were in line with past research from outside of Asia [62]. Thus, these findings suggested children's temperament and self-concept might predict their level of social competence despite cultural differences.

In Japan, Anme et al. [63] carried out a cohort study to describe the Interaction Rating Scale (IRS) features as an evidence-based index of children's social skills and the quality of parenting. This study found that the IRS could measure children's social skill development and the quality of parenting with high validity. However, the researchers did not mention how the validity of the IRS was measured. Furthermore, there was no demographic information provided on the clinical population in this study. This study could not be generalized as the validation for IRS was using a cohort sample from the Japan Science and Technology Agency (JST) project. In Korea, Roh et al. [64] found that children who participated in a 7-week

school-based social skill program significantly increased in the degree of their peer relationships. Children from the middle school who did not have peer relationships prior to the 7-week school-based social skills program were reported to establish peer relationships with children of the same age. It is important to note that the effect of the school-based social skills program was measured using the Name Generator Question, where the participants were required to nominate the name of their peers that correspond to each question. A participant might nominate the name of their fellow peer without establishing or forming any relationship. Furthermore, this was a pre-post intervention study. Hence, other factors might have been attributed to the result of this study.

## **Emotional Development**

Three out of the five studies on emotional development focused on maternal attitude and children's emotional development. Two of these studies were from India, and the other study was from Korea. All three studies reported that maternal attitude negatively correlated with children's emotional development. The two studies from India reported that children's self-reported emotional dysregulation partially mediated the relationship between the mother's self-reported non-supportive responses and children's behavioural problems. Additionally, a factor analysis that compared maternal socialisation behaviour in the Asian context (India and China) found that parental expressive encouragement was unrelated to children's problem behaviour [65]. However, in a Western context, parental expressive encouragement was a supportive response. Raval et al. [65] study findings were consistent with the study conducted in Korea [66]. The researchers in Korea reported that children whose maternal controlled positive emotional expressiveness were negatively correlated with behaviour problems positively correlated with social competence development [66]. Thus, these findings highlighted the norm differences in parental emotion expression and the importance of understanding children's functioning in a cultural context.

A study from Pakistan compared the levels of adaptive emotional abilities between adolescents with hearing disability and normal hearing adolescents [67]. This study also examined the sociodemographic variables that might predict the emotional development of adolescents with hearing disability. Consistent with past studies, this study found that adolescents with hearing disability scored significantly lower on the adaptive emotional abilities scale than normal hearing adolescents. Akram et al. [67] explained that hearing disability itself was not the only cause that led to poor adaptive emotional ability. The sociodemographic variables showed that the accessibility and availability of hearing and speech services, the presence of hearing-impaired family members, the preferred communication language between the adolescent and family members were associated with the adolescents' adaptive emotional abilities.

In Taiwan, Chang et al. [68] carried out a study that assessed the level of emotional development among Taiwanese children based on Dabrowski's theory [69]. The researchers also assessed whether emotional development and over-excitability predicted personal adjustment in gifted students and normal students. There were 123 mathematically gifted students and 132 normal students aged 16 to 18 years old involved in this study. Based on Dabrowski's theory [69], emotional over-excitability is the most important characteristic that effectively predicted the level of emotional development among gifted students. However, this study found a negative correlation between emotional development and emotional over-excitability. The researchers reported that cultural-specific variables might explain the discrepancy found in this study. Given the discrepancy in findings, it is important to note that this Taiwanese study only included mathematically gifted students in their study, and the findings did not represent other gifted students in Taiwan.

## **Social-Emotional Learning (SEL)**

Wenling et al. [70] carried out a cross-sectional study with 375 early childhood educators to examine teachers' perceptions of SEL in early childhood centres in China. This study found that teachers' perceptions of SEL in China were at a moderate level. In addition, female teachers with higher qualification and teaching in private schools were reported to be more supportive of SEL than male or female teachers with lower qualifications or those taught at public schools. These findings were consistent with the Malaysian study that examined teachers' perceptions of SE development in children [40].

Furthermore, the Malaysian teachers had a lower understanding of the factors associated with social-emotional development in children and reported that they did not know how social-emotional skills could be taught in a classroom setting.

One of the three intervention studies on SEL, Pinchumphonsan et al. [71] reported that the 15-week intervention program had significantly reduced the number of problem behaviours and improved positive behaviours in children after completing the program. However, similar to the other pre-post intervention studies mentioned above, the improvement in participants' behaviours could be attributed to other factors unrelated to the intervention program. Laosanurak et al. [72] developed an SEL intervention program to compare Thailand and Cambodian cultural groups and gender differences. However, gender differences were the only differences found in the SEL intervention. The level of empathy and responsibility scores in female participants increased after the intervention program. The cultures in these two countries may be highly similar, which led to a non-significant result when compared across cultures. In Hong Kong, Lam et al. [73] implemented and evaluated the effectiveness of a mindfulness program among four of the lowest academic tier groups in public schools. This study found significant differences between the intervention and control groups with medium to large effect size on emotional control, working memory, self-monitoring and anxiety/depression.

### **Problem Behaviour**

Problem behaviour and prosocial behaviour were coded into one domain to review these studies systematically. Yang et al. [74] conducted a cross-sectional study in China to estimate the prevalence of behavioural problems and their risk factors among school children aged 6 to 16 years old in Beijing. There were 9,295 students from urban and suburban districts in Beijing who participated in this study. The Child Behaviour Checklist was used as a screener to screen for emotional and behavioural problems. The detection rate of behavioural problems in this study was 16.7%. However, the rate of behavioural problems decreased with age. The researchers reported that behavioural problems were more significant in children aged 6 – 11 years old and not significant in children aged 12 – 16 years. The researchers found that girls experienced more internalising behavioural problems (e.g., depression, withdrawal, anxiety), and boys experienced more externalising behavioural problems (e.g., aggressive behaviour, social problem, hyperactivity). These researchers also found that older children had a better level of social competence. Yang et al. [74] explained that the behavioural problems in the younger age groups might be due to China's one-child policy. These children did not have siblings and might have fewer opportunities to interact with other children outside school.

