



Managing children's character development in the digital era: A systematic literature review of parenting, digital literacy, and peer influence from an educational management perspective

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Abstract

Background: Rapid digital development has transformed the way children learn, communicate, and build character. Moral and social development is now shaped not only by family and school environments but also by online interaction and peer networks. Despite growing attention to this issue, studies commonly discuss parenting, digital literacy, and peer influence independently rather than as interconnected factors within education.

Aims: This review investigates the relationship between parenting practices, digital literacy, and peer influence in supporting children's character development in the digital era.

Methods: A Systematic Literature Review (SLR) was conducted using the PRISMA 2020 procedure. Relevant studies were obtained from the Scopus database through predetermined selection criteria. After the screening process, 15 eligible studies published between 2016 and 2026 were analysed using thematic synthesis.

Results: The review found that supportive parenting plays an important role in shaping children's values, self-control, and social behaviour. Digital literacy helps children apply these values appropriately in online environments, while peer interaction influences how values are strengthened or challenged in daily life. Schools also contribute by connecting family guidance, digital learning, and peer interaction through educational policies and learning practices.

Conclusion: Children's character development in the digital era develops through interaction between family, school, and social environments. Integrated cooperation among these domains is necessary to support effective and sustainable character education.

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INTRODUCTION

The development of digital technology has significantly transformed the way children interact, learn, and build their character (Evedi et al., 2025). Children today grow within environments where communication, entertainment, learning activities, and social interaction are increasingly connected to digital platforms (Kaplan et al., 2021; Nicolaou, 2021). As access to technology becomes more widespread, children are exposed to various forms of information, social influence, and behavioural models from an early age (Jeffery, 2021; Konca, 2022). This condition creates both opportunities and challenges for character development because children's moral understanding and social behaviour are no longer formed only through direct interaction within families and schools, but also through continuous engagement with digital environments and online communities. Alongside these changes, concerns regarding children's behaviour and moral development have become increasingly visible (Killen & Dahl, 2021; Malti et al., 2021). Excessive digital exposure, weak supervision, online social pressure, and unhealthy peer interaction may contribute to declining self-

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control, reduced empathy, irresponsible communication, and the normalisation of negative behaviour (Febriana et al., 2026; Rus et al., 2025). Cases related to cyberbullying, aggressive interaction, misinformation, and risky online behaviour illustrate that character education in the digital era has become more complex than in previous educational contexts. Consequently, educational institutions are expected not only to improve academic achievement but also to help children develop ethical awareness, responsibility, and social sensitivity within rapidly changing digital environments.

These conditions indicate that character development should be understood as a process influenced by interconnected social systems. Families continue to provide the earliest foundation for value formation through parenting, emotional attachment, and behavioural guidance (Elsayed, 2024). At the same time, digital literacy has become an important competence that enables children to interpret information critically, communicate responsibly, and respond wisely to digital content (Rosdiana et al., 2025). In addition, peer interaction increasingly shapes how children internalise and express values in daily life, particularly through online communication and social networking spaces. Therefore, children's character development in the digital era cannot be separated from the interaction between parenting practices, digital literacy, and peer influence (Banić & Orehovački, 2024; Purnama et al., 2022).

Previous studies consistently show that parenting plays an important role in children's moral and socio-emotional development (Di Pentima et al., 2024). Supportive parenting characterised by supervision, warmth, communication, and guidance contributes positively to behavioural regulation, empathy, discipline, and prosocial behaviour. In digital contexts, parental mediation also influences how children use technology and respond to online experiences (Rudnova et al., 2023; Sciacca et al., 2022). Children who receive active guidance from parents tend to demonstrate stronger self-control and more responsible digital behaviour compared to those who experience limited supervision. Beyond parenting, digital literacy has emerged as a central issue in contemporary education (Banić & Orehovački, 2024; Barnes et al., 2024). Digital literacy is no longer viewed solely as the ability to operate technology, but also as the capacity to evaluate information critically, understand ethical consequences, and participate responsibly in digital communication. Several studies indicate that digital literacy supports moral awareness and social responsibility when integrated with educational guidance and value-based learning. Thus, digital literacy functions not only as a technical competence but also as a social and ethical competence closely related to character development (Milenkova & Lendzhova, 2021).

The role of peer influence has also become increasingly significant in digitally connected societies (McCuddy, 2021). Children frequently construct attitudes, habits, and behavioural norms through interaction with peers, both in physical environments and online communities (Mishra, 2025; Strunk & Strich, 2023). Positive peer environments may strengthen cooperation, empathy, and civic behaviour, whereas negative peer interaction may encourage conformity to harmful behaviour, aggression, or unhealthy digital practices. In this situation, peer influence can either reinforce or weaken values that children receive from families and schools (Kralik, 2023). Taken together, these studies indicate that children's character development involves dynamic interaction among family environments, digital competence, and peer relationships (Niklas et al., 2021). However, the relationships among these factors remain insufficiently integrated within existing educational research (Turgut & Aslan, 2021).

Although research on parenting, digital literacy, and peer influence has expanded in recent years, existing studies still tend to examine these variables separately and fail to explain how they interact simultaneously within children's everyday experiences. Parenting studies commonly focus on behavioural control and emotional support, while digital literacy research often emphasises technical competence rather than moral and social dimensions (Gür & Türel, 2022). Similarly, peer

influence is frequently discussed as a background factor rather than as a moderating social force that shapes how values are strengthened or weakened in digital environments. As a result, limited attention has been given to the interconnected relationships among family guidance, digital competence, and peer interaction within a coordinated educational framework. This fragmentation creates an important gap in understanding how schools, families, and digital communities can work together to support children's character development in the digital era (Herak, 2025).

