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## PREFACE

### " Gender in modern educational units "

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The intersection of Gender and Education remains a central concern in contemporary social research and policy discourse. Education is universally recognized as a fundamental human right and a key driver of social and economic development. Yet, the relationship between gender and education continues to reflect both remarkable progress and persistent inequalities. Studies in Greece and worldwide reveal that gender stereotypes endure within educational settings. Rather than fading, they are often reproduced through attitudes, behaviors, and institutional practices.

International initiatives—led by UNESCO, UNICEF, and others—have substantially reduced gender disparities in schooling. Global campaigns for universal primary education and the Sustainable Development Goal 4 (SDG 4) have emphasized inclusive, equitable, and quality education for all. Consequently, in many regions, girls now outperform boys academically, particularly in literacy-related subjects (UNESCO, 2023). This progress illustrates how policy interventions and community engagement can effectively challenge traditional gender norms that once marginalized girls.

In contrast, new trends in developed contexts highlight concerns about boys' engagement and achievement. Research shows that boys often underperform in literacy and are more likely to drop out of school (OECD, 2021). This so-called "boy crisis" is linked to dominant notions of masculinity that devalue emotional expression and academic commitment. Addressing such disparities requires pedagogical reforms that accommodate diverse learning styles and dismantle restrictive gender norms.

Current debates on gender and education also recognize identities beyond the male-female binary. Transgender and non-binary students frequently encounter exclusion and discrimination. Inclusive policies that ensure safety, respect, and representation for gender-diverse learners are essential. Embedding gender sensitivity into curricula, teacher education, and institutional culture is vital for genuine inclusivity.

In the Greek context, significant progress has been achieved in terms of formal equality and access to education; nevertheless, structural disparities and deeply embedded gender norms continue to shape educational trajectories and experiences.

Over the past decades, Greece has attained near-universal participation in primary and secondary education for both girls and boys. Statistical indicators demonstrate no substantial gender gap in enrollment rates in compulsory education (Kotzamanis, 2017). Furthermore, women now represent a majority in higher education institutions, reflecting a reversal of historical exclusion patterns. From a quantitative perspective, therefore, access to education appears largely equalized.

However, formal equality does not necessarily translate into substantive equality. Research indicates that gendered expectations continue to influence subject preferences, academic self-concept, and career aspirations (Papadopoulou, 2019). In upper secondary and tertiary education, horizontal segregation remains evident: women are overrepresented in humanities, social sciences, and education studies, whereas men dominate in engineering, information technology, and certain natural sciences (Deligianni & Maniatis, 2020). Such patterns cannot be explained solely by individual choice; rather, they reflect the internalization of gender norms and the subtle operation of symbolic power within educational settings.

Classroom interaction also reveals gendered dynamics. Studies grounded in social psychological approaches suggest that teacher expectations, peer interactions, and participation patterns may differ according to gendered assumptions regarding behavior, competence, and leadership (Smith & Nolen, 2018). Boys may be encouraged—implicitly or explicitly—to display assertiveness and risk-taking, while girls may be rewarded for compliance and diligence. These differentiated expectations can shape students’ academic confidence, engagement, and long-term educational outcomes.

At the policy level, the Greek Ministry of Education has formally incorporated gender equality principles into curriculum guidelines and educational materials. Policy initiatives emphasize human rights, anti-discrimination frameworks, and respect for diversity (Ministry of Education, 2021). Nevertheless, the effective implementation of such measures depends heavily on teacher training, institutional support, and resource allocation. Empirical analyses suggest that insufficient professional development and limited structural coordination hinder the systematic integration of a gender-sensitive pedagogical approach (Michailidis & Stergiou, 2022).

An additional dimension concerns the inclusion of LGBTQ+ students within Greek schools. Although broader legislative developments in Greece indicate progress in recognizing LGBTQ+ rights, educational environments do not always provide consistent protective frameworks. Reports highlight the persistence of heteronormative assumptions and occasional instances of discrimination or marginalization (Karagiorgis, 2023). The absence of comprehensive, mandatory educational programs addressing gender diversity and sexual orientation further underscores existing gaps between policy discourse and everyday school practice.

While gender parity in access to education in Greece has largely been achieved, deeper structural and cultural inequalities persist. Gender continues to function as an organizing principle within educational institutions, influencing academic choices, participation patterns, and professional trajectories. Addressing these disparities requires an intersectional and interdisciplinary approach that combines policy reform, teacher education, and critical pedagogical practices. Only through sustained institutional commitment can education move beyond formal equality toward substantive gender justice.

The contributions in this volume address a broad spectrum of issues concerning gender and education. The collection explores critical dimensions of gender in education and business, including structural inequalities, socialization processes, and digital literacy, while examining implications for leadership, higher education, and educational tourism. By analyzing both persistent disparities and emerging opportunities for inclusion, the volume offers a comprehensive framework for understanding how gendered dynamics influence participation, achievement, and innovation across educational and professional domains.

Specifically, the themes include:

- **Equity and Inclusion in Educational and Organizational Contexts:** The papers addressed strategies aimed at promoting fair and inclusive practices across schools and workplaces, emphasizing policies, institutional cultures, and structural reforms that foster equal opportunities and reduce systemic inequalities.
- **Gender Dimensions of Digital Competence in Education:** The studies explored how gender influences access to digital technologies, patterns of use, and the development of digital skills, highlighting disparities in confidence, participation, and long-term engagement with technological fields.
- **Gender and Leadership in Educational Settings:** The papers examined structural and cultural barriers, as well as emerging opportunities, related to equitable representation in educational leadership, with particular attention to gender bias, career progression, and decision-making roles.
- **Gender Issues in Higher Education and Educational Tourism:** The contributions focused on gendered experiences within tertiary education, including participation in mobility schemes and educational tourism programs, addressing issues of access, safety, representation, and academic advancement.
- **Gender Socialization, Stereotypes, and Learning Processes:** The studies examined how cultural norms and gender stereotypes shape learning processes, academic motivation, subject choices, and the formation of students’ self-concept and aspirations.
- **Gendered Perspectives on Digital Equity and Access:** The papers emphasized persistent inequalities in digital participation, representation, and the allocation of technological resources. They highlighted how structural gender disparities shape access to digital tools, influence visibility and voice in online spaces, and affect opportunities for education, employment, and innovation within the digital economy.”

The papers collectively provide a rigorous analysis of equality and justice within educational and professional contexts, demonstrating that gender continues to function as a determinant of exclusion from positions of responsibility and decision-making.

Research on gender and digital competences indicates that, despite increased female participation in higher education, engagement with new technologies remains predominantly male, thereby perpetuating stereotypes around digital expertise.

Although women constitute the majority within the educational sector, their representation in leadership roles remains comparatively lower. Similar patterns are observed in tourism and related educational programs. Enhancing career guidance from a gender-sensitive perspective and strengthening teachers’ awareness can play a crucial role in challenging stereotypes and encouraging students to pursue non-traditional career trajectories.

Gender, mass and social media are structurally intertwined, as media institutions both reproduce and shape dominant gender ideologies. Historically, mainstream media have depicted masculinity as rational, authoritative, and public, while framing femininity as passive and domestic, thereby normalizing gender hierarchies (Connell, 2005; Gill, 2007). In the digital era, social media platforms serve as critical sites for gender performance and negotiation, enabling self-representation, networked activism, and the expression of non-normative identities. However, these platforms also reinforce structural inequalities through algorithmic visibility, commodification of bodies, and persistent gender-based harassment (Banet-Weiser, 2018; Noble, 2018). Mass and social media thus function as arenas of both reproduction and contestation of gendered power relations.