In China, Guo et al. [74] found prosocial behaviour as a predictive factor for academic success, and that peer acceptance mediated between prosocial behaviour and academic success. These findings were consistent with the literature in the Western cultural context [76]. In Indonesia, Dewi et al. [77] conducted quasi-experimental research to assess the effect of the traditional game (Magoak-goakan) on developing prosocial behaviour in preschool children in Bali. Fifty-two preschool children aged 5-6 years old were involved in this placebo control study (1:1 ratio). This study reported a significant increase in the intervention group's prosocial behaviour while no changes were found in the control group. Although this is a small sample size study, it is worth noting that situational factors such as the traditional game of Magoak-goakan might influence the development of prosocial behaviour. More research is required to examine the situational factors in children's prosocial behaviour within the Asia context.

### **Self-regulation**

Sun et al. [78] examined the development of cool and hot self-regulation in a Chinese sample of pre-schoolers in Hong Kong. This study also examined the relationship between cool and hot self-regulation with children's academic achievement, behavioural problems, general knowledge, and fine motor and gross motor skills. This study found that the cool self-regulation domain positively predicts children's academic achievements, general knowledge, and fine motor and gross motor skills. In contrast, the hot self-regulation domain positively predicted children's gross motor skills only. Both cool and hot self-regulation negatively predicted children's hyperactivity.

Sun and Kang [78] reported that cool and hot self-regulation might have a distinct structure among Chinese pre-schoolers. Sun and Kang could not find the exploratory factor analysis and confirmatory factor analysis fit that showed the relationship between cool and hot self-regulation was similar to those found in Western samples. The researchers concluded that the Chinese culture differed from Western culture, where the Chinese culture emphasised children's behavioural conformity, obeying adults, and inhibiting inner impulses. The cultural differences found in this study might then explain why most of the children, as young as three years old in this study, could regulate their behaviours despite the emotional or motivational triggers in the hot self-regulation experimental task.

Zhi et al. [79] explored the relationship between children's self-control and family savings for children's future education using the China Family Panel Studies data. This study found that children who lived in families with savings for their future education had higher self-control than families without savings. The effect size for this study was small ( $d = .06$ ).

## Discussion

The reviewers reviewed the existing literature on children's social-emotional development in Asia. This systematic review found that although there were social-emotional development studies from various countries within Asia, this systematic review found that most of the studies were from East Asia (e.g., China & Hong Kong) (Fig. 2). There was a dearth of social-emotional development studies from the other parts of Asia, such as the Southeast, North, West, and Central Asia. The social-emotional behaviour acceptable in a particular culture can vary across cultural groups and countries [17]. Most of the population in China and Hong Kong are of the Chinese ethnicity, and these countries may have similar values for social-emotional competence. However, in other parts of Asia, the acceptable social behaviour or expression of emotions can be perceived differently by other cultural groups. For instance, Quah [80] reported that Malay and Indian parents were more likely to display affection towards their children than Chinese parents. Quah [80] also found that Chinese parents from the lower socioeconomic status backgrounds were more inclined towards the parenting where the parent is always right, and children should be seen and not heard [81]. Culture plays a role in children's social-emotional development and guidance from parents. Therefore, more studies from different parts of Asia can provide a fuller picture children's social-emotional development in Asia.

A few studies ( $n = 10, 22\%$ ) in this review reported cultural differences found in social-emotional development [26, 29, 33, 43, 66, 68, 72, 78, 82]. One study reported significant cultural differences in how children perceived social competence between Eastern and Western cultures [57]. Another study also reported that because of the heavy emphasis on behavioural conformity within Asian cultures, children in Asian cultures were reportedly able to regulate their behaviour as young as three years old [78]. Although these studies reported significant cultural differences, these studies also had their limitations. For example, the study by Sun et al. [78] only measured the cool and hot self-regulation domain and did not examine other social-emotional development domains. The extent to which the cultural differences found in this study extend to other aspects of social-emotional functioning remains unknown. Therefore, future studies in Asia are needed to provide more insight into the possible cultural differences in children's social-emotional development.

This systematic review also found that most social-emotional development studies focused on children's academic achievement and family environment. These studies were mainly from China and Hong Kong. From the studies above, there were mixed findings on parenting and children's academic achievement, especially between the urban and rural populations and the middle and lower socioeconomic status groups [30, 55]. Ren et al. [55] reported that parents from the lower socioeconomic status were more likely to enrol their children into academically related extra-curricular activities than non-academically related activities. In contrast, Tan et al. [30] reported that caregivers from the rural population prioritized their children's social-emotional development rather than their academic achievement. Other studies have shown that the children's academic achievement might have been highly valued within the Chinese cultures. Perhaps this may be the reason why there were many studies conducted in Asia related to children's academic achievement [75, 83]. Nevertheless, there is still a lack of studies from other parts of Asia. Thus, it remains inconclusive that social-emotional development

predicts academic achievement or that the family environment influences social-emotional development in all Asian cultures.

Furthermore, this systematic review found that some of the included studies on social-emotional development reported that boys had lower social-emotional competence than girls [14, 53, 74]. These findings were consistent with studies conducted in Western cultures, whereby boys exhibited lower social-emotional competence [84–85]. Both Kim et al. [53] and Yang et al. [74] reported that the gender discrepancies in social-emotional development could be attributed to the biological development in boys and girls. Both studies have found that boys exhibited poor social behaviour while girls exhibited emotional problem (i.e., depression, anxiety). Guo et al. [75] reported that the gender discrepancies in social-emotional development were dependent on the informant (i.e., parent, teacher, peers) and the social-emotional assessment used (i.e., rating, observation, nomination). This explanation is consistent with other studies where the parents were likely to report the internalizing problem, and teachers were likely to report the externalizing problem [74, 86–87].