The increasing complexity of children's social and digital experiences requires a more integrative perspective on character education. Understanding character development through isolated variables is no longer sufficient because children's behaviour is shaped through continuous interaction across home environments, schools, peer groups, and digital spaces. From an educational management perspective, these domains should not operate independently, but need to be connected through coordinated educational practices, policies, and social support systems (Kim et al., 2022). This study therefore proposes a broader ecological perspective by positioning adaptive parenting as the foundational environment for value formation, digital literacy as a mediating competence that supports ethical digital behaviour, and peer influence as a moderating social factor affecting behavioural outcomes. Through this approach, the study seeks to contribute a more integrated conceptual understanding of children's character development within contemporary digital society (Budiyono et al., 2024).

This study aims to synthesise previous research on the interaction between parenting, digital literacy, and peer influence in shaping children's character development in the digital era. The study further seeks to explain how adaptive parenting contributes to character formation, how digital literacy supports moral and social development, how peer interaction influences behavioural outcomes, and how these dimensions can be integrated within an educational management framework to support children's character development more effectively.

METHOD

Research Design

This study employed a Systematic Literature Review (SLR) to examine how parenting, digital literacy, and peer influence interact in shaping children's character development in the digital era from an educational management perspective. The SLR approach was considered appropriate because the topic involves interconnected educational, social, and digital dimensions that have been explored across different studies and contexts. Through a systematic review process, this study sought to synthesise previous findings and develop a more integrated understanding of how children's character formation is influenced within digitally connected environments.

To maintain transparency and methodological consistency, the review process followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020 guidelines. The review included four main stages: identification, screening, eligibility assessment, and final inclusion of studies. The Scopus database was selected as the primary source because it provides broad coverage of international publications in education, social sciences, and interdisciplinary research. The search process used combinations of keywords related to parenting, digital literacy, character development, moral development, children, adolescents, and peer influence through Boolean operators. To ensure the relevance of the reviewed literature, the search was limited to journal and review articles published in English between 2016 and 2026 within the fields of Social Sciences and Arts and Humanities. Inclusion criteria focused on studies discussing at least two major variables connected to parenting, digital literacy, peer influence, character development, or educational management. Meanwhile, editorials, conference abstracts, non-peer-reviewed

publications, and studies unrelated to educational or behavioural development were excluded. This selection process was conducted to ensure that the final studies directly contributed to the objectives of the review.

The PRISMA flow diagram from the original document is maintained in this study because it visually explains the process of article identification, screening, eligibility assessment, and final inclusion. The diagram also helps clarify how the final corpus of reviewed studies was established.

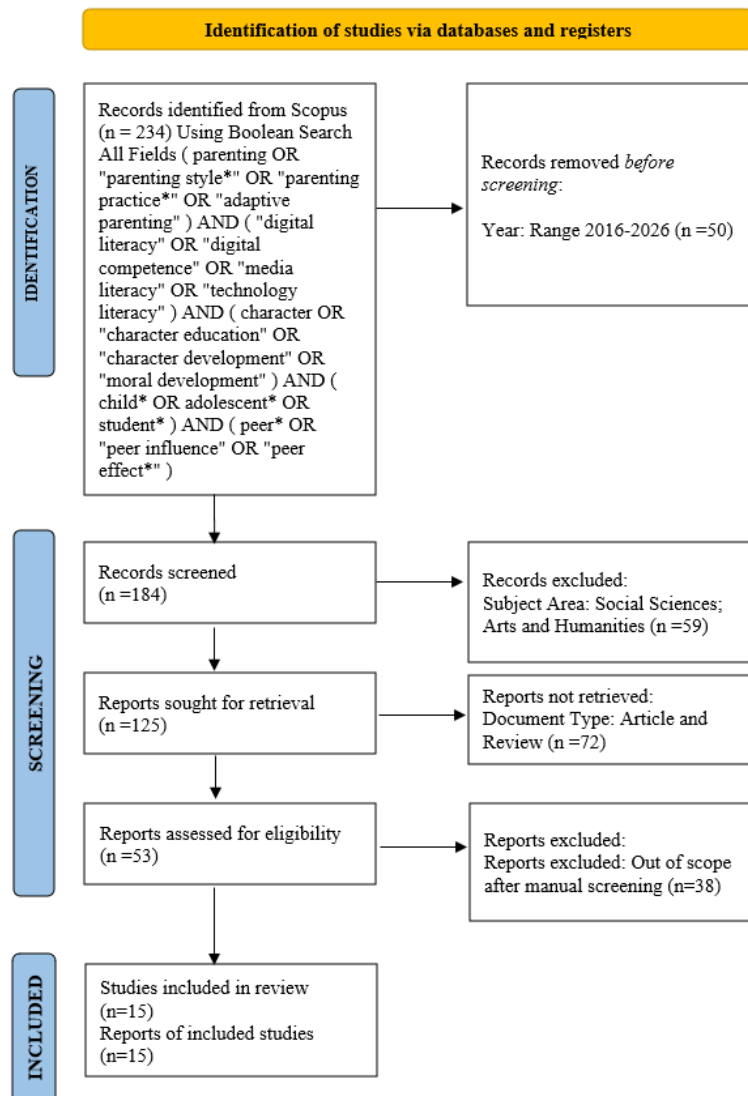


Figure 1. PRISMA flow diagram.

Participant

In this study, the participants were the research articles selected through the systematic review process rather than individual respondents. The initial search identified 234 records from the Scopus database. After applying publication year restrictions, subject area limitations, document type filtering, duplicate removal, and relevance screening, 53 studies were assessed during the eligibility stage. Following a final evaluation based on the inclusion criteria, 15 studies were included in the final synthesis. The selected studies represented various educational and social contexts related to children's character development in digital environments. These studies involved children, adolescents, parents, teachers, schools, and digital communities across different educational settings. Such diversity allowed this review to capture broader patterns regarding how parenting practices, digital literacy, and peer interaction contribute to children's moral, social, and behavioural development.

