Policy Research Journal
ISSN (E): 3006-7030 ISSN (P) : 3006-7022 Volume 4, Issue 3, 2026

# GROWING UP WITH AI: PSYCHOSOCIAL CHALLENGES OF ELEMENTARY SCHOOL CHILDREN

**Quratulain Rafiq[1], Umaima Mehmood[2], Sabah Surani[*3]**

[1]*B.Ed. (Hons) Student, Ziauddin University, College of Education*
[2]*B.Ed. (Hons) Student, Ziauddin University, College of Education*
[*3]*Lecturer, Ziauddin University, College of Education*

[1]quratul.27075@zu.edu.pk, [2]umaima.27076@zu.edu.pk, [*3]mailto:sabahsurani@gmail.com

DOI: http://doi.org/10.5281/zenodo.21789934

**Keywords**
*artificial intelligence, elementary students, school counselling, social-emotional learning, digital wellbeing, child mental health, AI anxiety, moral development.*

**Article History**
*Received: 13 January 2026*
*Accepted: 26 February 2026*
*Published: 12 March 2026*

**Copyright** @Author
**Corresponding Author: ***
**Sabah Surani**

**Abstract**
*The rise of artificial intelligence (AI) in the educational and home contexts has given way to a new psychological territory for young children aged between five and twelve years. As the use of AI technology becomes increasingly normalized in the lives of young children, issues such as AI-induced anxiety, social-emotional problems, lack of self-efficacy, ethical dilemma, dependence on screen time, and unequal access to AI literacy have emerged .The present literature review combines research from areas like developmental psychology, school counseling theories, educational technology, child psychiatry, media studies, and ethics to develop an understanding of the developing landscape of counseling in light of the new technologies being used in elementary education. Six themes have been discussed including the extent of the use of AI technologies by elementary students, issues related to AI induced anxiety and existential worries, impact on social and emotional development, issues related to self-efficacy and identity formation, ethical confusion and moral development in AI-based environment, and lastly the topic of equity and access and digital divide.The literature converges on the conclusion that AI is reshaping the developmental landscape of elementary childhood in ways the counselling profession has not yet adequately recognized or addressed.*

## INTRODUCTION

### BACKGROUND OF THE STUDY:

This new century has been marked by an age of immense technology change, and AI lies at its core. From the realms of science fiction and research labs to our everyday lives and experiences, we now use artificial intelligence through search engines, social media, healthcare and finance, and even in our homes and schools where children grow. This generation of children aged five to twelve are living amidst the age of immense technology change; this is not something that is happening around them, but an age of change they live in.

The global EdTech market, worth more than $340 billion in 2023, is dominated by AI applications (HolonIQ, 2023). Educational platforms like Khan Academy, Duolingo, IXL Learning, and DreamBox apply machine learning algorithms to tailor learning experiences, identify learning deficiencies, and adapt instructional materials. Many elementary schools around the world, in countries such as Pakistan, India, the UK, the US, and Canada, have incorporated AI-enabled learning technologies into regular classroom activities; these developments have been further accelerated due to the impact of the coronavirus pandemic on the acceptance of remote, technology-enabled education (UNESCO, 2023).

The emergence of large language models in late 2022, led by the ChatGPT model released in November 2022, represents a turning point in the popular adoption of AI technologies. By March 2023, millions of school-age children worldwide were accessing ChatGPT to complete their homework assignments, write fictional stories, and engage in general research (CommonSense Media, 2023). The exposure of an entire generation of children to conversational AI – AI capable of mimicking human-like interactions, emotions, and cognition – presents an entirely novel experience compared to previous generations of technology users, and one that has yet to be addressed in school counselling literature.

For instance, in Pakistan, where this study will be conducted, the introduction of the AI system in schools has been made possible due to the initiative taken by the Pakistani government under their Digital Pakistan scheme and national educational technology policy. The use of AI-enabled classes, modern learning apps, and digital extra-curricular programs has seen tremendous growth in cities such as Karachi, Lahore, and Islamabad. Yet, Pakistan's school-based counseling system is underdeveloped, with many elementary schools having no trained counselors at all and others having counselors who are inadequately prepared to deal with children's psychological issues related to technology.

The collision of this rapid adoption of AI technology and underdeveloped counseling system represents the main problem addressed by this paper.

## STATEMENT OF THE PROBLEM

Though there is increasing incorporation of AI technology into the elementary school classroom and into the personal lives of kids, the psychological ramifications of such incorporation have not yet been well-researched or taken into account by school counseling professionals. Most established school counseling theories, approaches, and trainings did not anticipate the emergence of the AI paradigm, and do not incorporate any strategies for handling the new psychological challenges presented by such an environment to the child between the ages of 5-12 years old.

In fact, school counselors have identified the need for specific training in addressing such concerns, and the growing body of anecdotal and research literature reveals the appearance of new clusters of problems among kids: worries about AI and automation, bewilderment in regard to the nature of AI relationships, decreased confidence in light of AI competence, difficulty with regulation in non-AI settings, and confusion about ethics in regards to using AI in their studies.

On the other hand, the equity issues associated with exposure to AI indicate that while some students from different backgrounds will have a rich, structured and critical relationship with the technology, others will have an unmediated and unguided exposure to AI which can be dangerous, and finally, some students will have no exposure at all, thus creating their own disadvantage.

The issue is not merely that AI impacts on children's wellbeing, but that counsellors are ill-equipped to address the matter due to the lack of adequate theory and practice to do so.

## RESEARCH OBJECTIVE

Specific research aims of this paper include:

Categorizing the emerging counselling requirements pertaining to elementary students' experiences with artificial intelligence as observed in the context of school counselling.