This systematic review also found that most of the included intervention studies conducted in Asia reported that the intervention program significantly improved children's social-emotional development. However, most of these intervention studies were pre-post intervention design, and they did not have a control group [42, 64, 72, 77]. There were possibilities for other confounding factors that might have been responsible for improving in social-emotional development post-intervention. In addition, there were only one or two intervention studies conducted in that country, for example, in Indonesia and Korea. Dewi et al. [77] study consist of only 52 samples, and Roh et al.'s [64] study used only the Name Generator Questionnaires to evaluate the effectiveness of the school-based social skills training program. Both of these studies have their limitations. The intervention's effectiveness may not be generalised, as it has not been replicated or tested with a broader population.

As well as the paucity of social-emotional development studies in Asia, this systematic review also found that some studies lacked information. For instance, there was no information on the study samples, except the participant's age in a study from Japan [63]. The study by Anme et al. [63] should at least reported the participant's gender distribution to prevent premature conclusion that gender differences do not exist in any research [88]. Other information such as the caregiver's age and educational background is also important as it could be a confounding variable in the research. Another study in this review also lacked information on how the samples were grouped into an intervention or control group [77]. The inadequate quality of the studies that have been conducted may lead to barriers in understanding children's social-emotional development in Asia [89–90].

## **Research Gaps**

This review identified several research gaps in the literature on the social-emotional development of children in Asia. First, there is a lack of ethnocultural studies in Asia. Asia continents also include other ethnicities besides the Chinese culture. For instance, Singapore and Malaysia are multi-cultural countries that consists of Malay, Chinese, and Indian. However, most of the social-emotional development studies were from East Asia, where predominantly Chinese culture, except for Japan and Korea. There is a lack of study to provide an overall picture of social-emotional development in a multi-cultural country. The ethnocultural theory showed that cultural ethnicity might influence parent belief and behaviour, guiding their parenting practices and indirectly influencing children's social-emotional development [81, 91].

Secondly, there is a gap in the literature on whether the parent perception of social-emotional development differs between the higher and lower socioeconomic group, as reported in Ren et al. [55]. The lower socioeconomic group is reported to emphasise more on children's academic achievement than the higher socioeconomic group prioritised on children's social-emotional development. As there is only one study that reported on the discrepancy, this finding remained inconclusive. The differing view in parent perception of social-emotional development may be because of the lack of understanding of children social-emotional development among the lower socioeconomic group or the socioeconomic status background. More studies are needed given the importance of children's social-emotional development and its long-term effect on the

children. Parent's perception can enhance or hinder children's social-emotional development, and therefore, it is important to address this issue when examining social-emotional development across different culture. There is an obvious need for more evidence-based studies in Asia, especially outside East Asia. More quality studies in Asia may enrich the literature on children's social-emotional development and provide directions for future research and improvements in approaches to prevention and intervention.

Lastly, three studies reported a lack of knowledge about children's social-emotional development among teachers in Asia [40, 56, 70]. There is a need for more studies in Asia to understand teachers' knowledge about social-emotional development. School teachers spend most of the time with the children, besides the parents. Thus, teachers at school can identify any problem behaviour early to provide timely interventions for children at risk of poor social-emotional development [40]. However, early identification can only take place if teachers are well-equipped with the knowledge of social-emotional development. Thus, there is a need for interventional studies that improve and evaluate teachers' knowledge of children's social-emotional functioning in Asia.

### **Limitations**

This review has several limitations. First, this review is limited to studies published in the English language only. There are potentially other relevant studies in other languages that may have been missed out from this review. Second, this systematic review only included quantitative studies, which may have overlooked some studies in social-emotional development conducted using qualitative methods. Finally, there is a lack of information in some studies. Hence, the reviewers were unable to appraise some studies critically.

## **Conclusion**

Despite these limitations, this systematic review contributes to the existing research on children's social-emotional development in Asia by summarising key knowledge areas, identifying critical gaps, and directions for future research. It is important to note that most social-emotional development studies and theories are based on European and Western families [92]. Future studies should therefore include more culturally diverse samples, especially from the Asian regions. It will shed light on the various aspects of social-emotional development.

Given that social-emotional development has gained increased attention from researchers, future studies should also consider collaboration between stakeholders to standardise the terms and definitions used to describe the domains of social-emotional functioning. Parents and teachers play an important role in children's social-emotional development [17]. Future research should consider filling the gap of knowledge on parent and teacher perceptions of children's social-emotional development in the Asian regions where there is a paucity of studies.

## **Declarations**

**Ethics approval and consent to participate** – Not applicable

**Consent for publication** – Not applicable

**Availability of data and materials** – Not applicable

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**Authors' contributions** –

- Conceptualization – GHY proposed the original topic. MHL, NVM and THT assisted in refining to topic and focus of the review.
- Methodology - GHY developed the initial search strategy. MHL, NVM and THT provided assistance and ideas to refine the search strategy.
- Writing of the review – GHY wrote the initial draft of the review. MHL, NVM and THT provided critical and editorial contributions to the review.
- All authors have read and approved the final manuscript

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## Table

**Table 1.** A summary of included social-emotional development studies from Asia

Author, Year	Country	Age range	Samples description	Study Design	Social-emotional domains studied	Summary of Key Findings
Abshor, U. 2017	Indonesia	3–4 years old	15 children (6 boys 9 girls)	Observational	Social-Emotional	A project conducted in early childhood environmental education setting effectively raised children social-emotional development by 22% at the end of cycle-2.
Ciftci et al. 2018	Turkey	48–66 months old	394 children and their parent	Validation	Social-Emotional	The Turkish Social-Emotional Assessment / Evaluation Measure (SEAM) has good linguistic equivalence, validity and reliability.
Goh et al. 2019	Malaysia	5–6 years old	49 students, their parent and teacher	Validation	Social-Emotional	Preschool Social Emotional Competency Inventory (P-SECI) has high reliability index of .98 for Teachers and .95 for Parents.
Hamzah, M. 2019	Singapore	7–11 years old	6 dyslexia students and their parent, and 2 teachers	Mixed-method (Quantitative and Qualitative)	Social-Emotional	Children with dyslexia showed 20.5% improvement in the Southampton Emotional Literacy Scales (SELS) scores after attending the Speech and Drama Arts (SDA) programme for one year.
Intusoma et al. 2013	Thailand	1 and 3 years old	4157 children	Prospective cohort	Social-Emotional	Viewing duration of 20–30 min/day was associated with decreased risk of low SEC than non-viewers after adjustments for confounding factors.
Kim et al. 2011	Korea	1–2 years old	51 infants and their parent (30 boys 21 girls)	Cross-sectional	Social-Emotional	The adaptability of infants showed a negative correlation with externalising problem behaviours.