Gender also shapes the social construction of self-esteem by mediating internalized norms, expectations, and evaluative standards. Through gender socialization, individuals acquire differentiated criteria for self-worth embedded within broader systems of power (Twenge & Campbell, 2001). Empirical evidence indicates that women’s self-esteem is often linked to appearance and relational dimensions, reflecting historical objectification and relational orientation, whereas men’s self-esteem is more closely associated with performance, autonomy, and socioeconomic achievement, consistent with hegemonic masculinity (Crocker & Wolfe, 2001; Kling et al., 1999). These patterns are reproduced via family, education, peer interactions, and media, demonstrating that gender is a structural determinant influencing the content and stability of self-esteem across the life course.

The overarching conclusion of the conference was that promoting gender equality in education benefits both individuals and societies as a whole. Ensuring equal access empowers girls economically, enhances health outcomes, and contributes to sustainable community development, while supporting boys at risk of exclusion helps prevent the marginalization of vulnerable groups. However, achieving genuine gender equality requires more than equitable access to educational opportunities; it calls for inclusive policies, supportive learning environments, and a profound transformation of attitudes toward gender roles and norms. Only under these conditions can education function as a transformative force for social justice, equality, and sustainable human development.

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## **EQUITY & INCLUSION IN EDUCATION AND BUSINESS**

### **SERVICE MANAGEMENT AS DRIVER OF EQUITY, INCLUSION AND CONTINUOUS IMPROVEMENT IN EDUCATION**

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#### **ABSTRACT**

This study investigates the ways in which service management and quality management can contribute to the improvement of educational services, highlighting their role in shaping inclusive and student-centered school environments (Athanasiadis et al., 2024; Bouranta et al., 2024). Service management, when applied to educational administration, refers to the systematic organization of processes that ensure the efficient functioning of school units. Its primary aim is to improve the overall experience of key stakeholders, students, teachers, parents, and the wider community, by ensuring that services are reliable, responsive, and continuously refined (Demis Alamirew, 2024; Adillo, 2023).

At the outset, the paper examines the theoretical foundations of quality assurance, focusing on the principles, systems, and standards that have been designed for implementation in the education sector (Kaplani& Zafiropoulos, 2022; Rodríguez, 2022). These mechanisms provide schools with a framework for assessing their performance, setting benchmarks and aligning their services with broader educational objectives. Particular attention is given to modern quality management models, which move beyond static compliance and encourage dynamic processes of continuous improvement (Stalmeijer et al., 2023; Garira, 2024). Such models prioritize adaptability, the regular evaluation of outcomes, and, above all, the satisfaction of diverse stakeholders (Anderson et al., 2004).

In this context, the concept of quality in education is understood as the consistent delivery of a reliable, well-structured, and progressively enhanced learning experience. Quality extends beyond academic achievement and includes the cultivation of trust in educational institutions, ensuring that students, parents and society at large view schools as credible and effective. Leadership is shown to play a decisive role in achieving this vision (Carrington, 2024; Bellibaş et al., 2023). Leaders in education must not only adopt strategies that promote flexibility and innovation but also embed principles of equity and inclusion into school practices (OECD, 2023; Fagan et al., 2022), thereby ensuring that quality management frameworks serve all learners, regardless of gender, background or ability.

The discussion highlights specific processes through which quality management can be embedded in schools, including teacher performance evaluation, parent and student feedback and administrative accountability (Seitova et al., 2024; Amiri et al., 2024). By integrating such practices into everyday operations, schools can combine accountability with inclusivity, thereby aligning quality principles with the broader goals of social justice in education.

Methodologically, the study employs teacher questionnaires to capture perceptions and practices concerning quality management. Findings suggest that systematic implementation of quality management improves school performance across multiple dimensions, including student outcomes, staff satisfaction and stakeholder trust (Engida, 2024). Furthermore, quality-driven processes foster inclusive and supportive learning environments that respond effectively to the diverse needs of contemporary classrooms (Garira, 2020; Girmanová et al., 2022).

Finally, the paper proposes strategies to strengthen quality management in schools, with a focus on student-centered approaches and the active engagement of administrators (Prima et al., 2025; Chamba & Chikusvura, 2024). By aligning service management with modern quality management practices, educational institutions can create sustainable frameworks for continuous growth and improvement. In connecting with the conference’s thematic axis of equity and inclusion in educational leadership and management, the study demonstrates how quality management is not only a tool for efficiency but also a mechanism for promoting fairness, gender equity and inclusive practices (Papademetriou & Masouras, 2024).

In addition, the emphasis on evaluating and integrating stakeholder feedback, including that of students and parents, positions quality management as a bridge between organizational improvement and the broader goal of creating equitable, inclusive and socially just education systems (Christou et al., 2024; Espinosa et al., 2024).

**Key Words:** Service Management, Quality Management, Educational Leadership, Equity, Inclusion, Continuous Improvement

## 1. Introduction

Educational quality is increasingly understood not as a static measure of efficiency but as a dynamic process of continuous improvement that centers on learners’ needs and values. In recent years, international discourse has emphasized the importance of aligning educational service delivery with the principles of equity, inclusion and participatory governance (OECD, 2023; Carrington, 2024). Schools are no longer viewed merely as administrative units but as service organizations that must continuously assess, adapt and improve the learning experience for all stakeholders—students, teachers, parents and the broader community (Athanasiadis et al., 2024; Bouranta et al., 2024).

Within this context, service management refers to the structured organization of school processes aimed at ensuring responsiveness, reliability and satisfaction among all involved parties (Demis Alamirew, 2024; Adillo, 2023). Quality management, on the other hand, provides a systemic framework for assessing school performance and aligning internal practices with broader educational and social objectives (Kaplani & Zafiroopoulos, 2022; Rodríguez, 2022). Together, these paradigms support the

establishment of learning environments characterized by transparency, accountability and inclusivity.

This study investigates the interplay between service and quality management within Greek schools, focusing on how these practices affect teachers’ perceptions of educational quality and inclusiveness. It aims to identify which dimensions of school functioning (democratic governance, stakeholder engagement or infrastructure) are most strongly associated with perceived service quality.

## 2. Theoretical Framework

Quality management in education has evolved from traditional compliance-based models toward approaches emphasizing stakeholder satisfaction and ongoing improvement (Stalmeijer et al., 2023; Garira, 2024). Modern frameworks, such as the European Foundation for Quality Management (EFQM) and Total Quality Management (TQM), prioritize flexibility, continuous feedback and participatory decision-making (Papademetriou & Masouras, 2024; Girmanová et al., 2022).

Garira (2020, 2024) argues that educational quality must be conceptualized as a multidimensional construct encompassing academic, organizational and social dimensions. Similarly, Kaplani and Zafiroopoulos (2022) highlight that quality assurance mechanisms in primary education can serve as strategic tools for equity when embedded within inclusive school leadership. Leadership plays a decisive role in translating quality principles into daily practice: transformational and distributed leadership models enhance teacher motivation, collaboration and well-being (Bellibaş et al., 2023; Fagan et al., 2022).

From a service management perspective, educational organizations are expected to deliver value to stakeholders by ensuring that services are reliable, responsive and tailored to diverse learner needs (Amiri et al., 2024; Seitova et al., 2024). When applied in schools, these principles foster trust, engagement and community involvement (Christou et al., 2024). Aligning quality management with inclusive leadership, therefore, transforms schools into equitable learning communities (Chamba & Chikusvura, 2024; Prima et al., 2025).

## 3. Research Methodology

### 3.1 Research Design

A quantitative survey design was employed to examine teachers’ perceptions of service and quality management in their schools. The study aimed to test two research hypotheses concerning the relationship between democratic governance and perceived quality, and the gap between expectations and perceptions of school infrastructure.

### 3.2 Participants

The study sample consisted of **721 teachers** serving in public primary and secondary education institutions across Greece, representing a diverse range of educational and geographical contexts.

### 3.3 Research Instrument

The questionnaire consisted of 23 items designed to assess dimensions of educational service quality, including democratic governance, stakeholder participation, administrative responsiveness and school infrastructure. Responses were measured on a five-point Likert scale (1 = strongly disagree to 5 = strongly agree).