Instrument

The main instrument used in this study was a structured review protocol based on the PRISMA 2020 framework. This protocol guided the processes of literature identification, article screening, eligibility assessment, and data extraction. To maintain consistency during the review process, extracted data included information related to publication year, research design, study context, participant characteristics, theoretical perspectives, key variables, and major findings associated with parenting, digital literacy, peer influence, and character development. To strengthen the credibility of the review, the methodological quality of the selected studies was assessed using the Mixed Methods Appraisal Tool (MMAT) 2018. This instrument was selected because the reviewed studies employed qualitative, quantitative, and mixed-methods approaches. The assessment focused on methodological appropriateness, data collection procedures, analytical clarity, and the coherence between research objectives and findings. Rather than relying on numerical scoring, the appraisal used descriptive categories such as “yes,” “no,” and “can’t tell” to evaluate the quality of each study.

Data Analysis

The selected studies were analysed using thematic synthesis to identify recurring concepts and relationships across the literature. This analytical approach was considered suitable because the reviewed studies originated from different methodological traditions and educational contexts. The analysis began with the organisation of extracted findings, followed by coding processes to identify similarities, contrasts, and emerging patterns related to parenting, digital literacy, peer influence, and children's character development. Through this process, three major themes were generated. The first theme positioned adaptive parenting as the foundational environment for children's character formation. The second theme identified digital literacy as a moral, social, and educational competence that supports responsible behaviour in digital environments. The third theme explained peer influence as a moderating social force that may strengthen or weaken value internalisation in children's daily interactions. These themes were subsequently interpreted within an educational management perspective to explain how family environments, schools, and digital-peer communities interact in shaping children's character development in the digital era.

RESULTS AND DISCUSSION

Results

This section begins with a quantitative overview to illustrate the distribution of studies by year, methodology, and context. Publications are dominated by the 2023–2024 period, with review approaches as the primary method, while most research contexts are situated in formal education and family environments. This pattern indicates that research on digital literacy and adaptive parenting is both rapidly developing and inherently interdisciplinary. A total of 53 studies were identified through the PRISMA procedure, comprising 39.6% quantitative, 32.1% qualitative, and 28.3% mixed-methods studies. This methodological diversity strengthens the validity of the synthesis and reflects the complexity of educational research that integrates empirical and conceptual approaches (Murray et al., 2024; Flike & Aronowitz, 2021; Buntins et al., 2023).

Substantively, adaptive parenting emerges as a primary determinant of children's character development. Approximately 77.4% of studies report a significant relationship between parenting practices and moral development, behavioural regulation, and socio-emotional competence (Koren et al., 2021; Ramsden et al., 2024). In digital contexts, parental mediation particularly active guidance and co-use has been shown to enhance children's responsibility and ethical awareness (Crompton et al., 2023; Xie & Correia, 2023).

Digital literacy functions as both a mediator and a moderator in 67.9% of studies. This construct extends beyond technical skills to include critical thinking and digital ethics, showing

positive correlations with prosocial behaviour ($r = 0.32-0.61$). Qualitative findings further indicate that reflective engagement with digital content supports moral awareness (Ismail et al., 2023; Stracke et al., 2023).

Peer influence, examined in 54.7% of studies, operates as a moderating variable in 62.1% of cases. Positive peer environments contribute to empathy and responsible digital behaviour, whereas negative environments are associated with risk behaviours (Davis et al., 2024; Murray et al., 2024). In terms of context, 58.5% of studies were conducted in formal educational settings and 41.5% within family environments, underscoring the importance of integrating both domains (Trung et al., 2024; Sahoo et al., 2022). However, methodological limitations remain evident, particularly in measurement validity (35.8%) and sample bias (26.4%) (Burgard et al., 2025; Buntins et al., 2023). Overall, this synthesis demonstrates that children's character development in the digital era is shaped by a complex and dynamic interaction among adaptive parenting, digital literacy, and peer influence.

Table 1. Summary of Reviewed Studies

No	Author	Year	Methodology	Sample/Context	Key Findings
1	Murray et al.	2024	Mixed methods	Children in educational settings	Parenting and environment influence socio-emotional development
2	Flike & Aronowitz	2021	Mixed methods	Social context	Inclusive methodologies capture diverse evidence
3	Koren et al.	2021	Quantitative	Older population	Social support influences developmental outcomes
4	Ramsden et al.	2024	Mixed methods	Caregiver-child relationships	Attachment influences behavioural outcomes
5	Davis et al.	2024	Qualitative	Autism community	Social resilience shaped by community and peers
6	Ismail et al.	2023	Systematic review	Higher education	Digital literacy influences learning behaviour
7	Stracke et al.	2023	Systematic review	AI & education	Terminology variation affects research synthesis
8	Crompton et al.	2023	Review	Technology-enhanced learning	Digital environments shape behaviour
9	Xie & Correia	2023	Review	Online learning	Digital engagement affects development
10	Trung et al.	2024	Review	STEM education	Institutional context influences learning
11	Sahoo et al.	2022	Review	Industry & education	Structured analysis improves understanding
12	Burgard et al.	2025	Methodological	Educational reviews	Transparency issues identified
13	Buntins et al.	2023	Tertiary review	Educational technology	Replicability challenges identified
14	Page et al.	2021	PRISMA guideline	Methodology	Standardised reporting improves rigour

Theme 1 Adaptive Parenting as the Fundamental Ecology of Character Development

The findings indicate that adaptive parenting represents the most proximal factor in children's character development. Based on a synthesis of eight studies, parenting functions as a foundational system shaping value internalisation, behavioural regulation, social relationships, and responses to digital challenges. This influence remains consistent across developmental stages, from early childhood to adolescence.

Adaptive parenting is characterised by warmth, responsiveness, supervision, dialogical engagement, and proportional monitoring. Padilla-Walker et al. (2018) demonstrate that a combination of active, restrictive, and co-use monitoring is associated with reduced media use, lower levels of aggression and delinquency, and increased prosocial behaviour. This highlights that effective digital parenting must be relational rather than purely control-oriented.

Purnama et al. (2022) found that parenting and religiosity reduce behavioural problems through the mediation of digital literacy, indicating both direct and indirect effects of parenting. Sun et al. (2024) further confirm that authoritative parenting remains the most effective in reducing behavioural problems through mediating and moderating mechanisms, as it balances warmth, regulation, and autonomy.