Author, Year	Country	Age range	Samples description	Study Design	Social-emotional domains studied	Summary of Key Findings
Lam et al. 2016	Hong Kong	3–6 years old	1326 children and 106 early child educators	Cross-sectional	Social-Emotional	Boy, aged five years or older, had more than one sibling, whose mother spoke a language other than the local language and whose carers were not biological parents were found significantly associated with social competence.
Lam et al. 2017	Hong Kong	3–6 years old	990 children (87 clinical diagnosis of Autism, ADHD, Asperger's, Dyslexia, and Intellectual Disabilities) and 106 teachers	2-months Intervention	Social-Emotional	The Social-Emotional Well-Being of Early Childhood Intervention Project (SEWEC) that was developed based on the Wisconsin Pyramid Model significantly improved social competence and reduced anxiety-withdrawal and anger-aggression in kindergarten children aged 2.5–6 years old.
Li et al. 2020	Hong Kong	3–6 years old	1731 children	Validation	Social-Emotional	Chinese Inventory of Children's Socioemotional Competence (CICSEC) demonstrated excellent internal consistencies.  The criterion validity was positively correlated with school readiness ( $r_s$ ranging from .32 – .68) and negatively with problem behaviours ( $r_s$ ranging from – .27 – .07).

Author, Year	Country	Age range	Samples description	Study Design	Social-emotional domains studied	Summary of Key Findings
Mohamed et al. 2020	Malaysia		332 early childhood educators	Cross-sectional	Social-Emotional	Malaysian early childhood educators have a moderate perception of social-emotional development, and demonstrated a poor understanding of the factors associated with social-emotional development and how social-emotional should be taught in the classroom.
Mohamed et al. 2018	Malaysia	3–4 years old	237 children	Cross-sectional	Social-Emotional	Children's level of social-emotional development was associated with mother's education level, mother's occupation, and father's income, an average relationship to the father's education level and a poor relationship with the father's occupation.
Ong et al. 2017	Singapore	7–9 years old	445 children and their parent	Longitudinal (9 years)	Social-Emotional	Perceived parental care was found associated with the quality of socio-emotional development, while optimal parenting by the father was essential for children with more externalising problems in childhood.
Ren et al. 2016	China	3–5 years old	154 parents of preschool children	Mixed-method (Quantitative & Qualitative)	Social-Emotional	Parents placed more importance on children's social-emotional skills and compliance than academic skills.

Author, Year	Country	Age range	Samples description	Study Design	Social-emotional domains studied	Summary of Key Findings
Ren et al. 2020	China	5–6 years old	336 Chinese children and their parents	Longitudinal (7-months)	Social-Emotional	Relation between co-parenting quality and children's academic readiness was mediated by children's behavioural regulation, except for the father's parenting practices.
Ren et al. 2016	China	3–6 years old	154 parents (133 mothers 21 fathers)	Cross-sectional	Social-Emotional	Children's withdrawn behaviours and attention problems were negatively related to their preacademic skills.  Parent- and teacher-reported positive social behaviours were positively related to children's preacademic skills.
Ren et al. 2020	China	3–6 years old	695 pre-schoolers and their parent	Longitudinal (1 year)	Social-Emotional	Extra-curricular involvement was positively associated with children's cognitive and language development, but not with social-emotional development, after controlling for demographic variables and children's prior performance.

Author, Year	Country	Age range	Samples description	Study Design	Social-emotional domains studied	Summary of Key Findings
Seyhan et al. 2017	Turkey	4–6 years old	560 students and 41 teachers	Experimental	Social-Emotional	<p>The Promoting Alternative Thinking Strategies (PATHS) Intervention group (IG) teachers reported more improvement in children's social-emotional skills, interpersonal relationship skills, and emotion regulation.</p> <p>IG children showed a higher level of pro-social behaviour, increased compliance, better problem-solving skills and more positive feelings.</p>
Tan et al. 2020	China	0–3 years old	847 left-behind children (either one or both parents has migrated for work)	Cross-sectional	Social-Emotional	<p>37.2% of the left-behind children had social-emotional problems, and 40% of caregivers reported depressive symptoms.</p> <p>Caregiver depressive symptoms positively correlated with social-emotional problems in left-behind children, and the mediation by the home environment was 15.6% of the total effect.</p>
Van Driessche et al. 2014	India	3–16 years old	201 parent/caregiver of children with hearing impairment 104 parent/caregiver of normal-hearing children	Cross-sectional	Social-Emotional	<p>Low educational attainment and domestic violence were associated with caregiving strain.</p>