### 3.4 Validity and Reliability Testing

A **factor analysis** using *Principal Axis Factoring* with *Varimax rotation* and *Kaiser normalization* was performed to confirm the construct validity of the measurement instrument. The results demonstrated excellent psychometric properties. **Bartlett’s Test of Sphericity** was statistically significant ( $\chi^2 = 26,531.844, p < 0.001$ ), indicating sufficient intercorrelations among the variables to justify the application of factor analysis. The **Kaiser-Meyer-Olkin (KMO)** measure of sampling adequacy was **0.976**, confirming that the data were highly suitable for factor analysis. Furthermore, the internal consistency of the instrument was exceptionally high, with **Cronbach’s  $\alpha$  values exceeding 0.95 across all dimensions** and an **overall  $\alpha$  of 0.982**, reflecting excellent reliability. Collectively, these results provide strong evidence of the robustness, validity and reliability of the instrument in assessing teachers’ perceptions of service quality within educational institutions.

### 3.5 Research Hypotheses

H1: Teachers’ perceptions of the democratic functioning of the school unit are positively correlated with the perceived quality of educational services.

H2: No statistically significant differences exist between teachers’ expectations and perceptions regarding the material and technological infrastructure of their schools.

## 4. Results

### 4.1 Expectations for Service Quality

The analysis of teachers’ expectations regarding the quality of educational services revealed clear priorities in terms of what they consider essential for an effective and supportive school environment. The highest-rated expectation concerned the principle that “the school unit develops democratic rules of operation.” This indicates that teachers place substantial value on participatory governance, transparency and collective decision-making processes, viewing these elements as core indicators of a high-quality educational setting. Their emphasis on democratic functioning aligns with contemporary perspectives on inclusive and collaborative school leadership, highlighting the importance of shared responsibility and active engagement of all stakeholders in school governance.

Conversely, the lowest-rated expectation related to the statement “the school unit has a modern library with comprehensive collections of textbooks.” This result points to persistent challenges in the material and technological infrastructure of Greek schools. The relatively lower expectation in this area reflects teachers’ awareness of long-standing deficiencies in educational resources and facilities, echoing similar findings in the literature that emphasize disparities and limitations in school infrastructure (Espinosa Andrade et al., 2024). These findings collectively illustrate that while teachers prioritize democratic and organizational aspects of quality, they also recognize the need for improvement in the physical resources that support teaching and learning.

### 4.2 Perceptions of Service Quality

The analysis of teachers’ perceptions regarding the quality of services provided by their school units revealed a pattern that closely mirrors their expectations. The highest-rated perception corresponded to the statement “The school unit develops democratic rules of operation,” indicating that teachers not only value participatory governance but also experience it as an active and established component of their school

culture. This suggests that democratic practices—such as collaborative decision-making, open communication and inclusive leadership—are widely implemented and recognized as strengths within Greek schools.

In contrast, the lowest-rated perception referred to the statement “The school unit has a modern library with comprehensive collections of textbooks.” This again highlights the persistent shortcomings in material infrastructure and resource availability. The alignment between low expectations and similarly low perceptions in this domain underscores a consistent concern among teachers regarding inadequate educational facilities.

Taken together, the parallel findings across both expectations and perceptions suggest that while schools appear to be successfully fostering democratic structures and inclusive governance, significant gaps remain in terms of physical and technological resources. This points to a critical need for targeted investment in educational infrastructure to ensure that material conditions align with the high standards teachers envision for quality education.

#### 4.3 Hypothesis Testing

The results of the statistical analysis provided clear support for H1, demonstrating a strong positive correlation between democratic school governance and the perceived quality of educational services. Schools that exhibited participatory leadership practices, transparent decision-making processes, and meaningful teacher involvement were consistently rated higher across all dimensions of service quality. These findings highlight the central role of democratic structures in fostering trust, enhancing collaboration and creating a supportive school climate that contributes to higher perceptions of overall service quality.

Similarly, H2 was also confirmed, as the analysis revealed no statistically significant difference between teachers’ expectations and their perceptions regarding the state of school infrastructure. This alignment indicates that teachers’ experiences generally match their expectations in this specific domain. However, despite this consistency, both expectations and perceptions were characterized by relatively low ratings, particularly concerning material and technological infrastructure. This outcome suggests that while teachers are realistic about the infrastructural limitations of Greek schools, they also recognize the need for substantial improvements to support high-quality educational services.

#### 5. Discussion

The findings of this study are consistent with the broader international literature that underscores the importance of democratic governance and inclusive leadership in strengthening perceptions of quality within educational settings (Carrington, 2024; Fagan et al., 2022). Teachers’ prioritization of democratic functioning over material infrastructure reflects a growing recognition that the relational, cultural, and organizational dimensions of schooling contribute substantially to overall service quality. This tendency aligns with contemporary frameworks emphasizing continuous improvement, collaborative cultures and stakeholder engagement as key drivers of educational effectiveness (Garira, 2024; Chamba & Chikusvura, 2024).

Moreover, the study reinforces the conception of service quality in education as an inherently multidimensional construct, encompassing not only instructional processes and administrative efficiency but also trust-building, equity and inclusivity (Bouranta

et al., 2024; Amiri et al., 2024). The strong association identified between democratic governance and perceived service quality is in line with transformational leadership theories, which argue that empowering stakeholders, encouraging participation and fostering a shared vision contribute to higher levels of satisfaction, commitment and organizational performance (Bellibaş et al., 2023). In this sense, the findings affirm that leadership practices grounded in transparency and collaboration are central to cultivating high-quality educational environments.

At the same time, the persistent gap identified in the infrastructure domain highlights structural inequalities that continue to challenge the Greek education system. Consistent with the findings of Espinosa Andrade et al. (2024), inadequate material resources—such as insufficient library facilities—restrict the capacity of schools to fully support diverse learning needs and modern pedagogical approaches. This suggests that while relational and governance-based dimensions of quality appear robust, material and technological aspects remain underdeveloped.

Addressing these disparities will require coordinated policy initiatives and sustained investment in school infrastructure at a systemic level. Integrating principles of service management and quality management into national educational strategies can provide a structured framework for guiding these improvements. Such an approach would enable educational institutions to align organizational practices, stakeholder expectations and resource allocation in ways that support more equitable and comprehensive definitions of educational quality.

## 6. Conclusions and Implications

This study demonstrates that the integration of quality management and service management can function not only as a mechanism for enhancing organizational efficiency but also as a catalyst for promoting equity and social justice within educational systems. The findings emphasize that school quality is shaped by a combination of cultural, relational, and structural factors, all of which interact to influence teachers’ perceptions and experiences.

First, the results clearly indicate that democratic leadership is a key determinant of perceived service quality. Schools that foster participatory decision-making, shared responsibility and transparent communication are more likely to cultivate environments characterized by high staff satisfaction, mutual trust and strong stakeholder relationships. Such practices strengthen the organizational culture and enhance the school’s ability to respond effectively to emerging challenges.

Second, the study highlights the need for quality management frameworks to extend beyond traditional compliance-oriented approaches. Effective quality systems must embed inclusivity, stakeholder engagement and continuous feedback as foundational principles. By integrating diverse voices—teachers, students, parents and community members—schools can create more responsive and adaptive structures that support ongoing improvement. This aligns with contemporary models of educational quality that emphasize responsiveness, collaboration and cultural relevance.

Third, the persistent concerns surrounding school infrastructure underscore the importance of adequate resource allocation and sustained investment. Contemporary educational settings necessitate the integration of advanced technological and material resources to address the changing requirements of modern pedagogy. Addressing infrastructural inequalities is crucial for ensuring that all students, regardless of

geographical location or socioeconomic background, have access to high-quality learning opportunities.

Looking ahead, future research could benefit from employing mixed-method designs to explore how different stakeholders—including teachers, students and parents—co-construct their perceptions of educational quality. Integrating qualitative insights would deepen understanding of the mechanisms through which leadership, culture and organizational processes influence service quality. Additionally, longitudinal studies could provide valuable evidence on how specific interventions in service and quality management affect learning outcomes, stakeholder satisfaction and school climate over time. Such research would contribute to more robust, evidence-based strategies for enhancing educational quality in diverse contexts.