Vasiou et al. (2023) show that supportive parenting enhances socio-emotional skills such as empathy and self-regulation. Prime et al. (2021) add that positive parenting interventions improve self-regulation and school readiness in early childhood, which form the basis of character development. In terms of values, Wijaya and Miyanto (2022) demonstrate that integrating parenting with religious education strengthens character formation. Mei-Ju et al. (2014) and Latipah et al. (2020) further emphasise that warm parent-child relationships are associated with stronger support for character education and reduced intolerance. Quantitatively, four of the eight studies focus on behavioural problems, three on socio-emotional development and self-regulation, and one explicitly on character formation. In terms of context, studies span early childhood, digital family environments, and adolescence, with a dominant focus on behavioural regulation and moral orientation. Conceptually, these findings reaffirm the family as the primary environment for character development, particularly in the digital era. Adaptive parenting shapes how children understand rules, interpret digital experiences, and develop moral capacities.

However, parenting does not operate in isolation. Its effects are strengthened when integrated with digital literacy, relational monitoring, and value-based education. Therefore, adaptive parenting should be understood as a relational system that forms the initial foundation of children's character development. These findings confirm that adaptive parenting is a key factor in addressing the research question concerning the relationship between parenting practices and children's character development in the digital era.

Table 1. Evidence Base for Theme 1: Adaptive Parenting as the Fundamental Ecology of Character Development

Reference	Parenting Dimension	Developmental Context	Character/Developmental Outcomes	Key Findings	Limitations
Padilla-Walker, Coyne, Kroff, & Memmott-Elison (2018)	Parental media monitoring style combining active, restrictive, and connective co-use	Adolescents in digitally mediated family environments	Lower media use; buffering effects on prosocial behaviour, aggression, and delinquency	Adaptive parenting is most effective when monitoring is combined with relational engagement rather than restriction alone	Focus on adolescents and maternal monitoring; longitudinal effects stronger concurrently than over time
Purnama, Wibowo, Narmaditya, Fitriyah, & Aziz (2022)	Parenting style and religiosity with digital literacy as mediator	Child behavioural development in digital exposure contexts	Reduced behavioural problems through improved digital literacy and supportive parenting	Parenting influences outcomes directly and indirectly via digital literacy	Emphasises behavioural problems rather than broader character dimensions

Reference	Parenting Dimension	Developmental Context	Character/Developmental Outcomes	Key Findings	Limitations
Sun, Li, Chen, Li, Zhao, Zhu, & Hu (2024)	Authoritative parenting as protective and regulatory style	Adolescent socio-behavioural development	Reduced behavioural problems via mediation and moderation processes	Authoritative parenting remains the dominant model due to balance of warmth, regulation, and autonomy	Focus on behavioural outcomes; limited explicit linkage to school-based character education
Vasiou, Kassis, Krasanaki, Aksoy, Favre, & Tantaros (2023)	Parenting styles across diverse family environments	Children's socio-emotional development	Stronger socio-emotional skills under supportive and balanced parenting	Parenting shapes emotional and relational conditions underpinning empathy, self-regulation, and prosocial behaviour	Focus on socio-emotional outcomes; character often inferred indirectly
Prime, Andrews, McTavish, Harris, Janus, Bennett, & Gonzalez (2021)	Positive parenting interventions	Early childhood and school readiness contexts	Improved academic readiness and self-regulation capacity	Positive parenting supports early developmental readiness and character capacities such as persistence and behavioural regulation	Based on scoping review; school readiness broader than character education
Wijaya & Miyanto (2022)	Parenting integrated with Islamic religious education	Generation Z character development in family-education interaction	Positive influence on character formation through value integration	Parenting is more effective when aligned with value- and morality-based education	Context-specific and culturally bounded, limiting generalisability
Mei-Ju, Chen-Hsin, & Pin-Chen (2014)	Parent-child relationship quality in character education processes	Preschool children in family interaction contexts	Improved parent-child relationships and support for character education	Character education is strengthened through warm, responsive, and integrated daily interactions	Strong focus on family relations; limited attention to digital pressures
Latipah, Kistoro, & Putranta (2020)	Positive parenting	Preschool children	Lower intolerance and stronger socio-moral orientation	Positive parenting fosters early moral dispositions by reducing exclusivist tendencies	Narrow outcome focus; limited integration with digital literacy
Padilla-Walker, Coyne, Kroff, & Memmott-Elison (2018)	Parental media monitoring style combining active, restrictive, and connective co-use	Adolescents in digitally mediated family environments	Lower media use; buffering effects on prosocial behaviour, aggression, and delinquency	Adaptive parenting is most effective when monitoring is combined with relational engagement rather than restriction alone	Focus on adolescents and maternal monitoring; longitudinal effects stronger concurrently than over time

The literature consistently positions parenting as the primary ecology of character development. Adaptive parenting characterised by warmth, responsiveness, and guidance forms the basis for value internalisation and behavioural regulation. Its role becomes increasingly critical in the digital era, as it shapes how children interpret media and respond to risks.

Furthermore, parenting functions as a relational system interconnected with digital literacy, value-based education, and family dynamics. Thus, parenting constitutes the core foundation, subsequently reinforced by factors such as digital literacy and peer influence within the broader framework of children's character development.

Theme 2: Digital Literacy as a Moral, Social, and Educational Competence

Findings indicate that digital literacy is no longer limited to technical skills; rather, it encompasses moral, social, interpretative, and educational dimensions. Based on a synthesis of eight studies, digital literacy functions as the capacity to evaluate information, understand risks, manage communication, and participate responsibly in digital spaces. In the context of character development, digital literacy becomes a vehicle for fostering ethical judgement, self-regulation, empathy, and social responsibility.

The meaning of digital literacy expands when linked to character education. Herdiansyah et al. (2023) show that public digital literacy includes technological understanding, awareness of negative content, and ethical dimensions. This underscores that digital societies require reflective capabilities to distinguish constructive from deviant uses of technology. Within the family context, Purnama et al. (2022) demonstrate that digital literacy operates as a mediating mechanism between parenting, religious values, and children's behaviour, contributing to a reduction in behavioural problems.