Author, Year	Country	Age range	Samples description	Study Design	Social-emotional domains studied	Summary of Key Findings
Wang et al. 2020	China	6–24 months	1809 infants	Cross-sectional	Social-Emotional	<p>54.0% of children were at risk of developmental delay, 60.3% at risk of language delay, 36.3% at risk of motor delay, and 40.6% at risk of the social-emotional problem.</p> <p>Quality of the family environment was significantly associated with the child's development.</p>
Wang et al. 2019	China	10–13 years old	975 students of single-parent and two-parent family (431 single-parent 544 two-parent)	Cross-sectional	Social-Emotional	<p>Children from two-parent families scored significantly higher on measures of social-emotional development than single-parent families.</p>
Wang et al. 2020	China	9–14 years old	6638 boarding school students	Cross-sectional	Social-Emotional	<p>A break every 2–3 weeks had positive impacts on boarding school students, while every four weeks or more have negative effects on boarding school students.</p> <p>Taking a break every 2–3 weeks had a more positive effect on both left-behind children and commuting daily between home and school students.</p>
Wang et al. 2017	China	9–14 years old	6638 boarding school students	Cross-sectional	Social-Emotional	<p>Left-behind children's social-emotional competence was significantly lower than those under parental guardianship.</p> <p>Left-behind children living on campus had a higher negative social-emotional competence than left-behind children that commute daily.</p>

Author, Year	Country	Age range	Samples description	Study Design	Social-emotional domains studied	Summary of Key Findings
Yeo et al. 2018	Singapore	8–16 years old	60 children (30 physical disability 30 typical developing)	Cross-sectional	Social-Emotional	Children with physical disabilities met academic expectations in school and had comparable self-esteem but experienced peer problems and participated less in school activities.
Anme et al. 2010	Japan	18–42 months, 7 years old	823 children and their caregivers	Cohort	Social competence	Interaction Rating Scale (IRS) is a reliable, valid, feasible, and practical tool.
Dhanda et al. 2012	India	9–13 years old	44 children	Cross-sectional	Social competence	There was a significant increase in social competence with self-concept.
Lee et al. 2012	US & Korea	12–17 years old	740 gifted students (373 US 367 Korea)	Cross-sectional	Social Competence	Gifted students positively perceived their interpersonal ability and peer relationships at a level comparable to or higher than non-gifted students.  Female students in both the Korean and American samples were reportedly more positive in rating their profiles of interpersonal ability and peer relationships as compared to male students.

Author, Year	Country	Age range	Samples description	Study Design	Social-emotional domains studied	Summary of Key Findings
Ren et al. 2020	Hong Kong	3–6 years old	194 pre-schoolers and their parent	Longitudinal (2 years)	Social skills	<p>Higher family socioeconomic status (SES) predicted a higher participation level in non-academic related extra-curricular activities (EAs).</p> <p>Participation in academic related EAs was negatively associated with reading and math skills in children from lower SES, but not the higher SES children.</p> <p>EAs participation was not associated with children's social skills.</p>
Roh et al. 2018	Korea	10–12 years old	90 students	7-weeks Intervention	Social skills	The social skills training program significantly increased peer relations.
Tong et al. 2012	Hong Kong		60 teachers	Mixed-method (Quantitative & Qualitative)	Social Competence	<p>Most teachers believed that behavioural and social skill programs should be implemented in schools at an early stage.</p> <p>Teacher's professional development in social skills training, teacher's belief and attitude, and the contextual support within the school for the school-wide intervention was found to influence the effectiveness of the school-wide interventions.</p>

Author, Year	Country	Age range	Samples description	Study Design	Social-emotional domains studied	Summary of Key Findings
Yoleri, S. 2014	Turkey	5–6 years old	112 children, their mother, and teacher	Cross-sectional	Social competence	<p>Social competence level had significant positive relationship with the persistence and rhythmicity level of temperament traits.</p> <p>Level of anger/aggression had significant positive relationship with the reactivity temperament trait.</p> <p>Social competence had a significant relationship with temperament traits.</p>
Akram et al. 2014	Pakistan	12–18 years old	469 hearing impairment students 1050 normal hearing students	Validation	Emotional development	<p>The Adaptive Emotional Abilities Scale (AEAS) was found to have acceptable face and content validity, internal and test-retest reliability.</p> <p>Participants with normal hearing scored significantly higher on the AEAS than participants with hearing impairment.</p>
Chang et al. 2019	Taiwan	15–18 years old	255 gifted students (123 mathematical gifted 132 regular students)	Cross-sectional	Emotional development	<p>Gifted students had better emotional adjustment than the normal students.</p> <p>Social-emotional development positively correlated with the intellectual over-excitability, but were negatively correlated with EOE.</p> <p>Intensive emotional over-excitability (EOE) significantly predicted personal maladjustment.</p>