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# GENDER AND DIGITAL COMPETENCES IN EDUCATION

## THE BETWEEN OF EDUCATION AS A PLACE OF GENDER RECOGNITION: THE DIALOGICAL PHILOSOPHY OF MARTIN BUBER

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### ABSTRACT

In the present study, we attempt an approach to the Buberian perspective regarding the question of gender. Martin Buber did not address gender explicitly; however, through his conception of the Between (Zwischen) as a spiritual expression of the I–Thou encounter, and more specifically through the dimension of the interhuman, he articulates an ontological horizon that transcends prevailing categorical dualisms. His person-centered orientation constitutes an underlying principle in his relevant considerations concerning the authenticity of the encounter. In other words, he moves within the liveliness of openness grounded in the authenticity of the relationship, advancing inclusion as a crucial component of his approach. The experience, therefore, of the Other—and of the world—constitutes an opening (Erschließung) that shapes the true meaning of relationship.

**Key Words:** Between (Zwischen), inclusion, authenticity, interhuman.

### INTRODUCTION

Martin Buber (1878–1965) stands as a landmark figure of reconciliation and social ontology in modern history as well as in philosophical thought. Both through his struggles for equal rights and through the articulation of these principles in human interpersonal relations, he formulated an ontological proposal that continues to inspire contemporary movements for gender equality. The recognition of the Other, in other words, is mediated through his efforts toward achieving the peaceful coexistence of Jews and Arabs, so that equality may be advanced through an autonomous and self-standing Thou.

More specifically, in the present study we undertake an exploration of how the social dualism of genders is examined through the axis of existential communication in the I–Thou relationship among human beings. This mode does not pertain to a method or to empathy, but rather ascends to a deeper existential trajectory which transcends every dialectical play of arguments and aims at a common lived experience of the fact of inclusion. In other words, this concerns the Nietzschean vitality<sup>1</sup> that feeds the mill of creative autonomy by enlivening human relations. For if Martin Buber strove for

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<sup>1</sup> It should be noted that Friedrich Nietzsche served as a bearer of dynamism who inspired Buber, as Buber described him as a Socratic man who, however, did not succeed precisely because of his aversion to the authentic encounter between human beings (Friedman, 1999).

anything, it was precisely this enlivening — whether through the dynamism of Hasidism, which opens up to reinterpretations in opposition to the static and normative, or through the revelations of authentic Being as discovered in the realm of the Between.

More specifically, existing scholarly approaches have highlighted particular aspects concerning the notion of gender in Hasidic tales (Shonkoff, 2023), that is, how gender is represented within the Hasidic tradition. Additionally, Butler’s (2011) perspective touches upon an interpretation of the Between as a foundation for feminist thought, advancing an ethical relation in which the Other is not objectified. Furthermore, Gordon (2011) seeks to illuminate the existential embrace as an opening toward the Other student, insofar as the educator listens to the student with their whole Being. Finally, Leach and Crisp (2016) examine the practical application of Buber’s approach in the classroom, foregrounding the student’s voice as a source of authentic recognition by the educator. However, these approaches do not address the issue of inclusion within the school environment through its gendered dimension. In this light, the present study seeks to address this research gap by shaping a field of discussion concerning the relevance of the Buberian perspective in the contemporary school.

The question that the present study investigates, therefore, is whether Buber’s perspective can serve as a fruitful point of reference for inclusive education. Specifically, it asks how Buberian archetypal patterns of the masculine and the feminine are mediated through the I–Thou encounter, thereby foregrounding the existential dimension of the educational process. In other words, how the student perceives the category of gender within the I–It relation and is recognized as a unique and unrepeatable person within the I–Thou relation.

In this way, the methodology employed is Hermeneutic Textual Analysis (Merriam, 2009), in order to examine the educational relevance of the Buberian perspective within the school environment. This methodological approach correlates philosophical analysis with the hermeneutic interpretation of primary texts so as to investigate the concepts related to Buber’s Between through an analysis of his works. Through our philosophical analysis and hermeneutic approach, we highlight the key concepts—such as dialogicality, the interhuman, authenticity, turning-toward, and inclusion—in order to trace the underlying structures of meaning in his oeuvre.

In the first section, therefore, we attempt to outline in broad terms the central framework of Buber’s dialogical philosophy in order to situate the dialogical trajectory of existence as the means through which its Being may be preserved. This preservation unfolds through a relational perspective, since Being is constituted through relationships, as well as through an ethics of responsibility—given that even the address of the Thou is an “essential act” (Buber 1970:66). Buber also emphasizes the symmetry of mutuality, while at the same time upholding the recognition of the otherness of the parties involved as a refusal of any form of authoritarian imposition (Butler, 2011).

Furthermore, in the second section we attempt an examination of gender through the perspective of the German philosopher, grounded in his ontological conception. Inclusion, in this sense, is expressed through the Between of educator and learner, foregrounding the authenticity of their relationship. The authentic encounter, in other words, serves as a precondition for inclusion—though not necessarily for symmetry—so that the transformation of both educator and student may be continually realized.

## DIALOGUE AS AN ONTOLOGICAL FIELD OF ENCOUNTER

The central issue addressed by Buber is dialogue as a field of encounter among persons, woven through a thread that discloses unity within human relationships. Within these relationships, the Between is formed so as to reveal, each time, the movement toward an authentic human life. This third space thus constitutes a emancipatory experience for those who participate, strengthening the sense of mutuality and the reconfiguration of different modes of thinking. It is an existential shock that “stirs the soul to sensibility” (Buber 2002:24; Stern, 2013), for the I encounters the Thou in a way that overturns participants’ habitual assumptions and disrupts the stereotypes that sustain I–It relations. Something concealed or previously unnameable thereby emerges (Leach & Crisp, 2016). These hidden truths constitute the real lesson, for a “real lesson is ‘neither a routine repetition nor a lesson whose findings the teacher knows before he starts, but one which develops in mutual surprises’” (Buber 2002:189).

However, this intermediate space does not remain static; rather, it is continuously reconstructed in relation to what unfolds between the two interlocutors. This reorientation of dialogue is what Buber calls unfolding (Buber 1965:26), bringing to light the dynamism of the interhuman. From the event that takes place between the I and the Thou, transformations may occur as a result of mutual surprise and the unpredictable. The boundaries of these transformations cannot be determined in advance, for “we do not know anymore where the soul ends and the world begins” (Mândruț 2025:67).

In other words, what is constituted is a “relational inclusivity [that] is the element that becomes the starting point for dialogic thinking” (Christou 2024:37). In this direction, Buber envisions the interhuman relation through which individuals become present within the unique sphere of the Other (Buber, 1988). Within this condition, the ontology of the Between operates as a genuine human encounter that takes place precisely in the sphere of the Between (Buber, 2002). As Friedman notes, “When two individuals ‘happen’ to each other, there is an essential remainder which is common to them but which reaches out beyond the special sphere of each” (Friedman 1999:411).

Buber, therefore, does not engage in a social or political theory of gender; rather, he approaches the issue as archetypal metaphors of human existence. In the primordial “womb of the great mother [im Schoß des großen Mutter]—the undifferentiated, not yet formed primal world” (Buber 1970:76), an archetypal metaphor is thus attributed so that the human being may subsequently separate from it and become a person. Buber also does not refer to gender as a set of social categories, but instead through the distinction between masculine and feminine, which symbolizes relational structures. When he notes, for example, that “when a man loves a woman so that her life is present in his own, the You of her eyes allows him to gaze into a ray of the eternal You” (Buber 1970:154), he expresses precisely this priority of the I–Thou relation. These are, essentially, gendered examples—patterns and images—that pertain to particular forms of relationship. Moreover, Buber’s reference to the experiential field he sought to communicate, by describing modes of encounter as a phenomenological typology of relations, constituted a testimony to forms of relationality that transcend any form of categorization.