Evaluating the readiness of elementary school counselors in addressing psychological and developmental challenges associated with children's interactions with AI.

Investigating the impact of AI experience on selected socio-emotional and behavioral outcomes in elementary students.

Generating evidence-based suggestions on how the practice of school counseling should evolve in view of the emerging needs of AI-era elementary students.

## RESEARCH QUESTION

The research questions that will guide this research include the following:

1. What are the characteristics and prevalence of AI-counseling requirements among elementary students (aged between five and twelve years old) in selected schools?

2. How prepared do elementary school counselors feel about addressing AI-related psychosocial issues among children at this age?
3. What are the particular social, emotional, and identity-based difficulties that AI introduces for elementary students, according to the views of counselors, teachers, and parents?
4. What counseling strategies and organizational requirements have been suggested by school counselors to meet these new counseling requirements in the AI age?

## JUSTIFICATION OF THE STUDY

There are various reasons why this study is justifiable. From the scientific perspective, it fills an existing empirical gap in terms of understanding the effects of AI integration on the psychosocial wellbeing of children. Although there is sufficient scientific evidence related to the use of social media by teens, not enough empirical studies exist on this issue regarding younger pupils. As a result, this investigation would provide an original set of context-based findings on this topic area.

From the practical viewpoint, this research will provide useful recommendations for school counselors, school administrators, teachers and developers of educational programs who are interested in providing additional guidance on using AI technology by elementary school students. At the political level, this study will help to formulate new standards of counseling practice and training for counselors in Pakistan and similar developing countries.

In terms of ethical justifications, this study is motivated by the need to preserve the physical and mental health of children. Being the most vulnerable group, they are particularly prone to being affected negatively by the psychological impact of AI.

## SCOPE OF THE STUDY

The scope of the current research is limited to elementary pupils in Classes 1 to 6 (approximately ages 5–12) at some selected private and public institutions in Karachi, Pakistan. Perspectives will be sought from the school counselors, classroom teachers, administrators, and the parents. This research study considers the counselling needs related to the application of AI in five key domains: anxiety and mental well-being, social and emotional development, self and self-efficacy, ethics, and screen time and behavioral management. The scope of this research does not cover secondary or post-secondary pupils, nor academic achievement.

## DELIMITATION OF THE STUDY

The current research is limited to schools located in the metropolis of Karachi and lacks any claims of geographical generalization throughout Pakistan. This research is limited to the information provided by counsellors and observations provided by parents and teachers instead of conducting psychological analysis of children owing to ethical concerns regarding such types of research. This research also deals with AI applications that are used for education and home-related purposes, and thus, clinical applications of AI are not considered within this context.

## SIGNIFICANCE OF THE STUDY

However, the significance of this study is in relation to the role it plays in spurring change that has been overdue in the domain of school counseling practice, education, and policy. With regards to the field of counseling, it provides the first look at the need for counseling in matters pertaining to AI within the framework of primary education in Pakistan. For education systems, it points out the psychosocial impact of AI usage that has been overlooked thus far. To parents, it confirms and labels the worries they might be feeling, but are unable to express, regarding their kids' AI experiences. And finally, for children – the unheard stakeholders in this revolution of technology – it calls for the need to consider them as developing individuals in need of assistance to navigate through the complexities of AI.

### Definition of Key Concepts

Artificial Intelligence (AI): In the context of this research, artificial intelligence involves computer systems built for performing tasks requiring human intelligence such as learning, reasoning, solving problems, natural language processing, and perception. Artificial intelligence includes machine learning, speech

recognition software, recommender systems, and generative AI technologies.

Elementary Students: School-age children attending Classes 1-6, aged between 5 to 12 years old, in formal educational institutions.

School Counselling: A specialized profession offered by professional counsellors in schools targeting the educational, personal-social, and vocational aspects of students' lives. The present research will emphasize personal-social and psychological facets of school counselling.

Social and Emotional Learning (SEL): is the process through which children learn and use the competencies required for managing emotions, self-awareness, self-management ,developing relationships, and making effective decisions (CASEL, 2020).

AI-Related Anxiety: A syndrome involving feelings of anxiety, fear, and confusion linked to the use and experience of, as well as knowledge of, artificial intelligence technologies.

Digital Well-being: A condition of well-being in the context of digital technology usage, in which an individual engages with their digital environments in an intentional and well-informed manner.

Counselling Preparedness: The extent to which school counselors feel prepared to recognize and address students' counseling requirements within a particular field.

## REVIEW OF LITERATURE

One of the most important yet understudied fields in education and psychology today relates to the interplay between artificial intelligence and the development of children. With artificial intelligence technologies becoming increasingly prevalent in children's lives due to technologies like adaptive learning software, chatbots, recommendation engines, and generative AI applications, the developmental milieu of elementary-aged learners is transformed radically. While the field is nascent, drawing from diverse areas including developmental psychology, school counseling, educational technology, child psychiatry, media studies, and ethics, among others, the scope of the scholarship has increased significantly in recent years.

In summary, this literature review highlights literature related to the growing counseling challenges that have arisen for elementary students (aged 5-12) due to the AI age. The review is organized based on six broad themes: (1) the extent and form of exposure to AI technology by children aged 5-12; (2) fears and existential concerns caused by AI; (3) the impact of AI integration on social and emotional development; (4) the implications of AI technology on identity development and self-efficacy; (5) issues of ethics and moral development in the age of AI; and (6) equity and access challenges caused by the digital divide.