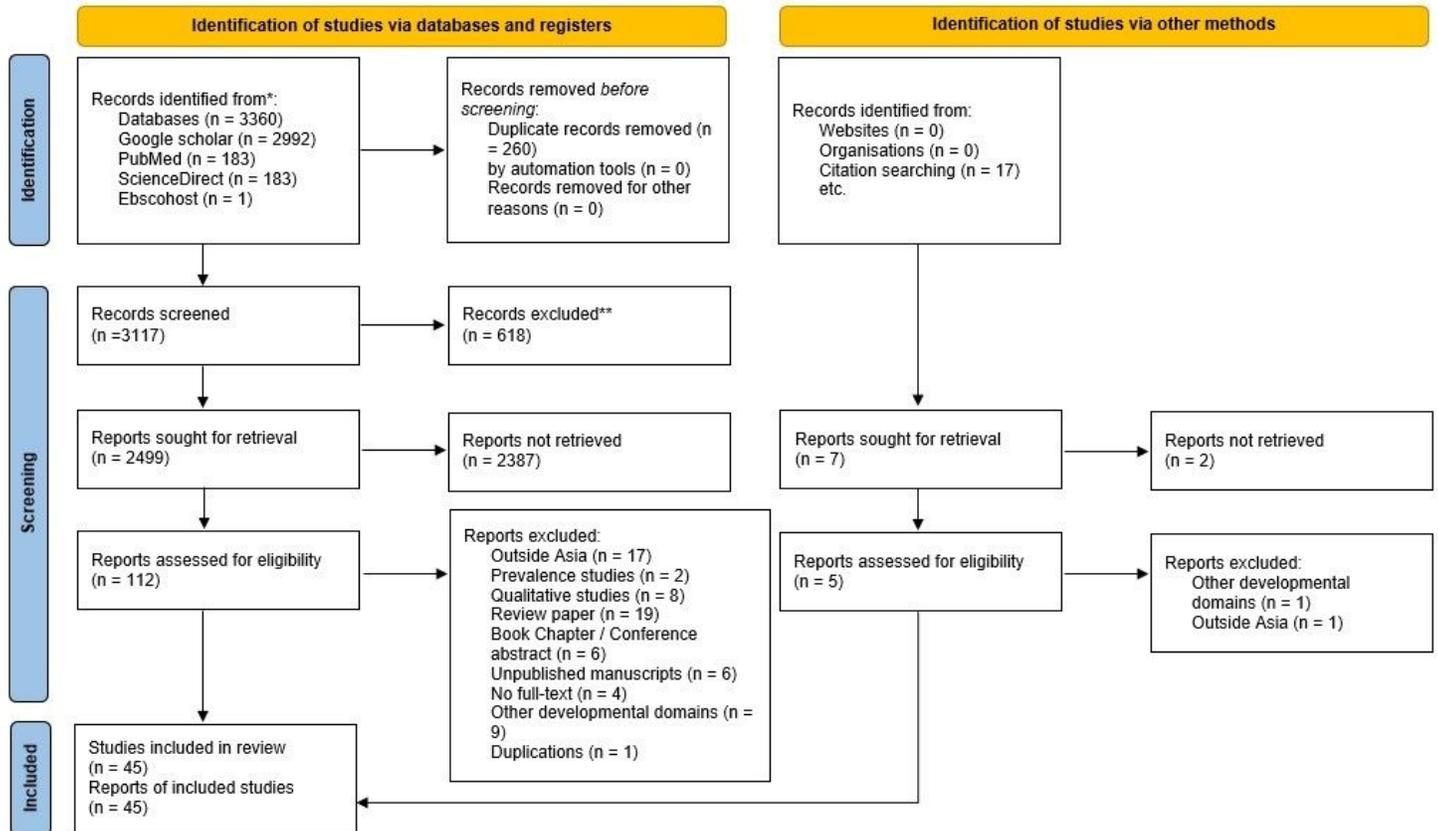
Author, Year	Country	Age range	Samples description	Study Design	Social-emotional domains studied	Summary of Key Findings
Lee et al. 2017	Korea	4–6 years old	70 pre-schoolers, their mother, and teachers	Cross-sectional	Emotional development	<p>Children emotional understanding was negatively correlated with teacher-reported behaviour problems and positively associated with social competence.</p> <p>Controlling maternal attitude towards children positive emotional expressiveness was negatively correlated with teacher-reported behaviour problems.</p> <p>Maternal attitude toward children's positive emotional expressiveness moderated the relationship between emotional understanding ability and behaviour problems and social competence.</p>
Raval et al. 2014	India	11–12 years old	110 mothers and their children	Cross-sectional	Emotional development	<p>Suburban Indian mothers were more likely to endorse relational socialisation goals than autonomous socialisation goals.</p> <p>Children's self-reported dysregulation partially mediated the positive association between the report of the mother's non-supportive behaviours and child behaviour problems.</p>

Author, Year	Country	Age range	Samples description	Study Design	Social-emotional domains studied	Summary of Key Findings
Raval et al. 2018	India & China	10–12 years old	305 mothers and their children (147 India 158 China)	Cross-sectional	Emotional development	<p>Mothers' supportive responses and child emotional regulation sequentially mediated maternal relational socialisation goals and child internalising problems.</p> <p>Children emotion dysregulation mediated the relation between maternal non-supportive responses and child externalising problems.</p>
laosanurak et al. 2015	Thailand	11–12 years old	23 children	8-weeks Intervention	Social-Emotional Learning	<p>No significant difference in social-emotional learning competencies between the Thailand and Cambodia students.</p> <p>Only female students in both countries showed significantly increase in empathy and responsibility at post-intervention.</p>
Lam et al. 2019	Hong Kong	11–15 years old	115 students	5-months Intervention	Social-Emotional Learning	<p>Improvement in the L2B group and deterioration in the control group (IAU) was observed on emotional control, working memory, self-monitoring and anxiety/depression.</p>

Author, Year	Country	Age range	Samples description	Study Design	Social-emotional domains studied	Summary of Key Findings
Ye et al. 2020	China		375 teachers	Cross-sectional	Social-Emotional Learning	<p>There were significant differences in teachers' perceptions of social-emotional learning based on teacher qualification and the type of school.</p> <p>No significant differences in school location and teaching experience.</p>
Dewi et al. 2018	Turkey	5–6 years old	52 children	Experimental	Prosocial behaviour	Traditional game Magoak-goakan has a positive influence on the development of prosocial behaviour in the intervention group.
Guo et al. 2018	China	11–12 years old	456 students	Cross-sectional	Prosocial behaviour	Chinese children prosocial behaviour positively predicted their academic achievement, and peer acceptance played a mediating role in the pathway.
Yang et al. 2019	China	6–16 years old	9295 parents	Cross-sectional	Problem behaviour	<p>Children with behavioural problems had significantly lower social-emotional ability than children without behavioural problems.</p> <p>Gender, developmental delay, recent life events, negative relationships, and negative child-rearing styles influenced behavioural problems and social competence.</p> <p>Gender differences in behavioural problems were only significant in the 6–11 age group.</p>

Author, Year	Country	Age range	Samples description	Study Design	Social-emotional domains studied	Summary of Key Findings
Sun et al. 2020	Hong Kong	3–5 years old	951 children and their mothers	Cross-sectional	Self-regulation	<p>Cool self-regulation was found to predict children's achievement differently.</p> <p>Cool self-regulation was found to predict children's early academic learning, general knowledge, fine and gross motor skills.</p> <p>Hot self-regulation only positively predicts children's gross motor skills.</p> <p>Both cool and hot self-regulation were found negatively predict children's hyperactivity level.</p>
Zhi et al. 2020	China	10–15 years old	2182 children and their parent	Cohort	Self-regulation	Family savings for children were positively associated with children's level of self-control.
Pinchumphonsan et al. 2020	Thailand	10–12 years old	36 students (30 Thai, 6 Cambodian, Myanmar, and Laos), their parent, and teachers	15-weeks Intervention	Social-Emotional Learning & Problem Behaviour	Social-emotional learning program effectively reduced problem behaviours and increased positive behaviours for students that attended the intervention program.