More specifically, Buber’s references to the approach of gender transcend the biologism of the nineteenth century, for they reside within an ontological sphere. This

distinction, therefore, does not pertain to normative roles; rather, it discloses modes of existence as they are activated in the dialogical encounter. A new perspective is thus offered concerning the conditions under which these modes unfold—namely, as an emancipatory experience that transforms participants’ understanding of the relationship between self and Other. It is, therefore, a relational encounter through which the very terms of existence are constituted. On the one hand, the feminine dimension is presented as a relational mode that embodies openness, allowing the Thou to come into being—a readiness for the Other to exist as they are. On the other hand, the masculine dimension corresponds to agency, that is, to an active movement expressing the creative manifestation of the human being in the world. Here, agency becomes the embodiment of relation, expressing the fulfillment of dialogue within the world. These are archetypal distinctions that coexist within every person so that dialogue may be enacted. As Wood observes, “the feminine symbolizes the Thou-orientation, the readiness to receive; the masculine, the It-orientation, the shaping energy of the world” (Wood 1969:115). He thus articulates the ontological perspective of the human being understood as a being-in-relation. The mode of Being is therefore expressed through the interplay of the masculine and the feminine, which interact so that the human being may move either toward the Thou or toward the It.

In this modality of relation, its authenticity is discovered at the moment when the Thou moves toward the Infinite—that is, in the emergence of the encounter with God within the relation. In other words, the relation with God constitutes an ongoing and expanding dialogue that takes place within relationality itself, presupposing equality, sensitivity, and mutuality. As Butler notes, “Buber’s emphasis on mutuality (as opposed to the goal of attaining mystical union that is so central in his earlier work) preserves the separateness of the terms” (Butler 2011:329).

However, Buberian interpersonal relations are also understood through the lens of responsibility—that is, the recognition of responsibility for the Other so that a genuine and reciprocal relationship may be realized. As the German-Jewish thinker notes, “the idea of responsibility is to be brought back from the province of specialized ethics, of an ‘ought’ that swings free in the air, into that of lived life. Genuine responsibility exists only where there is real responding” (Buber 2002:29). How, then, are such dialogical relations actualized within the educational process?

#### TOWARD AN INCLUSIVE EDUCATION: PRESERVING THE INTEGRITY OF BEING

Buber, as a theorist of the historico-philological interpretation of Hasidism, insisted on the how of human relations—on the manner in which relations take place—rather than on the what, that is, the theoretical or conceptual field of reference. Through narrative and lived experience, one may access truth, thereby challenging the scholarly elitism represented by his student Gershom Scholem (1897–1982). Hence their well-known dispute on these issues brought to the forefront the perspective of folk culture and its gendered categories of knowledge. Folk narratives—such as Hasidic stories—serve as carriers of living experiential knowledge and authentic truth, constituting a legitimate mode of knowing. Consequently, a cultural conflict emerges between a “feminized” mode of understanding grounded in lived experience and the androcentric scholarly tradition of dogmatic lectures that, in Scholem’s view, represented the masculine (Shonkoff, 2023).

What, then, is considered legitimate knowledge? What space do we currently provide for those excluded from history? Who has the right to knowledge and to having their voice heard? In what ways, for example, are the lived experiences of migration made visible within contemporary educational processes? These questions converge on how one has lived their experiences, enriching the polyphony of knowledge.

In Buber’s educational framework, grounded in his dialogical philosophy, emphasis shifts to the authentic educational encounter of the I–Thou—that is, to the formation of a shared meaning between teacher and student. In other words, the student participates in the production of knowledge as an equal voice included within this dialogical meeting. The students’ voices thus represent their needs and experiences, thereby expanding the teacher’s horizon so that they may recognize and include the student’s voice without identifying with it. The teacher, in other words, stretches their own Being in order to encompass the student’s experience, or, in Buber’s words, “to experience the other’s side while still standing firm on one’s own” (Buber 2002:104).

Thus, both share a common event, incorporating the experience of the Other within a mutually dialogical relation. Through the reciprocation of the gaze, a field is formed in which “inclusion is the extension of one’s own concreteness, the fulfilment of the actual situation of life, the presence of the reality in which one participates” (Buber 2002:100). As Veck notes, “Buber addresses the living responsibility of an educator who attends to the young and responds to the vastness of creation they represent” (Veck 2013:614).

In other words, learning is an experience that is expressed or made visible through the body, relationships, and identities (Morgan, 2011). Under these conditions, Buber’s call for critical self-awareness, understanding, communication, and readiness for dialogue remains an index of an inner self-consciousness capable of grasping an open and prejudice-free interpretation of social and cultural reality (Buber, 2005). Buber thus envisions an educator who moves within an existential horizon, realizing the student’s inner truth in order to resist the obstacles and counter-forces that reduce the student to yet another instrumental object. As he characteristically notes:

The educator whom I have in mind lives in a world of individuals, a certain number of whom are always at any one time committed to his care. He sees each of these individuals as in a position to become a unique, single person, and thus the bearer of a special task of existence which can be fulfilled through him and through him alone. He sees every personal life as engaged in such a process of actualization, and he knows from his own experience that the forces making for actualization are all the time involved in a microcosmic struggle with counterforces (Buber 1957:111).

However, this condition is not always visible, for the educator experiences a paradox, oscillating between the poles of Thou and It. These are the periods in which the duality of our existence becomes evident—moments in which relational encounters turn into moments of separation, rendering inclusion impossible. Under such circumstances, the educator is called upon to transform the potential experience of inclusion into a sustained atmosphere; or, as Buber notes, the educator “is of all men the one for whom inclusion may and should change from an alarming and edifying event into an atmosphere” (Buber 2002:103). This constitutes a kind of existential embrace, for it “involves attempting to adopt the other’s lived reality without in any way forfeiting one’s own” (Gordon 2011:212).

Buber therefore calls upon the educator to discover the spiritual dynamism of the student in order to further cultivate the “instinct of origination” (Buber 2002:92) within the framework of the dialogical encounter. This corresponds to the “instinct of communion” (Buber 2006:104), which generates community and characterizes the capacity of existence to orient itself authentically within a dialogical relationship. It is precisely under these conditions that the notion of inclusion is located—namely, in the student’s connection with the community. The innate instinct of community thus resists gender stereotypes, proposing an ontological calling toward the Other. The educator, therefore, must be present within this condition, establishing the terms of a mutual relationship of growth and co-creating an atmosphere of inclusion. In other words, the educator must become a fundamental force of encounter so that an atmosphere of trust may be created, allowing the authentic relation to emerge—to happen—within the classroom (Buber, 2002).

The pedagogical relationship envisioned by Buber is thus a relationship discovered between student and educator, one that privileges a genuine dialogue. Both participate in an inclusive relationship grounded in dialogical mutuality, at the moment when the “turning towards the other” is revealed (Buber 2002:34). On the one hand, the educator turns toward the student with an inclusive gaze, embracing the student’s possibilities; and on the other, through this turning the educator is also able to understand their own perspective on the world. This does not mean that both turn in the same direction (that is, no symmetry is implied), but rather that what lies between them rests on an ontological condition. It is the I–Thou of the pedagogical act, foregrounding the authenticity and openness of the relationship beyond the dilemmas of either/or (top-down education vs. bottom-up education).

#### DISCUSSION – CONCLUSIONS

Buber’s conception of dialogical relations expresses a non-hierarchical and non-instrumental orientation, opening the way for the otherness and uniqueness of each student. Through the mutual respect he proposes, he advances the equal participation of students in the learning process. His approach involves the creation of an interhuman space within which the authenticity of the encounter between teacher and student is sought. At the moment when roles are transcended, the student “accepts the educator as a person” (Buber 2002:108), making the interhuman sphere visible. These are the dimensions of encounter that unfold in moments of authentic relation, operating within the framework of an egalitarian relationship. For, as Buber notes, “where the semblance originates from the lie and is permeated by it, the interhuman is threatened in its very existence” (Buber 1957:107).