### The Scope and Nature of AI Exposure among Elementary Students

Before exploring the counseling implications of artificial intelligence among young children, it is crucial to examine the extent of their exposure to artificial intelligence technology. The facts in this regard are convincing. As per the American Psychological Association (2023), children ranging from eight to twelve years old are now spending around four to six hours each day on screens. The time spent in front of the screen is largely due to algorithms. Common Sense Media (2023) pointed out that most of the school-age children from the West had interacted with generative artificial intelligence within one year of its release to the public via ChatGPT.

AI's infiltration into the education sector has been well-documented by Holmes et al. (2022), who state that adaptive learning software powered by machine learning capabilities that personalize lessons based on individual student progress, mastery, and difficulty is currently an integral part of many North American, European, and South and Southeast Asian primary school classrooms. Software providers such as Khan Academy, IXL, DreamBox, and Duolingo for Schools utilize AI technology for providing personalized learning services and have been recommended by education authorities in several countries.

In addition to education, Rideout and Robb (2020) demonstrate how AI influences the way children engage in entertainment activities using AI-powered curation systems on video-sharing sites such as YouTube Kids and Netflix, how it controls social spaces for peer interaction via AI-driven messaging applications, and how it is gradually making its presence felt even in

children's emotional space via companion applications designed with AI. As per Livingstone and Blum-Ross (2023), children's AI experience is also unevenly distributed across economic and sociocultural lines, depending on parents' level of digital literacy and resources available in schools.

This is what the existing literature proves together: that AI technology is not something marginal or additional to current elementary education: it is a major environment impacting children's psychological, social, emotional, and moral development. As Selwyn (2022) notes, the deployment of AI-based technologies in educational institutions has been characterized by uncritical excitement on the part of schools, concerned more about the efficiency of pedagogy rather than the psychosocial wellbeing of students. it should be admitted that there is a specific issue related to the present scientific literature that needs closer consideration – this is the issue of the influence of AI on children and counseling at school.

**AI-Related Anxiety and Existential Concerns in Elementary Students**

One more frequently appearing topic discussed by researchers today is so-called "AI anxiety" or anxiety regarding artificial intelligence technology usage and understanding. Unlike technophobia implying avoidance of a particular technology, AI anxiety appears together with the necessity to interact with a certain technology. It can include both practical concerns about AI writing their essays or replacing them in their jobs as teachers and philosophical questions about feelings AI could have or unique features of a human.

This concept of developmental theory offers an essential background against which the significance of fears related to artificial intelligence can be explained in relation to the elementary school years.

In Piaget's (1952) and his theory of cognitive developmentalism, during this period of children's growth, they progress through the preoperational and concrete operational periods, both of which involve the development of differentiation processes by the children regarding their ability to distinguish between animate and inanimate objects, purposeful and mechanistic actions, and social versus nonsocial objects. However, artificial intelligence directly confronts cognitive constructs, considering that these machines demonstrate social awareness, emotional intelligence, and intentionality. According to Turkle (2015), one of the most cited authors regarding children's relationships with robots and artificial intelligence companions, she elaborates on the children's propensity for attributing consciousness and humanity to these inventions, leading to what she refers to as "second self" problems.

According to Child Mind Institute (2023), when a sample of children aged 8 to 11 was polled, more than one-third of the sample reported spontaneously fearing that AI might "take over" or make humans obsolete, which is a type of diffuse existential fear that is becoming increasingly prevalent among children today. The issue of fear regarding automation, unemployment, and redundancy, according to Gasser and Palfrey (2022), once an adult preoccupation with the economy, is beginning to find its way into children's minds through parent-child discourse and other means of media and discussion about AI in the school curriculum.

Notably, however, according to the literature review, anxiety regarding AI does not only occur amongst those children who have high exposure to the topic through their everyday life. For instance, according to Murray & Olchanovsky (2022), even children who had low exposure showed worries about AI, mostly because of the portrayal of it as evil or superhumanly intelligent in different movies. This knowledge is especially important for school counselors, since they need to be prepared to deal with AI-related concerns regardless of the level of their exposure to it. It is stated in the literature that being informed about AI through proper education serves as protection.

**Disruptions to Social-Emotional Learning and Interpersonal Development**

The field of social-emotional learning, which includes emotional regulation, empathy, interpersonal skills, and prosocial behavior, has been the bedrock of elementary school counseling for many years now.

Based on CASEL (2020), the following five competencies are critical when social-emotional learning takes place: self-awareness, self-management, social awareness, relationship skills, and responsible decision making. New studies are generating serious concerns about the possibility of artificial intelligence impacting each of these aspects of development.

The first foundational issue deals with replacing interactions involving humans with interactions involving artificial intelligence. Attachment Theory by Bowlby (1969), which has generated a lot of development studies, suggests that it is safe and comfortable relations between people that serve as a medium for emotional development of children, where they develop the ability to manage their emotions and empathy towards others. This ability cannot be acquired by being provided with information. but in the particular quality of contingent, embodied, affectively intricate human interaction, defined by moments of rupture and reconciliation, misattunement and attunement, and real ambiguity regarding the inner experience of the other (Schore, 2001). Even the most advanced AI interaction does not match such a process. In her powerful case for the value of empathic distress, Turkle (2015) makes the persuasive point that when children favor interacting with AI over dealing with the complexities of human interaction, they miss the very friction needed to develop empathy and resilience.

Nevertheless, the evidence on this issue, albeit limited, already carries considerable weight. For example, in her extensive generational study investigating teenage psychology over time, Twenge (2017) shows a link between more screen time and the reduction in empathic abilities, as well as socialization and satisfaction in relationships – an effect that can be traced back to children's elementary school years. In addition, Blum-Ross and Livingstone (2016) show how algorithmically tailored media spaces that reinforce users' pre-existing beliefs and steer clear of emotionally challenging material restrict children's access to varied human experiences, thus minimizing the opportunities for empathy development and perspective-taking.