## Figures



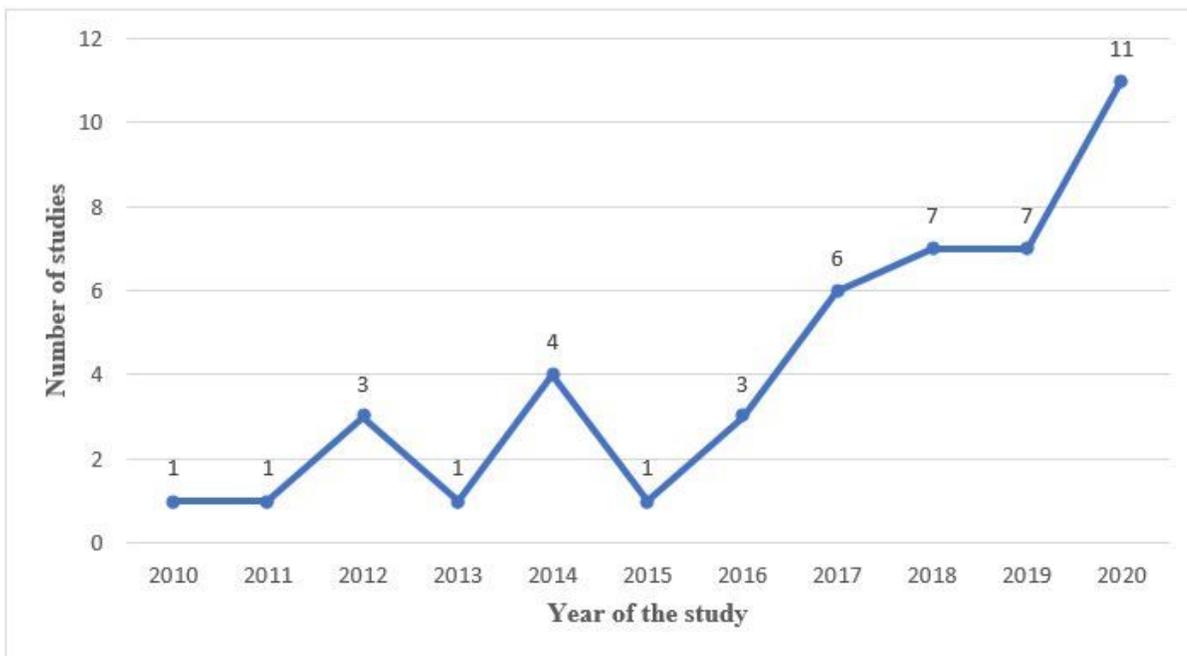
\*Consider, if feasible to do so, reporting the number of records identified from each database or register searched (rather than the total number across all databases/registers).

\*\*If automation tools were used, indicate how many records were excluded by a human and how many were excluded by automation tools.

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

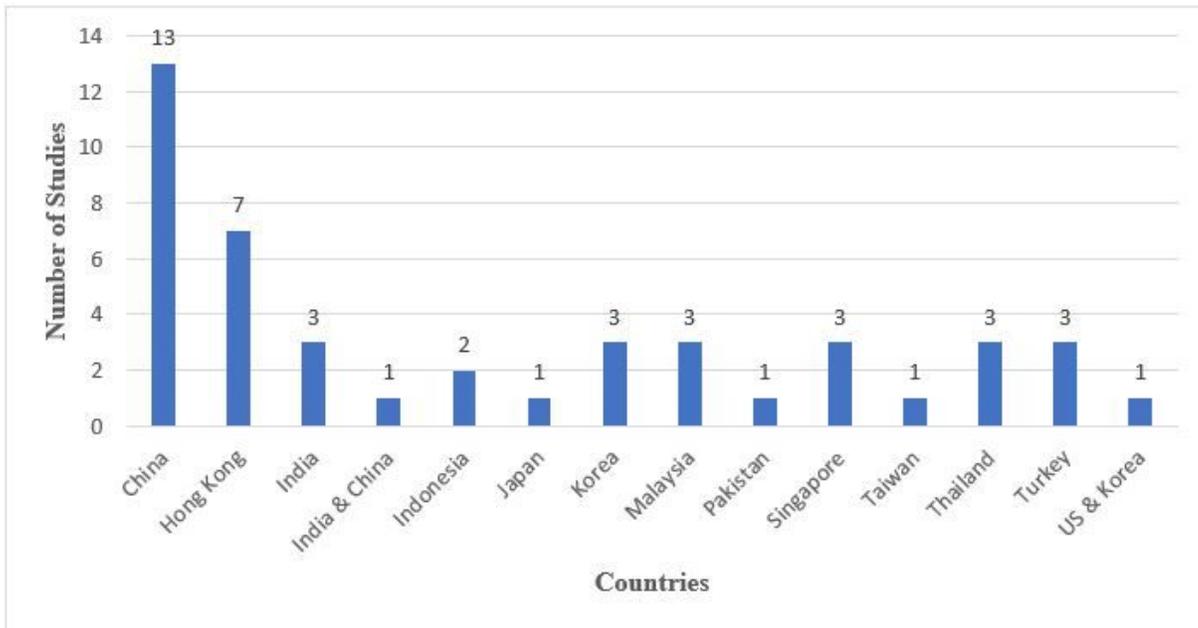
Figure 1

Preferred Reporting Items for Systematic Reviews and Meta-Analyses flow diagram of Social-Emotional Development of Children in Asia