However, his vision of a new outlook on life—one that resists divisions and dualisms—does not remain at the level of theoretical interpretation but takes concrete shape also on the political level. In this respect, Buber stands as a timeless figure of struggle who inspires efforts toward the equality and dignity of the person in every society. His is, therefore, an experiential perspective that illuminates and reveals the horizon and pathway toward an authentic human life. The Between, as Buber envisions it, is not an abstract conception or a fragmentary reflection; rather, it inhabits the unseen dimensions of our lives, where the unsayable and the fleeting occur in the effort to preserve the integrity of human Being. It is here that the interhuman resides—the realization of the Between as a lived relationship. Buber thus strives to safeguard the

integrity of human Being against all forms of mediation or objectification, placing the dialogical relation at the forefront. Ultimately, he advances those existential meanings that foster a new mode of aesthetic perception, strengthening the emancipatory potential of the human person.

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## DOES GENDER CONSTITUTE A DIFFERENTIATING FACTOR IN THE DIGITAL COMPETENCIES OF TEACHERS IN GREEK PUBLIC SCHOOLS?

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### ABSTRACT

Considering the need to upgrade the quality of educational work, the prevailing educational trends, the challenges of the digital era, and the opportunities offered by digital technologies (OECD, 2018), quality in education emerges as a fundamental concern for educational organizations. Efforts to enhance and improve quality through effective teaching practices and teachers’ digital skills (Larson & Miller, 2011) are critical and often open to multiple interpretations, depending on the perspectives of the stakeholders involved (Partnerships for 21st Century Skills., 2009).

This study focuses on analyzing the Digital Literacy Competence (DLC) of teachers in Greek primary and secondary education, employing the Technological, Pedagogical, and Content Knowledge (TPACK) and Substitution, Augmentation, Modification, and Redefinition (SAMR) frameworks. These models combine knowledge of content, pedagogy, and technology, and help identify teachers’ levels of digital readiness and their strategies for integrating technology into classroom practice (Koehler & Mishra, 2016). Also examines gender-based variations, thereby extending the academic dialogue on how gender influences the effective integration of digital technologies into teaching and the promotion of dynamic, innovative learning experiences.

The research was conducted in Greece between April 22 and June 6, 2024, involving 186 teachers from all disciplines in public primary and secondary education. Participants completed a five-point Likert-scale questionnaire distributed electronically via social media. Records the demographic characteristics of respondents and applies the theoretical foundations of TPACK (Scriven, 1991) and SAMR (Koehler & Mishra, 2016) to explore teachers’ competencies in using digital tools and effectively integrating them into teaching practices. The statistical analysis included reliability testing (Cronbach’s Alpha), normality tests, independent samples t-tests, and Three-Way ANOVA to examine the combined effects of gender, educational level, and teaching experience on digital competency.

**Key Words:** digital competencies, teachers, gender, TPACK-SAMR, Greek education, gender equality



## INTRODUCTION

Within the framework of the Learning Society, the goal of education extends beyond the transmission of knowledge to emphasize the development of key competencies, such as critical thinking, creativity, communication, and collaboration, that enable today's students to become independent thinkers and active citizens (Beetham & Sharpe, 2019). The transition to the digital era requires new literacies, including technological and information literacy, the ability to manage vast amounts of information, social responsibility, and self-regulation (Milenkova et al., 2019). Education thus assumes a central role in preparing tomorrow's citizens (Burke, 2010). Modern learning environments, supported by innovative pedagogical approaches such as collaborative learning and problem-solving, foster critical thinking and creativity. The assessment of information value becomes a dynamic tool for learning and continuous improvement (Luqiu, 2019).

Teachers play a pivotal role in introducing students to the digital world, a process that demands a multidimensional approach combining content knowledge with technological competence. As teachers stand at the forefront of integrating digital media into instruction, they face diverse challenges that require both deep understanding and adaptability (Vincent-Lancrin, et al., 2019). Teaching is an inherently complex process, requiring the contextual adaptation of specialized knowledge across diverse educational settings (Mishra & Koehler, 2006), making the educator's role demanding and ever-evolving (Voogt et al., 2013). To meet their students' needs, teachers must access organized knowledge drawn from multiple domains, including digital tools that facilitate learning (Putnam & Borko, 2000). This involves not only familiarity with technological tools but also their creative and context-appropriate integration into daily classroom practice to enhance the learning experience effectively (Mishra & Koehler, 2006).

Nevertheless, the integration of new technologies into education is not without challenges (Voogt et al., 2013). Technologies currently used in classrooms, such as learning management systems, interactive whiteboards, and e-portfolios, often encounter obstacles and resistance (Golonka et al., 2014). These barriers include insufficient professional development for teachers (Bingimlas, 2009), lack of technical support (Johnson et al., 2016; Morris, 2012), and both individual and institutional resistance to change (Kavanagh & Ashkanasy, 2006). Overcoming such barriers requires strategic actions such as developing a shared vision, providing continuous training, and cultivating a supportive organizational culture that promotes open communication and quality collaboration (Davies & Davies, 2013).

For technology integration to be successful, teachers must adopt a new mindset that recognizes teaching as an interaction among content, pedagogy, and technology (Koehler & Mishra, 2016). The TPACK (Technological Pedagogical Content Knowledge) framework proposes a technologically supported model of teaching grounded in the intersection of these three domains, emphasizing teachers' ability to adapt their practices to their specific classroom contexts (Mishra & Koehler, 2006). Developing a supportive and collaborative environment in which teachers can refine their skills and understand how technology can be effectively embedded in their teaching is crucial for success (Putnam & Borko, 2000). This process must be

reinforced through continuous opportunities for learning, reflection, and feedback (Ertmer, 2005).

#### RESEARCH

The main objective of this study is to investigate teachers’ digital competencies and their readiness to integrate new technologies into teaching, in relation to their gender. Employs the TPACK-SAMR theoretical framework, which integrates knowledge of technology, pedagogy, and content while assessing the capacity to incorporate technology at various instructional levels. This approach offers a comprehensive framework for evaluating technological proficiency and understanding critical factors that contribute to improving the quality of education (Koehler, M. J., & Mishra, P., 2016; Niess, M. L., 2011; Mishra, P., & Koehler, M. J., 2006).

This quantitative research was conducted between April and June 2024 with a sample of 186 teachers serving in public schools across Greece. Data was collected using a questionnaire developed in Google Forms and distributed online through social networks such as Facebook, Messenger, Instagram, Viber, and email. For the statistical analysis, the software SPSS 25, ChatGPT-4, and Microsoft Excel were used to process and interpret data and the questionnaire consisted of two main parts:

First part gathered demographic information from teachers of different specialties, educational levels, employment types, years of experience, and gender.

Second part assessed teachers’ digital readiness, using Likert-scale questions (1 = Strongly Disagree, 2 = Disagree, 3 = Neither Agree nor Disagree, 4 = Agree, 5 = Strongly Agree).

The TPACK (Technological Pedagogical Content Knowledge) framework describes the knowledge teachers must possess for the effective integration of technology in teaching. Essentially, TPACK represents the intersection of three key domains:

Content Knowledge (CK) – understanding the subject matter being taught.

Pedagogical Knowledge (PK) – understanding how to teach effectively; and

Technological Knowledge (TK) – understanding how to use technology to support and enhance learning.

This blend forms a complex, multidimensional form of knowledge that combines what teachers teach, how they teach, and how technology can support and enrich both teaching and learning (Koehler & Mishra, 2016). The questionnaire comprised 19 items, grouped into eight categories, corresponding to the TPACK and SAMR constructions, as shown below:

**Table 1**

**Grouping of variables according to the TPACK-SAMR model**

<b>Dimension</b>	<b>Items</b>	<b>Description</b>
A. Technological Knowledge (TK)	1–3	Awareness and application of technologies to support subject teaching.
B. Pedagogical Knowledge (PK)	4–5	Knowledge and application of various teaching strategies to enhance instruction.
C. Content Knowledge (CK)	6–7	Familiarity with and ability to model the use of instructional material.