There have also been issues raised in the literature regarding the effects of artificial intelligence mediated learning on frustration tolerance and productive struggle, which are necessary for developing emotional resilience. The use of adaptive learning technology is geared towards decreasing frustration and cognitive friction by customizing the lesson according to the child's abilities, thus ensuring continued engagement. Although there has been a clear improvement in short-term learning using such technology (Holmes et al., 2022), Dweck (2006) and Duckworth (2016) point out that struggle, persistence, and success are central to developing a growth mindset and grit, traits that do not develop when learning without any struggle. Counsellors dealing with elementary school children have reported increased instances of poor frustration tolerance, transitioning, disappointments, and "algorithmic entitlement," a phrase that is becoming common among those who feel entitled to an exact fit from an environment that does not exist (American Counseling Association, 2023).

**Threats to Identity Formation and Self-Efficacy**

The theory of psychosocial development formulated by Erikson (1963) places the years of elementary education within the framework of industry versus inferiority, a phase where the main developmental challenge for children is to develop a sense of competence, productivity, and ability in terms of their interactions with the demands of the external world. However, with the advent of AI systems capable of executing tasks of intellect, creativity, and communication at speeds surpassing those of humans and with ease, a new element of comparison enters this developmental equation.

The author Dede (2023) describes what he calls "competency displacement anxiety," which refers to the rising trend of elementary students benchmarking their cognitive and creative skills to the extent that the results of the comparison cause feelings of inadequacy. The problem is that if a child watches an AI paint within seconds, and the work appears better than the one the child would have done, or an AI writes an essay that comes out much more eloquent than the child could have written, there is a higher possibility of developing a feeling of inferiority, as described by Erikson, that school counselors have never faced before.

This theme ties into the larger debate on how learning is viewed and valued within an AI-enabled society. According to Luckin et al. (2022), educational systems have failed to provide a meaningful response to this dilemma, resulting in individuals and their families coming up with their own understanding of this matter – one that is largely pessimistic. Since artificial intelligence can do whatever needs to be done, the process of human learning to create such an outcome has no value. Educators must be prepared to refute this notion and guide students through the realization that the value of learning lies in the journey itself, and not the outcome.

In addition to academic self-concept, the identity dimensions of AI exposure include more than just self-awareness in an educational setting. According to Noble (2018), as well as Benjamin (2019), the history of bias embedded in the datasets used for training AI systems leads to further amplification of stereotypical and prejudicial ideas based on race, gender, and culture within its output. AI-generated images, default settings in voice assistants, recommendations, and other AI-based content regularly contain limited and Eurocentric representations of human experiences that also adhere to gender stereotypes. At the same time, elementary students, who are currently in the process of forming their racial and cultural identities, receive AI-mediated information during this process. In her article, Holcomb-McCoy (2022) notes that school counselors should take into consideration the role of AI in forming limiting identity narratives when working with marginalized students.

**Ethical Confusion and Moral Development in AI-Integrated Environments**

It is during the period when children of elementary age are at a very crucial stage of their moral development. Kohlberg (1976), through his stage theory on moral development, indicates that children of this age range undergo transformation from the stage of preconventional reasoning to conventional reasoning. Preconventional reasoning entails making moral decisions based on consequences while conventional reasoning is characterized by making decisions through rules, norms, and viewpoints of others. It is not an easy process and introducing artificial intelligence makes it more difficult.

The issues that children face in their interactions with artificial intelligence technology on an ethical level do not necessarily come with any developmental preparedness for the children. Some of these issues include whether it is ethical to use AI to assist in writing a story; who is to blame if the error made by the AI causes harm to someone; whether it is acceptable to bully an AI assistant; and whether the AI can ever be unethical.

The topic of academic ethics and educational probity in the era of AI, specifically, has been discussed in detail. According to Selwyn (2022), and UNESCO (2023), children do not have clarity regarding ethical considerations in the usage of AI at school since there is a lack of consistency on the part of adults who might outright ban the usage of AI at school or completely allow the usage. Unlike typical academic dishonesty where copying someone else's work is considered unethical behavior, the issue of using AI does not hold clear-cut lines of morality. Children can develop self-interested and inconsistent ethical views regarding the usage of AI without proper guidance (Qadri et al., 2025).

The distinction made by Turiel in 1983 between moral rules and social conventions is that while moral rules are universally-binding and autonomous from authority, social conventions are not. The review of literature shows that AI usage in academic settings is categorized by children as a social convention and not an issue of morality, thus lowering the psychological penalty for violating the rule and making adherence more difficult. Educators and counselors who are interested in creating ethical agents through AI must help children move from rules to values, an aspect wherein counseling has an edge over others.

**Equity, Access, and Psychosocial Implications of the Digital Divide**

Any discussion of the effects of artificial intelligence on elementary school students cannot be fully complete without addressing the questions of equity related to the availability and exposure to artificial intelligence. Warschauer

(2003), who set out the theoretical basis for studying the digital divide in his pioneering work, stated that full participation in the use of technology is not just about having access to technological devices, but having access to high-quality content and human assistance.. These dimensions of digital inequality are reproduced and amplified in the AI era.

As Rideout and Robb (2020) describe, there are stark differences between the way children of higher and lower socioeconomic status interact with technology: whereas the former group tends to experience technology usage in a supervised manner, focused on educational purposes, and critically supported by scaffolding, the latter group engages with technology for recreational purposes without parental mediation and is more exposed to the addictive aspects of commercial AI-based applications. This evidence implies that the psychological impact of AI interaction is experienced unequally: children at risk of being exploited by AI technology will experience the emotional dysregulation, lack of mediation in AI relationships, and AI-induced anxiety to a much larger degree than their more privileged counterparts because they have less opportunity to mitigate these consequences.