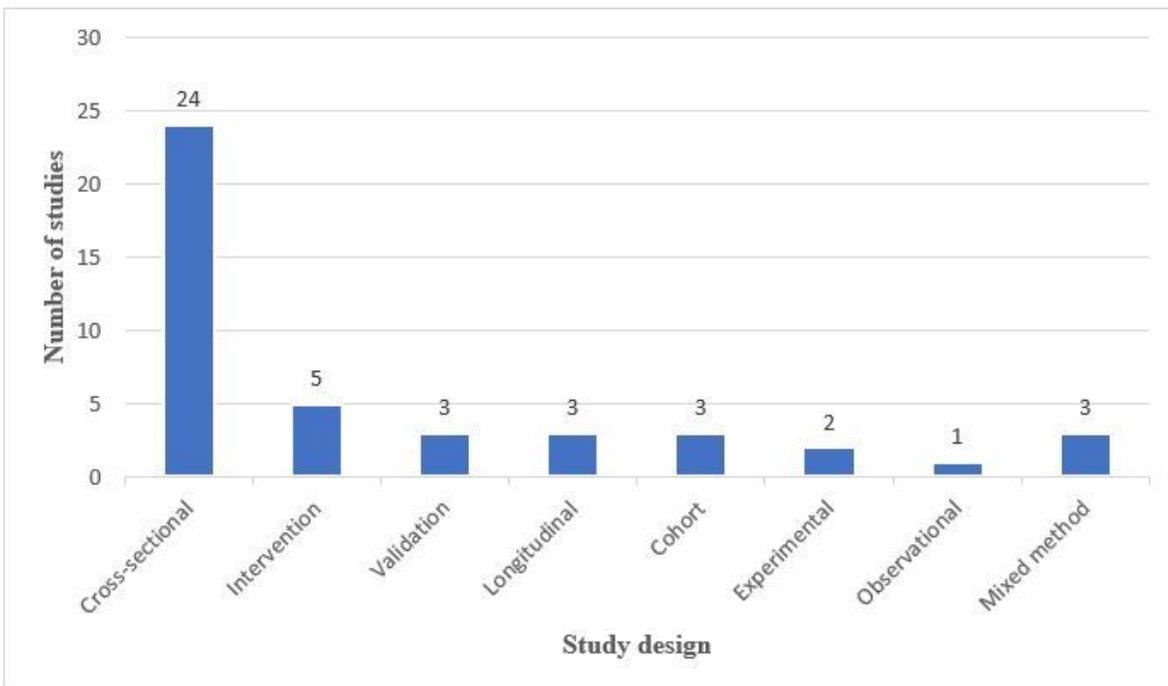
**Figure 2**

Number of Social-Emotional Development studies by Year Published



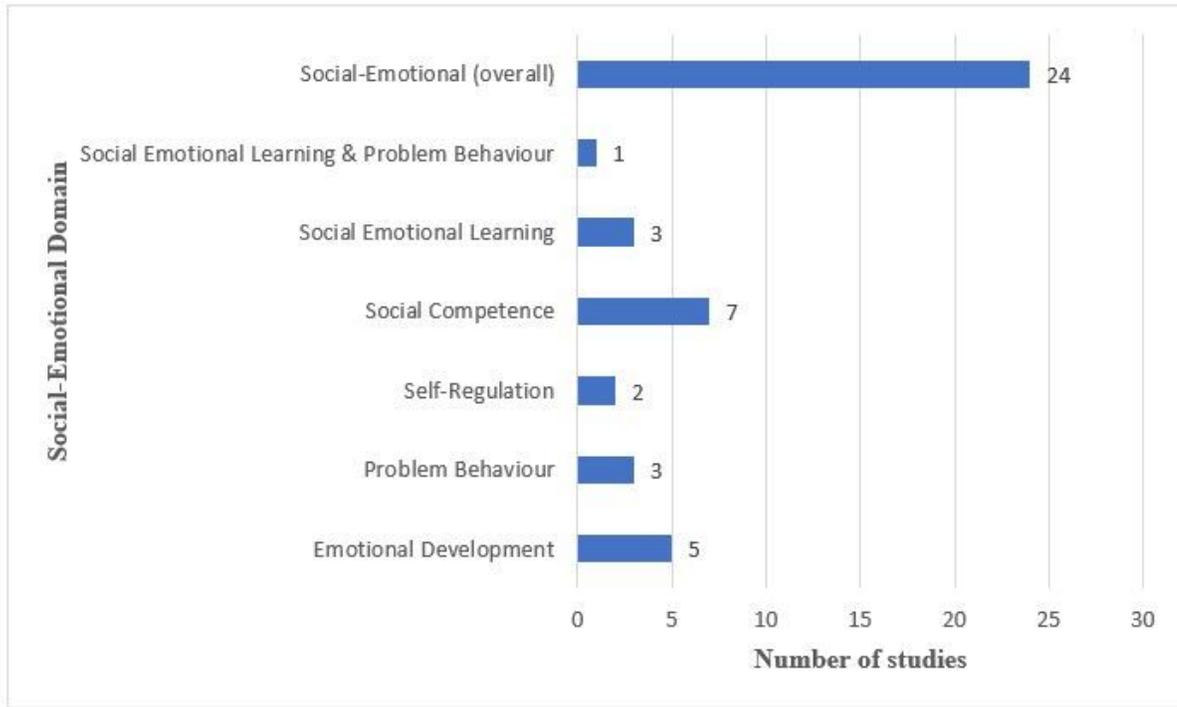
**Figure 3**

Number of Social-Emotional Development studies by Country



**Figure 4**

Number of Social-Emotional Development studies by the Type of Study Design



**Figure 5**

Types of Social-Emotional domains reported in the reviewed studies

## Supplementary Files

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