Dimension	Items	Description
D. Technological Knowledge (TPK)	Pedagogical 8–9	Selecting and applying appropriate digital tools to support pedagogical strategies.
E. Technological Content Knowledge (TCK)	10–11	Choosing suitable technologies for teaching specific subjects or lessons.
F. Pedagogical Content Knowledge (PCK)	12–13	Integrating subject-matter knowledge into instructional design.
G. Technological Pedagogical Content Knowledge (TPACK)	14	Using digital tools and educational software to support teaching strategies.
H. SAMR (Substitution, Augmentation, Redefinition)	(Substitution, Modification, 15–19)	Evaluating and applying technology integration across progressive levels of transformation in teaching practice.

### Demographic Characteristics

#### 1. Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Man	59	31,7	31,7	31,7
	Woman	127	68,3	68,3	100,0
	Total	186	100,0	100,0	

n = 186. Women: 127 (68.3%); Men: 59 (31.7%).  
In sum, just over two thirds of respondents were women.

#### 2. Educational Attainment

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	TEI	7	3,8	3,8	3,8
	University	50	26,9	26,9	30,6
	Master	119	64,0	64,0	94,6
	Doctorate	10	5,4	5,4	100,0
	Total	186	100,0	100,0	

- Master’s degree: 119 (64.0%)
  - University (BA/BS): 50 (26.9%)
  - Doctorate (PhD/EdD): 10 (5.4%)
  - Technological Education Institute (TEI): 7 (3.8%)
- Most participants held a postgraduate qualification (Master’s).

### 3. Employment Status

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Substitute	75	40,3	40,3	40,3
	Permanent	111	59,7	59,7	100,0
	Total	186	100,0	100,0	

- Permanent: 111 (59.7%)
- Substitute: 75 (40.3%)

### 4. Years of Teaching Experience

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0-5	64	34,4	34,4	34,4
	5-10	5	2,7	2,7	37,1
	10-15	41	22,0	22,0	59,1
	15-20	60	32,3	32,3	91,4
	20-...	16	8,6	8,6	100,0
	Total	186	100,0	100,0	

- 0–5 years: 64 (34.4%)
- 5–10 years: 5 (2.7%)
- 10–15 years: 41 (22.0%)
- 15–20 years: 60 (32.3%)
- 20+ years: 16 (8.6%)

Experience was evenly split between early (0–5) and mid-career (15–20) groups, with fewer in the 5–10 band.

### Grouping of Variables (TPACK–SAMR Model) and Reliability

Following the TPACK–SAMR framework, items were grouped into eight latent dimensions. Internal consistency was assessed with Cronbach’s alpha (Streiner, 2003).

**Table 2**

**Reliability Cronbach’s alpha**

Construct	Items	Example content focus	Cronbach’s $\alpha$
Technological Knowledge (TK)	1–3	Knowledge/use of technologies supporting subject teaching	.913
Pedagogical Knowledge (PK)	4–5	Knowledge/use of teaching strategies	.852

Construct	Items	Example content focus	Cronbach's $\alpha$
Content Knowledge (CK)	6–7	Familiarity with and modeling of instructional materials	.682
Technological Knowledge (TPK)	Pedagogical 8–9	Selecting/applying digital tools to support pedagogy	.863
Technological Knowledge (TCK)	Content 10–11	Selecting/applying technology for specific content	.923
Pedagogical Content Knowledge (PCK)	12–13	Integrating disciplinary knowledge into instructional design	.866
TPACK	14–15	Combining pedagogy, technology, and content	.836
SAMR	16–19	Substitution → Augmentation → Modification → Redefinition	.853

Descriptive analysis revealed high mean scores across all TPACK–SAMR components, suggesting that Greek teachers demonstrate substantial familiarity with digital tools and confidence in integrating technology into their teaching practice. The overall reliability of the constructs was high (Cronbach's  $\alpha$  ranging from .682 to .923), confirming the internal consistency of the instrument.

#### Assumption Checks (Normality)

Shapiro–Wilk tests indicated departures from perfect normality for most composite variables (TK, PK, CK, TPK, TCK, PCK, TPACK), except SAMR. However, Shapiro–Wilk statistics were close to 1, histograms and Q–Q plots suggested near-normal distributions, and skewness/kurtosis fell within [-2, +2] across constructs (Razali, & Wah, 2011). Given the sample size ( $n = 186$ ) and diagnostics, parametric tests were deemed appropriate.

#### RESULTS AND DISCUSSION

Using parametric tests, including  $t$ -tests and Three-Way ANOVA, the analysis provided insight into how gender, education level, and teaching experience interact to influence teachers' technological, pedagogical, and content knowledge.

**Table 3**  
**Hypothesis Tests**

H <sub>0</sub>	Null hypothesis	Statistical test	Key results (Sig.)	Decision	Interpretation
H <sub>01</sub>	No mean differences in TK, PK, CK, TPK, TCK, PCK, TPACK, SAMR by gender.	Independent-samples $t$ -tests (with Levene's test)	All $p > .05$	Do not reject	No gender differences across any TPACK–SAMR dimension.
H <sub>02</sub>	No combined effect of gender × education	Three-Way ANOVA	All $p > .05$	Do not reject	TK not affected by gender, studies, or experience.

H <sub>0</sub>	Null hypothesis	Statistical test	Key results (Sig.)	Decision	Interpretation
	experience on TK.				
H <sub>03</sub>	No combined effect of gender × education × experience on PK.	Three-Way ANOVA	Gender (.002); Studies (.024); Experience (.001); Studies×Experience (.017)	Reject	PK varies by gender, level of studies, years of experience, and the Studies×Experience interaction.
H <sub>04</sub>	No combined effect of gender × education × experience on CK.	Three-Way ANOVA	Experience (.008)	Partially reject	CK increases with years of experience; no other effects.
H <sub>05</sub>	No combined effect on TPK.	Three-Way ANOVA	All $p > .05$	Do not reject	TPK comparable across groups.
H <sub>06</sub>	No combined effect on TCK.	Three-Way ANOVA	Studies (.045)	Partially reject	TCK higher with advanced studies.
H <sub>07</sub>	No combined effect on PCK.	Three-Way ANOVA	Gender×Experience (.042)	Partially reject	PCK depends on the interaction of gender and experience.
H <sub>08</sub>	No combined effect on TPACK.	Three-Way ANOVA	Gender (.029)	Partially reject	TPACK differs by gender (higher levels observed among women).
H <sub>09</sub>	No combined effect on SAMR.	Three-Way ANOVA	All $p > .05$	Do not reject	SAMR does not vary by demographics or their interactions.

Independent samples *t*-tests revealed no significant gender differences in any TPACK–SAMR dimensions (all  $p > .05$ ), indicating that male and female teachers in Greek public schools share comparable levels of digital readiness. This finding suggests that gender alone is not a determining factor in teachers’ digital competencies a result is consistent with other recent studies emphasizing that professional training and institutional culture often outweigh gender in shaping digital literacy (e.g., Voogt et al., 2013; Ertmer, 2005).

The factorial ANOVA analyses provided a more nuanced picture:

- Pedagogical Knowledge (PK) was significantly influenced by gender ( $p = .002$ ), education ( $p = .024$ ), experience ( $p = .001$ ), and the interaction between education and experience ( $p = .017$ ). This indicates that pedagogical skills are shaped by both professional background and accumulated teaching experience, with women and highly educated teachers demonstrating stronger pedagogical awareness.
- Content Knowledge (CK) was significantly associated with years of teaching experience ( $p = .008$ ), supporting the notion that extended practice in the classroom contributes to deeper content mastery.
- Technological Content Knowledge (TCK) was affected by educational level ( $p = .045$ ), implying that higher degrees correspond with more advanced technology–content integration skills.