For Pakistan, for instance, Hoodbhoy (2022) and Higher Education Commission (2022) identify wide gaps that exist between private elite urban schools on one hand, who have quickly embraced AI technologies along with adequate infrastructure of counselling and guidance, and the majority of government schools, who do not possess either technological capacity to deal with AI or adequately trained counsellors to address its psychological impacts on learners. This results in another layer of inequality, where students in resource-deprived schools may be exposed to artificial intelligence via undisciplined entertainment from home, but with no educational and counseling backup as their better-off classmates enjoy.

This is further complicated by the cultural aspects involved in the use of artificial intelligence. As Holcomb-McCoy (2022) states, reactions to technology, be they emotional or interpersonal reactions, are cultural – that is, they are informed by community values, religious perspectives, familial expectations, and previous experiences with technology. School counselors working in multicultural environments cannot assume that concerns about artificial intelligence arise in the same way for all cultures. Rather, culturally sensitive strategies must be used in artificial intelligence counseling.

**Gaps in the Literature and Implications for School Counselling**

Indeed, the literature discussed despite being quite useful has notable limitations as well. First, it appears that most of the current work done about the influence of AI on the psychological well-being of children has been done using the context of the Western world; there is an urgent need for studies done based on a context of South Asia, Africa, and the Middle East – where adoption of AI is becoming more common amidst different educational and socioeconomic settings. Secondly, the early childhood period (ages 5-12 years) has not been explored adequately.

Third, and most critically for the purposes of this study, the school counselling literature has not yet produced systematic, empirically grounded frameworks for identifying, assessing, or responding to AI-related counselling presentations in elementary students. The American School Counselor Association (ASCA, 2023) has acknowledged the need for AI-related guidance but has not yet issued comprehensive practice standards. Training programs for school counsellors rarely include content on AI-related child mental health, digital wellbeing theory, or technology-aware counselling intervention. It is a huge gap in terms of preparation when the professional requirements are increasing in urgency.

There are many implications for practitioners. First of all, school counselors have to expand their theoretical knowledge in order to get a developmental grasp on how artificial intelligence impacts students and must develop and test strategies for working with elementary students who struggle with fear, disruption of SEL, identity issues, and ethics in connection with artificial intelligence. Moreover, they have to work together with communities and parents in order to promote the wellbeing of kids in relation to artificial intelligence and to make

sure that there is enough support from institutions in providing quality services in AI-based educational environment.

The literature clearly points to one thing: artificial intelligence is influencing the psychology and development of children in primary school in ways that are yet to be noticed by school counseling. Indeed, the counseling issues associated with the advent of artificial intelligence – including existential crisis, disturbed social-emotional development, threatened sense of identity and self-efficacy, ethical dilemma, emotional regulation problems, and unequal exposure – are real, relevant, and currently affecting school counselors worldwide.

The current theories of cognitive developmental psychology (Piagetian), psychosocial stages of development (Eriksonian), the theory of attachment (Bowlbian), and stages of moral development (Kohlberg), although providing valuable insight into the difficulties faced by children with regard to the usage of AI, were designed long ago without taking into account the issues that the contemporary society faces because of the emergence of AI technology. It is therefore necessary to develop the current theories and find new constructs, like AI anxiety, competency displacement anxiety, and algorithmic entitlement.

The role of the school counselor comes into play at an important crossroads within this terrain, offering a unique perspective from which to witness, interpret, and respond to the psychological and developmental impact of AI on individual students, classroom environments, family units, and communities. The school counseling field owes it to the students of today's world to respond with the same dedication and innovation it has shown in addressing every other childhood phenomenon before. Students are not responsible for the technological environment into which they have been born. It is up to the adults surrounding them, including school counselors, to ensure that even as technology transforms their surroundings, their interior worlds remain protected and valued.

## RESEARCH METHODOLOGY

### Research Method

The proposed research design is that of mixed-methods research, which involves the use of both quantitative and qualitative methods. Mixed methods are used since the research question demands that there be a combination of quantitative data that can easily be generalized as well as qualitative data which allows for deeper analysis of the research subject. This will lead to a more robust and comprehensive research finding (Creswell & Plano Clark, 2018).

The approach taken in this research design is concurrent triangulation, where data collection takes place concurrently while analysis is done independently before being integrated during interpretation.

### Research Design

The quantitative strand of this study adopts a cross-sectional survey design to examine the prevalence and characteristics of AI-related counseling cases, assess school counselors' preparedness to address AI-driven challenges, and investigate the relationships between students' exposure to artificial intelligence and their academic performance as perceived by school counselors, teachers, and parents. A cross-sectional survey is appropriate because it enables the collection of data from multiple stakeholder groups at a single point in time, facilitating the identification of patterns, relationships, and prevailing trends within the educational context (Creswell & Creswell, 2023).

The qualitative strand employs a phenomenological research design to explore the lived experiences of school counselors in managing AI-related issues encountered by students. Phenomenology is particularly suitable because it seeks to understand how individuals interpret and make meaning of their experiences when confronted with an emerging phenomenon in their professional practice (Moustakas, 1994). In addition, focus group discussions will be conducted with parents and teachers to gain a comprehensive understanding of students' interactions with artificial intelligence both within school settings and in their everyday lives outside the classroom.

Integrating survey data with phenomenological inquiry and focus group discussions provides a more comprehensive understanding of the educational implications of AI by capturing both measurable patterns and rich contextual experiences (Creswell & Plano Clark, 2024; Zaman & Asif, 2026).