In the media domain, De Jans et al. (2019) emphasise the importance of advertising literacy in enabling children to critically understand persuasive content and avoid manipulation. Padilla-Walker et al. (2018) show that digital literacy develops through media monitoring, active mediation, and connective co-use, which are associated with lower media use and reduced aggression and delinquency. Together, these studies confirm that digital literacy includes moral capacities to evaluate and respond to digital content.

In formal education, Suryana et al. (2024) report that the use of e-modules improves the effectiveness of early childhood learning, while Kistoro et al. (2024) argue that technology integration can strengthen character education when grounded in cultural values. At the teacher level, Yusri et al. (2024) highlight the importance of pedagogical communication competence, whereas Kim et al. (2025) extend the concept towards civic discussion literacy, encompassing empathy, collective participation, and civic awareness.

Quantitatively, four studies position digital literacy as an ethical and critical competence (Herdiansyah et al., 2023; De Jans et al., 2019; Padilla-Walker et al., 2018; Kim et al., 2025), two link it to reductions in behavioural problems (Purnama et al., 2022; Padilla-Walker et al., 2018), and two emphasise pedagogical design (Suryana et al., 2024; Kistoro et al., 2024), while one highlights teacher communication competence (Yusri et al., 2024). Digital literacy involves multiple actors children, parents, teachers, and communities indicating its nature as a collective competence.

Conceptually, digital literacy is multidimensional and contributes to character formation by strengthening critical thinking, ethical communication, self-regulation, and responsible participation. However, its effectiveness depends on social support, including the role of families as mediators, teachers as facilitators, and schools as providers of learning design.

Thus, digital literacy is a relational, pedagogical, and contextual process. Overall, it functions as a moral, social, and educational competence that transforms how individuals develop as ethical agents in the digital age.

Table 2. Evidence Base for Theme 2: Digital Literacy as a Moral, Social, and Educational Competence

Refs.	Digital Literacy Focus	Actor Involved	Educational / Social Setting	Character-Related Outcome	Implication
Herdiansyah, Soedrajad, Hawa, & Dyah Ayu Arintyas (2023)	Public digital literacy regarding technology use, negative content, and ethical awareness	General community members, including digitally connected citizens	Social and religious digital environment in Bali, Indonesia	Greater awareness of misuse of technology and the need for responsible digital conduct	Digital literacy should be framed not only as technical competence but also as ethical discernment relevant to moral

					and social behaviour
Purnama, Wibowo, Narmaditya, Fitriyah, & Aziz (2022)	Digital literacy as a mediating mechanism between parenting style, religious belief, and child behaviour	Children and parents	Family-based child development in digital contexts	Reduced child behavioural problems through improved digital literacy	Digital literacy functions as a developmental bridge linking family values and children's behavioural outcomes
De Jans, Van de Sompel, Hudders, & Cauberghe (2019)	Advertising literacy and children's understanding of persuasive digital media	Young children as media users	Media-rich consumer and digital advertising environment	Stronger critical processing of persuasive content; potential protection against manipulation and materialistic influence	Digital literacy includes critical interpretation of commercial content, which is relevant for children's value formation and judgement
Padilla-Walker, Coyne, Kroff, & Memmott-Elison (2018)	Media-related literacy shaped through parental monitoring, active mediation, and connective co-use	Adolescents and mothers	Family digital media setting	Lower media use and buffering against aggression, delinquency, and reduced prosocial behaviour	Digital literacy development is strengthened when it is embedded in relational parenting and not treated as an individual skill alone
Suryana, Lina, & Sari (2024)	Technology-supported learning resources through e-modules for early childhood learning	Teachers, young children, and educational supervisors	Kindergarten / early childhood education	More effective and practical digital learning support that can scaffold structured learning and developmental engagement	Digital literacy in early childhood education should include guided, age-appropriate digital learning design rather than unstructured exposure
Kistoro, Benny, Warnis, Ulfah, & Zuhrah (2024)	Technology integration and innovation in character learning	Teachers and school-based character education stakeholders	Elementary and school character-learning settings in Indonesia	Strengthened character learning through culturally grounded and innovative educational strategies	Digital literacy should support, not replace, value-based pedagogies and can be integrated with local-cultural forms of character education
Yusri, Mantasiah, & Anwar (2024)	Pedagogical communication competence and digitally relevant teacher soft skills	Primary school teachers	Primary education learning process	Improved awareness of how communication affects learning quality, student motivation, and classroom climate	Digital literacy in education must include communicative and ethical teacher competence, not only operational technology skills
Kim, Sheng, Cha, Lin, & Glassman (2025)	Civic discussion literacy involving agency, empathy, and collective engagement in volatile informational environments	Elementary school teachers and students	Elementary classrooms in politically volatile times	Strengthened civic purpose, empathy, and self-transcendent motivation	Digital-age literacy should encompass civic reasoning, empathic dialogue, and responsible participation, all of which are relevant to character development
Refs.	Digital Literacy Focus	Actor Involved	Educational / Social Setting	Character-Related Outcome	Implication

Herdiansyah, Soedrajad, Hawa, & Dyah Ayu Arintyas (2023)	Public digital literacy regarding technology use, negative content, and ethical awareness	General community members, including digitally connected citizens	Social and religious digital environment in Bali, Indonesia	Greater awareness of misuse of technology and the need for responsible digital conduct	Digital literacy should be framed not only as technical competence but also as ethical discernment relevant to moral and social behaviour
Purnama, Wibowo, Narmaditya, Fitriyah, & Aziz (2022)	Digital literacy as a mediating mechanism between parenting style, religious belief, and child behaviour	Children and parents	Family-based child development in digital contexts	Reduced child behavioural problems through improved digital literacy	Digital literacy functions as a developmental bridge linking family values and children's behavioural outcomes

The literature confirms that digital literacy extends beyond technical skills to include moral and social dimensions. It contributes to character formation through critical thinking, ethical awareness, empathy, and responsible participation.