**Target population**

The target population is divided into four categories as follows:

Category I – School Counsellors: All school counsellors that are trained to work within the elementary classes (from Class 1 to 6) at registered schools in Karachi, Pakistan. It can be estimated according to the Karachi Education Department (2023) that there are approximately 180 school counsellors who work with elementary-level students.

Category II – Elementary Teachers: The class teachers who have observation access to the students enrolled in Classes 3 to 6 and are able to make observations regarding behavioral or emotional changes due to the use of AI.

Category III – Parents: Parents or primary caretakers of elementary level students at schools involved in the study to provide information on their children's exposure to AI at home and any observed behavioral or emotional changes.

Category IV – School Administration: Principal or vice-principal of the participating schools.

**Sampling Structure and Sample Size**

Purposive sampling is used to select participating schools, ensuring representation across school type (private/government), socioeconomic context (urban affluent, urban middle-income, urban low-income), and geographic distribution across Karachi's six districts. A total of 12 schools are selected: 6 private and 6 government. Within selected schools, the following samples are drawn:

School Counsellors: 60 counsellors (census sampling from identified school counsellors across participating institutions, supplemented by snowball sampling to reach counsellors in schools without formal counselling offices). Teachers: 120 teachers (10 per school, selected through stratified random sampling across grade levels). Parents: 240 parents (20 per school, selected through simple random sampling from school enrollment lists). Administrators: 24 administrators (2 per school — principal and a senior staff member).

For qualitative strands, purposive maximum variation sampling is used to select 15 counsellors for in-depth phenomenological interviews and to constitute 4 focus groups of 6–8 participants each (2 parent focus groups and 2 teacher focus groups).

**Research Hypothesis**

The research is based on the following hypotheses:

H1: The elementary students enrolled in highly integrated AI schools would exhibit much higher levels of assessment anxiety than those in moderately and less integrated AI schools. This is because their anxiety levels would be in increasing order depending on the level of integration.

H2: School counselors who have attended technology-related professional development workshops are significantly better prepared to handle AI-related counseling concerns than school counselors who have not attended such workshops.

H3: Elementary students exposed to unmediated AI use more frequently experience social-emotional problems than students who are exposed to lesser or mediated forms of AI.

H4: There are marked differences in the types and frequencies of AI-related counseling needs between socio-economic classes.

**Research Instrument**

Four tools will be used in the study:

Instrument 1 – Artificial Intelligence Related Counselling Needs Survey (ARCNS): A 45 item survey using the Likert Scale to be distributed among school counselors to determine the frequency, characteristics, and level of seriousness of AI-related counseling cases in five areas: anxiety and emotional health, social and emotional development, identity and self-efficacy, ethical reasoning, and behavioral regulation.

Instrument 2 – Counsellor Artificial Intelligence Preparedness Scale (CAPS): A 20 item scale to assess the counselors' knowledge about AI, readiness to handle AI-related problems, and

satisfaction with existing training and organizational support.

Instrument 3 – Parents/Teachers Artificial Intelligence Observation Checklist (PTAOC): A 30 item observation checklist completed by parents and teachers to provide information regarding the behavior, emotional, and social changes in children as a result of AI, as well as the amount of time they spend using AI.

Instrument 4 – Semi-Structured Interview Tool (for Phenomenology): A 12 item interview tool designed to explore the experiences of counsellors on AI-related counseling cases, their sensemaking processes, attempts at coping, and recommendations for improving practice and policy. All instruments will be prepared in English and Urdu languages.

**Pilot Study**

Piloting will be done using 10 counselors, 15 teachers, and 20 parents who have been randomly selected from two schools outside the main sample population. Piloting is aimed at evaluating clarity and cultural relevance of the tools as well as checking technical issues. Analysis of the pilot data focuses on internal reliability (Cronbach's alpha ≥ 0.70). Post-piloting sessions are then done to seek participants' feedback on clarity and relevancy of items, after which revision is carried out on the tools.

**Validity of Instrument**

Content validity is determined through expert evaluation. Each test instrument will be evaluated by seven experts, namely three school counselling researchers, two educational psychologists, and two researchers specializing in artificial intelligence in education, to determine relevance, breadth, and suitability for the developmental level of the respondents. CVI is computed for each instrument; items receiving a CVI score lower than 0.78 will be modified or deleted (Polit & Beck, 2006).

Face validity is tested during the pilot testing via feedback regarding the clarity of the items and their perceived relevance to respondents.

Construct validity will be determined using exploratory factor analysis on both ARCNS and CAPS after conducting the pilot tests.

**Reliability of instruments**

Reliability based on internal consistency is estimated using Cronbach's alpha test, where all Likert scale measures are required to have an alpha of at least 0.70 (Nunnally, 1978). Reliability based on test-retest method is evaluated for PTAOC through the administration of the measure among 20 parents two times, after two weeks, through intraclass correlation coefficient (ICC). The reliability for coding based on the semi-structured guide is achieved between two independent raters with a Cohen's kappa of at least 0.75.

**Method of Data Collection**

Quantitative data will be gathered using an online survey administered to the target group via the use of Google Forms. The administration of these questionnaires will take place either via email or WhatsApp, depending on whether the participants are teachers/school counselors or parents. Participants will be asked to fill out these surveys during their professional development days.

As for qualitative data, the interviews may take place either face to face or via zoom/Google meets, according to the choice of each particular participant. The interviews will be audio-recorded with participants' permission. The focus group interviews will be conducted on-site at the schools, where these students come from, with the help of a notetaker.