The effectiveness of digital literacy is further strengthened when supported by the social environment, particularly the roles of families, teachers, and educational institutions. Therefore, digital literacy constitutes a collaborative and contextual process in supporting character development in the digital age.

Theme 3: Peer Influence as a Moderating Social Force in the Digital Era

Findings in this theme indicate that peer influence should not be understood merely as overt social pressure, but as a broader social force operating through everyday interactions, classroom participation, media use, norm formation, and shared digital environments. Based on a synthesis of 7 studies in Table 3, peer influence can strengthen, weaken, or redirect the effects of parenting and digital literacy on children's character development. Accordingly, children's development is shaped not only by vertical relationships with parents and teachers, but also by horizontal relationships with peers across both physical and digital spaces.

Padilla-Walker et al. (2018) demonstrate that adolescents' media behaviours cannot be separated from peer-shaped social media environments. Although peer influence is not measured as an independent variable, socially reinforced media exposure appears to normalise certain behaviours. At the same time, parental media monitoring buffers associations with aggression, delinquency, and reduced prosocial behaviour, underscoring that parenting operates within a broader social ecology.

Kim et al. (2025) provide more explicit evidence by showing that collaborative peer discussion, a sense of togetherness, and classroom social participation foster civic goals, empathy, and self-transcendent motivation. These findings suggest that peer influence is not inherently negative; within structured environments, peer interaction can enhance positive character outcomes.

In digital media contexts, De Jans et al. (2019) show that social influence and social comparison shape how children process persuasive content. Children interpret media not only individually, but also through group-oriented consumption patterns and expectations. Kistoro et al. (2024) demonstrate that culturally participatory character learning supports value internalisation through peer interaction, while Suryana et al. (2024) show that digital learning environments can create collaborative conditions that extend social modelling. Herdiansyah et al. (2023) add that social norms circulate in digital spaces through shared discourse and repeated interaction, and Yusri et al. (2024)

emphasise that teacher communication establishes relational climates influencing how children interact with one another.

Quantitatively, of the 7 studies, at least 3 studies explicitly highlight peer influence through collective discussion, social comparison, or norm reinforcement (Kim et al., 2025; De Jans et al., 2019; Herdiansyah et al., 2023). 2 studies show that such influence operates through socially mediated media environments and digital behaviours (Padilla-Walker et al., 2018; De Jans et al., 2019). Additionally, 3 studies indicate that peer influence develops through classroom environments and collective learning (Kim et al., 2025; Kistoro et al., 2024; Yusri et al., 2024), while 1 study highlights the role of digital learning environments in expanding peer-based social modelling (Suryana et al., 2024).

Conceptually, this synthesis establishes peer influence as a social moderator determining whether the value foundations provided by parenting and the interpretive capacities derived from digital literacy are reinforced or weakened in everyday practice. However, peer influence rarely operates independently. Across nearly all studies, it interacts with parenting, digital literacy, teaching practices, and school culture. In supportive environments, it strengthens empathy, participation, and prosocial orientation; conversely, in poorly structured contexts, it may amplify aggression, unhealthy conformity, or acceptance of problematic digital norms.

Thus, peer influence constitutes a moderating social force shaping the relationship between parenting, digital literacy, and children's character development in the digital era. Its role is evident in fostering empathy, civic orientation, and prosocial behaviour, as well as in normalising aggression, delinquency, and maladaptive conformity. Accordingly, this theme highlights the need for deliberate management of peer culture within educational settings.

Table 3. Evidence Base for Theme 3: Peer Influence as a Moderating Social Force in the Digital Era

Refs.	Type of Peer Influence	Moderating / Social Mechanism	Interaction with Parenting / Digital Literacy	Character or Behavioural Outcome	Critical Note
Padilla-Walker, Coyne, Kroff, & Memmott-Elison (2018)	Peer-shaped media environment and socially reinforced media use among adolescents	Peer-related exposure amplifies or normalises media behaviours that parents attempt to regulate	Parental media monitoring buffered links between aggressive media use and outcomes, showing that parenting works within a wider peer-mediated media ecology	Differences in prosocial behaviour, aggression, and delinquency	Peer influence is not measured as a standalone variable, but the study strongly implies that adolescent media behaviour is socially conditioned and that parenting must operate against broader social pressures
Kim, Sheng, Cha, Lin, & Glassman (2025)	Collaborative peer discussion, Wellness, and classroom social participation	Peer interaction shapes civic intention, empathy, and self-transcendent motivation through collective dialogue	Teacher-guided discussion and digital-age civic literacy create conditions in which peer exchange becomes developmental rather than disruptive	Stronger civic purpose, empathy, and participatory orientation	The study centres classroom civic purpose rather than parenting, but it is highly relevant for understanding how peer environments can strengthen character-related outcomes
De Jans, Van de Sompel, Hudders, & Cauberghe (2019)	Social influence in children's media and advertising environments	Peer-oriented consumption and social comparison influence how children process persuasive content	Advertising literacy and parental mediation become important because peer-oriented media environments intensify children's	Attitudes, preferences, consumer judgement, and value-related responses	This is a review article rather than a single empirical study, but it is useful for showing that peer influence is a neglected yet important dimension in children's digitally

			susceptibility to external influence		saturated environments
Kistoro, Benny, Warnis, Ulfah, & Zuhrah (2024)	Group-based character learning through shared cultural participation	Collective participation in traditional songs supports internalisation of values through shared classroom culture	Teacher strategy mediates how peer participation becomes a support for character learning rather than mere performance	Reinforcement of character values, cultural identity, and classroom engagement	Peer influence is indirect in this study, yet the social and participatory nature of character learning suggests that classmates function as an important reinforcing environment
Suryana, Lina, & Sari (2024)	Social learning potential in digitally supported thematic learning	Digital modules can structure collaborative or parallel learning experiences that shape children's engagement and participation	The effectiveness of digital learning resources depends partly on how adults organise children's interaction with content and with one another	Improved learning engagement and structured developmental participation	Peer influence is not directly measured, but the study is relevant because digital learning environments often create shared learning conditions that can amplify social modelling
Herdiansyah, Soedrajad, Hawa, & Dyah Ayu Arintyas (2023)	Socially circulating digital norms and community-level influence	Online environments normalise attitudes and behaviours through repeated exposure to collective discourse and networked interaction	Digital literacy becomes necessary because individuals interpret technology through socially shared norms, including harmful or misleading content	Ethical awareness, discernment, and responsible conduct in digital settings	The article is not child-specific, but it is analytically useful for demonstrating that digital behaviour is socially conditioned and not merely an individual competence issue
Yusri, Mantasiah, & Anwar (2024)	Classroom relational climate and interpersonal influence	Teacher language contributes to a social norm environment in which children learn acceptable ways of interacting with others	School communication culture may interact with peer norms in shaping classroom behaviour and student responses	Classroom climate, motivation, and socially appropriate conduct	Peer influence is not directly tested, but the study helps explain how behavioural norms are co-constructed in classrooms where teacher and peer interaction intertwine
Refs.	Type of Peer Influence	Moderating / Social Mechanism	Interaction with Parenting / Digital Literacy	Character or Behavioural Outcome	Critical Note
Padilla-Walker, Coyne, Kroff, & Memmott-Elison (2018)	Peer-shaped media environment and socially reinforced media use among adolescents	Peer-related exposure amplifies or normalises media behaviours that parents attempt to regulate	Parental media monitoring buffered links between aggressive media use and outcomes, showing that parenting works within a wider peer-mediated media ecology	Differences in prosocial behaviour, aggression, and delinquency	Peer influence is not measured as a standalone variable, but the study strongly implies that adolescent media behaviour is socially conditioned and that parenting must operate against broader social pressures
Kim, Sheng, Cha, Lin, & Glassman (2025)	Collaborative peer discussion, Wellness, and classroom social participation	Peer interaction shapes civic intention, empathy, and self-transcendent motivation through collective dialogue	Teacher-guided discussion and digital-age civic literacy create conditions in which peer exchange becomes developmental rather than disruptive	Stronger civic purpose, empathy, and participatory orientation	The study centres classroom civic purpose rather than parenting, but it is highly relevant for understanding how peer environments can strengthen character-related outcomes

Table 3 indicates that peer influence is best understood as a distributed social force operating through classroom participation, shared media environments, collaborative dialogue, social comparison, and the circulation of norms. In the digital era, this influence often functions indirectly by shaping what is perceived as normal, desirable, and worthy of imitation.

Moreover, peer influence rarely operates independently of adult structures. Parenting, teacher guidance, classroom design, and digital literacy shape whether peer interaction becomes a protective factor or a source of risk. Within the overall SLR framework, this theme confirms that character development in the digital era emerges from a relational ecology in which peer influence moderates the effects of parenting and digital literacy. From an educational management perspective, peer culture must therefore be actively managed rather than assumed to develop organically.

Proposed Conceptual Framework

The conceptual synthesis and empirical findings indicate that children's character development in the digital era cannot be explained by a single variable. Rather, it emerges from the interaction between parenting, digital literacy, and peer influence within a managed educational ecology. Accordingly, the proposed conceptual framework positions these three components within an integrated system guided by educational management.

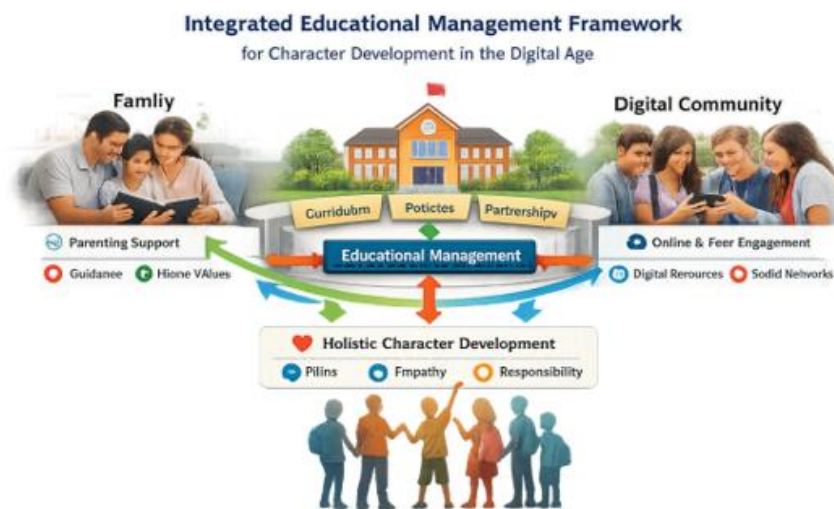


Figure 2. Conceptual Framework

Figure 2 Conceptual Framework of Children's Character Development in the Digital Era is placed after this paragraph to visualise the relationships among the key variables. Visually, the figure presents three interconnected domains: the family (family), the school as the centre of educational management, and the digital/peer community (digital community). These domains are integrated through curriculum, policies, and partnerships (curriculum, policies, partnership). Within the family domain, parenting is represented through parenting support, guidance, and the internalisation of home values (parenting support, guidance, home values). Meanwhile, the digital and peer domain is represented through online engagement, digital resources, and social networks. All relationships are directed by educational management as the coordinating centre, leading to holistic character development, particularly empathy, responsibility, and prosocial behaviour. Thus, the figure represents not a linear relationship but a coordinated and reciprocal system across domains.

First, adaptive parenting functions as a fundamental determinant of children's character formation. Previous findings indicate that warm, responsive parenting, combined with proportional supervision and reflective dialogue, contributes to self-regulation, empathy, and prosocial behaviour. In the digital context, parenting is not only protective but also interpretative, as it supports children in understanding, evaluating, and navigating complex digital environments.

Second, digital literacy is conceptualised as a cognitive, ethical, and social competence that enables family values to be enacted in digital life. It extends beyond technical-operational skills to include critical evaluation, ethical awareness, and responsible participation. In this sense, digital literacy serves as a mediating mechanism linking value systems to behavioural practices.