**Ethical Consideration**

The research follows the ethical standards of beneficence, non-maleficence, autonomy, justice, and fidelity, as specified in the APA Ethical Principles of Psychologists and Code of Conduct (2017). These principles align with Ziauddin University's research ethics guidelines. Informed consent is sought from all adult participants before their participation. Considering that the research does not entail direct data collection from minors, obtaining parental consent is not necessary; nonetheless, parents are made well-aware of the objectives of the study and that the questions address their children.

Confidentiality and anonymity will be ensured during data collection and analysis. Surveys will be completed anonymously. Participants of

interviews and focus groups will be given pseudonyms and will not have their identifying information included in the transcript. All data will be stored in secured servers of the institution.

The voluntary nature of participation is highlighted, and participants are made aware that they can withdraw from the research at any point without any repercussions. The study is conducted under the auspices of institutional approval by Ziauddin University's Institutional Review Board (IRB). Schools participating in the study give institutional permission to conduct it.

## DATA ANALYSIS

### Qualitative and Quantitative Analysis

Statistical analyses will be performed on the quantitative data collected from the ARCNS, CAPS, and PTAOC questionnaires using SPSS Version 27 software. All data variables will have descriptive statistics computed (frequencies, means, and standard deviations), while independent sample t-test and one-way ANOVA tests will be performed to investigate differences in counselor preparation levels and counseling need frequency among different groups (such as school types, socio-economic settings, and previous training experience). Correlation analysis will be conducted on the association between AI use patterns and social-emotional outcomes. Multiple regression analysis will be performed to establish predictors of counselor preparation and AI-based counseling need frequency.

Qualitative data obtained from interviews with counselors will be analyzed by employing Interpretative Phenomenological Analysis (IPA) (Smith et al., 2009). This method will enable the researcher to understand the way in which individuals make meaning out of complex, novel, and significant experiences. The analysis will involve close and repeated readings of the transcripts, making notes of linguistic, conceptual, and descriptive features, identification of emergent themes, and clustering of themes within and between cases to generate superordinate themes.

Focus group data will be analyzed by conducting thematic analysis according to the framework proposed by Braun and Clarke (2006), which involves six phases. These include familiarization, generation of initial codes, theme search, theme review, definition and naming of themes, and production of the report. Member checking will also be conducted – a summary of the generated themes will be provided to some participants selected at random from among those involved in the study.

The process of integrating qualitative and quantitative data will take place during the process of interpretation when the researchers conduct a side-by-side comparison of the two sets of data.

## DISCUSSION

### Summary of the Study

The primary objective of this research was to identify the new counseling requirements of elementary school students amid the fast adoption of artificial intelligence into educational and household settings. Based on the education system in Pakistan and utilizing a mixed-methods approach, data were collected from school counselors, teachers, parents, and school administrators in twelve elementary schools located in Karachi. The key assumption behind this research was that the growing normalization of artificial intelligence in children's daily lives is creating new psychological and social-emotional issues for which contemporary school counseling is ill-prepared.

## ANTICIPATED OUTCOMES:

On the basis of literature review as well as on the basis of what is expected out of this research model, the following outcomes are expected to be achieved:

A significant increase in instances of presentations associated with issues such as AI related anxiety, social-emotional disruption and identity crises over the last two to three years is likely to be reported by elementary school counselors. This period is considered to be indicative of rapid adoption of AI tools within educational institutions and the availability of these generative AI technologies publicly. Higher incidences of AI related issues as well as preparedness levels for addressing these issues will be observed among counselors of institutions investing in PD programs for AI.

The qualitative results will likely demonstrate that counsellors face professional dissonance – a mismatch between the complexities of the AI-related issues presented to them and their preparedness to address these challenges based on their education and theories. The phenomenological themes are predicted to emerge around:

1. The unprecedented nature of the AI-related issues within the context of the current diagnostic framework;
2. The difficulty of getting parents and educators involved as equal partners in AI-related counselling;
3. Lack of institutional guidelines and professional organization recommendations on how to approach AI in counselling; and
4. Counsellors' ambivalence towards AI technology – appreciating its potential in teaching and understanding its psychosocial implications.

It is predicted that results linked to equity issues will indicate substantial discrepancies between socioeconomic categories regarding AI-linked counselling issues. Individuals from socioeconomically privileged backgrounds who have ready access to AI technology would be more inclined to present problems related to identity and self-efficacy (in comparison to AI proficiency) and ethical ambiguity concerning the integration of AI in academics, while those from economically disadvantaged backgrounds without AI access will report more anxiety related to exclusion and the behavior resulting from unstructured interaction with AI entertainment applications.

## CONCLUSION

Indeed, the incorporation of AI within the domain of elementary education can be considered a historical milestone, characterized by unique opportunities and risks that are bound to affect the psychological development of young children in unprecedented ways. The purpose of this study is to provide evidence supporting the fact that the counseling needs of elementary age children are, in fact, novel; that those needs are emerging in school counseling practice settings; and that the field is unprepared to address them.

These are obvious conclusions: The preparation of school counselors must include knowledge and competence regarding AI and related aspects of child psychology. Professional organizations need to establish practice guidelines and ethical codes of conduct that take AI into account. Schools need to ensure that their counseling services are equipped with necessary technology and personnel trained to deal with emerging issues. Finally, educational professionals and parents must realize that children's AI environments are far from being ethically or psychologically neutral.

The world of technology is not one that the children select for themselves. It is the duty of those who surround them as they grow up, such as school counselors, to make sure that despite all the changes brought about by the emergence of artificial intelligence, their inner worlds of confidence, relations, sense of identity, and ethics are kept intact.

### Recommendation

In light of the literature review and the projected outcomes of the study, the following recommendations are presented:

For School Counsellors: Engage in professional development activities in AI literacy, AI ethics, and technological aspects of child mental health. Modify current SEL models to incorporate concerns related to AI. Create psychoeducational resources that discuss AI in the context of elementary-aged children and their families.

For Teacher Educators/Counsellor Training Programs: Incorporate AI-related topics in child development, digital wellbeing, and technology-based counselling competencies into the counsellor training programs.

For School Administrators: Craft institutional policies on AI use in schools which would incorporate the psychological and mental health aspects of child development in addition to academic integrity. Include school counsellors in AI integration policy committees at the school level.

For Professional Associations: Create school counsellor practice standards and ethical codes that take into account AI aspects and provide a repository of resources for school counsellors to implement the standards and code effectively.

For Policymakers: Implement school counsellor to pupil ratio requirements for AI-enabled schools. Fund research on the psychosocial implications of AI use in schools among elementary school-aged children from different cultural and economic backgrounds. Develop AI literacy curriculum incorporating social-emotional and ethical components.

## REFRENCES

American Counseling Association. (2023). *ACA code of ethics*. American Counseling Association.

American Psychological Association. (2017). *Ethical principles of psychologists and code of conduct*. American Psychological Association.

American School Counselor Association. (2023). *ASCA national model: A framework for school counseling programs* (5th ed.). American School Counselor Association.

Benjamin, R. (2019). *Race after technology: Abolitionist tools for the new Jim Code*. Polity Press.

Blum-Ross, A., & Livingstone, S. (2016). *Families and screen time: Current advice and emerging research*. London School of Economics and Political Science.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77–101.

Creswell, J. W., & Plano Clark, V. L. (2018). *Designing and conducting mixed methods research* (3rd ed.). SAGE Publications.

Dweck, C. (2006). *Mindset: The new psychology of success*. Random House.

Erikson, E. H. (1963). *Childhood and society* (2nd ed.). W. W. Norton & Company.

Gasser, U., & Palfrey, J. (2022). *Born digital: How children grow up in a digital age* (Rev. ed.). Basic Books.

Higher Education Commission Pakistan. (2022). *School counselling in Pakistan: Current landscape and future directions*. Higher Education Commission.

Holcomb-McCoy, C. (2022). *School counseling to close opportunity gaps: A social justice framework for success* (2nd ed.). Corwin.

Holmes, W., Porayska-Pomsta, K., & Luckin, R. (2022). *Ethics of AI in education: Towards a community-wide framework*. Routledge.

HolonIQ. (2023). *Global education technology market report 2023*. HolonIQ.

Kohlberg, L. (1976). Moral stages and moralization. In T. Lickona (Ed.), *Moral development and behavior* (pp. 31–53). Holt, Rinehart & Winston.

Livingstone, S., & Blum-Ross, A. (2023). *Parenting for a digital future*. Oxford University Press.

Luckin, R., Cukurova, M., Kent, C., & du Boulay, B. (2022). Empowering educators to be AI-ready. *Computers and Education: Artificial Intelligence, 3*, 100076.

Moustakas, C. (1994). *Phenomenological research methods*. SAGE Publications.

Noble, S. U. (2018). *Algorithms of oppression: How search engines reinforce racism*. New York University Press.

Nunnally, J. C. (1978). *Psychometric theory* (2nd ed.). McGraw-Hill.

Piaget, J. (1952). *The origins of intelligence in children*. International Universities Press.

Polit, D. F., & Beck, C. T. (2006). The content validity index: Are you sure you know what's being reported? *Research in Nursing & Health, 29*(5), 489–497.

Qadri, F. Y., Naper, M. A., & Zaman, M. (2025). Examining the effect of artificial intelligence writing assistants on English as a second language learners' proficiency and autonomy. *Physical Education, Health and Social Sciences, 3*(2), 533–542. https://doi.org/10.63163/jpehss.v3i2.461

Radesky, J., Chassiakos, Y. R., Ameenuddin, N., & Navsaria, D. (2020). Digital advertising to children. *Pediatrics, 146*(1), e20201681.

Rideout, V., & Robb, M. B. (2020). *The Common Sense census: Media use by kids age zero to eight*. Common Sense Media.

IEER Institute for Excellence in Education & Research

Schore, A. N. (2001). Effects of early relational trauma on right brain development, affect regulation, and infant mental health. *Infant Mental Health Journal, 22*(1–2), 201–269.

Selwyn, N. (2022). *Education and technology: Key issues and debates* (3rd ed.). Bloomsbury Academic.

Smith, J. A., Flowers, P., & Larkin, M. (2009). *Interpretative phenomenological analysis: Theory, method and research*. SAGE Publications.

Turiel, E. (1983). *The development of social knowledge: Morality and convention*. Cambridge University Press.

Turkle, S. (2015). *Reclaiming conversation: The power of talk in a digital age*. Penguin Press.

Twenge, J. M. (2017). *iGen: Why today's super-connected kids are growing up less rebellious, more tolerant, less happy–and completely unprepared for adulthood*. Atria Books.

UNESCO. (2023). *Guidance for generative AI in education and research*. UNESCO.

Warschauer, M. (2003). *Technology and social inclusion: Rethinking the digital divide*. MIT Press.

Zaman, M., & Asif, M. (2026). Think–Pair–Share versus traditional teacher-centred instruction: A quasi-experimental study of reading comprehension among undergraduate ESL students in Karachi, Pakistan. *Liberal Journal of Language & Literature Review, 4*(1), 1815–1828. *https://doi.org/10.5281/zenodo.21551322*

IEER
Institute for Excellence in Education & Research