Third, peer influence is conceptualised as a moderating variable that shapes the direction and strength of the relationship between parenting, digital literacy, and character outcomes. Interaction with peers can reinforce positive values such as empathy and social participation, but it may also normalise negative behaviours through social pressure, social comparison, and the reproduction of norms in digital environments.

The outcome of these interactions is children's character development, encompassing moral, social, and behavioural dimensions such as empathy, responsibility, discipline, tolerance, and prosocial orientation. This framework highlights that character is a dynamic construct formed through the interaction and negotiation between family values, individual capacities, and surrounding social dynamics.

All these processes operate within the framework of educational management, which is positioned as the central coordinating system in Image 2. Educational management functions not merely as a context but as a guiding mechanism that connects family and digital communities through strategic instruments such as curriculum, policies, and partnerships. The directional arrows in the figure represent bidirectional interactions between the education system and both family and digital-social environments. In this context, parental involvement, teacher professional competence, a supportive school culture, and digital regulation are key determinants of system coherence and effectiveness.

Therefore, this conceptual framework emphasises that children's character development in the digital era represents a manifestation of a managed developmental ecology, in which parenting provides the normative foundation, digital literacy provides cognitive-interpretative capacity, peer influence moderates behavioural enactment, and educational management ensures integration and coherence across components within a sustainable system.

Discussion

The findings of this review show that children's character development in the digital era is shaped through interaction among parenting, digital literacy, and peer influence rather than through a single educational factor (Banić & Orehovački, 2024). Children's moral and social behaviour increasingly develops within interconnected environments involving families, schools, peer groups, and digital communities (Hoang et al., 2024). This condition indicates that character formation should be understood as a dynamic process influenced by both direct social interaction and digital experiences.

The review confirms that adaptive parenting remains the primary foundation of children's character development (Chodura et al., 2021). Parenting characterised by warmth, supervision, communication, and guidance contributes positively to empathy, self-regulation, discipline, and prosocial behaviour (Yavuz et al., 2022). In digital contexts, parenting also functions as a form of mediation that helps children interpret online experiences and respond responsibly to digital environments. These findings suggest that parenting in the digital era involves not only behavioural control but also continuous guidance in navigating social and technological challenges (Banić & Orehovački, 2024).

The findings further indicate that digital literacy plays an important role in supporting children's moral and behavioural development (Karnita et al., 2025). Digital literacy extends beyond technical skills because it includes ethical awareness, critical thinking, responsible communication, and the ability to evaluate digital information. Children with stronger digital literacy tend to

demonstrate more responsible behaviour and greater awareness of online risks (Tomczyk & Potyra, 2021). In this study, digital literacy functions as a mediating competence that connects values learned from families and schools with behavioural practices in digital environments.

Peer influence also emerged as an important factor shaping children's behaviour (Laursen & Veenstra, 2021). Interaction with peers contributes to the formation of behavioural norms, communication patterns, and social expectations in both physical and digital settings. Positive peer environments may strengthen empathy and cooperation, whereas negative peer interaction may encourage risky behaviour and unhealthy digital habits. Therefore, peer influence operates as a moderating social force that may either reinforce or weaken values developed through parenting and education.

Implications

The results of this review emphasise that character education in the digital era requires cooperation among families, schools, and social environments. Schools are encouraged to incorporate digital literacy into character learning by focusing not only on technology use but also on ethical behaviour, critical awareness, and responsible communication. Parents likewise need to provide balanced supervision and guidance so children are able to respond wisely to digital experiences and peer interaction. In addition, schools should create supportive social environments that encourage empathy, collaboration, and positive behaviour among students. From an educational management perspective, stronger coordination between home and school environments is essential to support consistent value formation in children.

Limitations

Several limitations should be considered in interpreting the findings of this review. The study focused only on articles indexed in the Scopus database, which means that relevant studies from other databases or regional publications may not have been included. In addition, the reviewed studies came from different educational, cultural, and methodological backgrounds, resulting in variations in how parenting, digital literacy, and peer influence were discussed and analysed. Most of the selected studies also concentrated on specific contexts, limiting the broader applicability of the findings across different settings. Furthermore, this review used thematic interpretation rather than quantitative meta-analysis, so the discussion mainly reflects conceptual synthesis rather than statistical comparison.

Suggestions

Future studies are recommended to examine children's character development using more comprehensive and long-term research designs. Research involving different cultural and educational contexts may help provide deeper understanding of how parenting, digital literacy, and peer interaction influence children's behaviour in digital societies. Further studies may also combine qualitative and quantitative approaches to capture both behavioural patterns and social experiences more effectively. For educational practice, schools are encouraged to strengthen partnerships with parents and develop learning programmes that integrate character education, digital ethics, and social-emotional development into everyday classroom activities.

CONCLUSION

This review concludes that children's character development in the digital era is shaped through the interaction between parenting, digital literacy, and peer influence within interconnected educational and social environments. Adaptive parenting remains the primary foundation for value formation through guidance, supervision, and emotional support, while digital literacy supports children in interpreting information critically and behaving responsibly in digital spaces. At the same time, peer interaction may strengthen or weaken behavioural development depending on the values

circulating within social and digital communities. The findings also indicate that character education can no longer rely solely on classroom instruction because children's moral and social development is influenced by continuous interaction across families, schools, peer groups, and online environments. From an educational management perspective, stronger coordination among these environments is necessary to support consistent value formation and responsible behaviour in children. Overall, this study highlights the importance of developing character education through an integrated and adaptive approach that responds to the challenges of contemporary digital society.

AUTHOR CONTRIBUTIONS STATEMENT

Deny Haryadi contributed to the conceptualisation of the study, literature search, data collection, data analysis, interpretation of findings, and manuscript drafting. Wahyu Widada contributed to the research design, methodological supervision, theoretical review, and critical revision of the manuscript. Nurul Astuti Yensy contributed to data validation, interpretation of results, language refinement, and final manuscript review. All authors read and approved the final version of the manuscript before submission.

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