- Pedagogical Content Knowledge (PCK) showed a significant Gender  $\times$  Experience interaction ( $p = .042$ ), indicating that female teachers with more experience display stronger pedagogical content integration.
- Technological Pedagogical Content Knowledge (TPACK) also exhibited a gender effect ( $p = .029$ ), suggesting that women demonstrate slightly higher levels of integrated digital pedagogy.
- Conversely, Technological Knowledge (TK), Technological Pedagogical Knowledge (TPK), and SAMR dimensions showed no significant differences across any demographic variables ( $p > .05$ ), highlighting the uniformity of teachers’ basic digital skills and their confidence in technology adoption.

### **Interpretation and Implications**

The absence of significant gender differences across most TPACK–SAMR constructs underscores the increasing digital parity between male and female educators in Greek public schools. This finding aligns with the digital transformation policies implemented in recent years by the Greek Ministry of Education, which have emphasized inclusive access to digital professional development. The strong performance of female teachers in PK, PCK, and TPACK dimensions suggests that gender-related differences, where present, may reflect broader pedagogical engagement and reflective teaching practices, rather than inherent disparities in technological proficiency. Women educators, often more active in collaborative and communicative teaching practices, may have leveraged these skills in the integration of digital technologies.

The significant effects of education and experience reveal that professional training and long-term engagement in teaching remain decisive factors in developing integrated digital competencies. Teachers with advanced degrees and more years of service appear better equipped to combine content, pedagogy, and technology effectively, supporting the importance of continuous professional learning (Putnam & Borko, 2000; Mishra & Koehler, 2006). The stable results across TPK and SAMR dimensions suggest that Greek educators have reached a relatively homogeneous level of practical digital literacy, reflecting the nationwide implementation of digital education initiatives and increased access to technological infrastructure in schools.

#### **Summary**

No gender-based disparities exist in teachers’ basic digital and technological competencies.

Pedagogical dimensions (PK, PCK, TPACK) are influenced by gender and experience, indicating areas for targeted professional development.

Educational attainment enhances teachers’ ability to merge technology and content knowledge.

Experience remains a key driver of confidence and depth in content-related digital practices.

These findings collectively emphasize that gender does not constitute a differentiating factor in teachers’ digital competencies; rather, education, experience, and ongoing professional support play the central roles in advancing digital readiness.

### **CONCLUSION**

At the global level, education, as emphasized by international organizations such as the United Nations (UN) and UNESCO, is increasingly oriented toward the promotion of sustainable development, focusing on the cultivation of 21st-century

skills, including critical thinking, problem solving, and digital literacy. This transformation has led to substantial reforms in many national education systems. In countries such as Finland, for example, systemic thinking has already been embedded into educational reform efforts, fostering more innovative and participatory learning environments.

In Greece, the education system has made efforts to align with contemporary international standards and pedagogical priorities. Although policy developments have aimed to ensure equitable access to quality education, teachers still face challenges such as limited professional development opportunities and the difficulty of integrating educational innovations into their everyday teaching practice. The digital transformation of schools is now a prerequisite for adapting education to the needs of the modern world. The integration of digital learning platforms, robotics, and STEM technologies into the classroom is not merely a response to emerging educational demands but also a vital means of enhancing teaching quality and student engagement. Achieving this transformation, however, depends fundamentally on the development of teachers’ digital competencies and their sustained professional support.

Statistical analysis of this study grounded in the TPACK–SAMR framework demonstrated that Greek teachers are, overall, digitally well-prepared. Reliability indices (Cronbach’s  $\alpha$  ranging from .682 to .923) confirmed the internal coherence of the measures, while hypothesis testing through t-tests and Three-Way ANOVA yielded robust and valid findings. The results indicate that teachers possess substantial digital literacy and technological confidence, though continuous professional development remains necessary to strengthen their capacity for advanced levels of technological integration—namely, the Modification and Redefinition stages of the SAMR model.

Emphasis should be placed on enhancing teachers’ ability to combine technological, pedagogical, and content knowledge (TPACK), as this integration represents the most complex and transformative level of digital teaching competence. Continuous pedagogical training that focuses on effective, evidence-based uses of technology can significantly improve instructional quality, while teaching experience remains a crucial factor contributing to digital fluency and reflective practice. Finally, the findings of this research can serve as a valuable foundation for the design of educational policies, evaluation frameworks, and targeted professional development programs, taking full advantage of the opportunities provided by digital technologies to promote innovation, equality, and sustainability in education.

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## ADULT LEARNERS’ PERCEPTIONS OF GENDER ROLES IN EARLY CHILDHOOD PLAY

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### ABSTRACT

Research examining gender roles in early childhood education classrooms often highlights the persistence of stereotypes (Blaise & Taylor, 2012; Lynch, 2015). Other studies emphasize the influence of teachers and educational staff in shaping gendered stereotypes within children’s play (Carlson & Meyer, 2014; Chapman, 2016; Mikkola, 2008, 2022). Freeman’s (2007, p. 357) findings describe how young children construct gender perceptions in the early years of life, how they reframe play activities based on gender by the age of three, and how they can anticipate parental views regarding gender-based and cross-gender play. According to the literature, adults tend to transfer gender stereotypes into different types of toys and activities (Cannizzaro, 2019; Freeman, 2007). For instance, girls are often encouraged to play with dolls, kitchen toys, makeup, and beauty accessories, while boys are more frequently offered construction tools, weapons, superhero, and explorer toys (Cannizzaro, 2019). Based on this background, the present study investigates the perceptions of adult students in the third grade of the “Infant and Toddler Care Assistant” specialization regarding the gender dimension of children’s play. Adult learners represent a distinct category of students, as one of their defining characteristics compared to minors is that they approach learning already possessing established perceptions, values, and beliefs (Kapur, 2015; Kokkos, 2005).

The study presented was conducted during the 2024–2025 academic year with the aim of designing an appropriate educational intervention within the course “Infant and Toddler Education (Theory & Laboratory)”, targeting the elimination of educators’ gender stereotypes in children’s play. The sample consisted of eleven female students and one male student, aged 35–50, attending an evening vocational high school (EPAL) in Eastern Thessaloniki. Data were collected through two “diagnostic teaching” activities (Stylianou-Georgiou & Chatzianastasi, 2022), combined with the “focus group” research method (Vrasidas, 2014). The findings indicated that the majority of participants held prejudices and stereotypical beliefs concerning gender in young children’s play. The findings of the study underline the necessity of targeted educational interventions to raise awareness and reduce gender bias among future early childhood educators as well as early childhood educator assistants.

**Key Words:** gender, early childhood play, adult student perspectives

## INTRODUCTION

The significance and value of play in children’s development have been extensively supported by numerous studies and theoretical frameworks. Play serves a crucial role in children’s physical, cognitive, social, linguistic, and emotional growth. A child’s need for play is as fundamental as the need for food, love, and care. Research indicates that children’s toy preferences and play styles both influence and are influenced by gender stereotypes during early childhood (Spinner et al., 2021). This phenomenon occurs because toys, as cultural artifacts, can embody and transmit ideological messages concerning gender (Kogkidou, 2015). Such ideological messages, when combined with the differentiated educational content of children’s toys, may affect children’s academic performance, their selection of specific academic fields, and their future career aspirations (Kogkidou, 2015).

Awareness of gender stereotypes among children has been observed as early as three years of age, with adherence to such stereotypes peaking around five or six years (Spinner et al., 2021). Within this context, examining early childhood educators’ perceptions—and simultaneously raising their awareness of gender-related stereotypes in children’s play—is essential.

Building on these considerations, the present study investigates the views of adult learners enrolled in the Infant and Toddler Care Assistant specialization, who are prospective early childhood professionals. The primary aim is to design an appropriate educational intervention to promote awareness and reduce gender stereotypes in young children’s play.

## LITERATURE REVIEW

Play in early childhood is not merely a physical activity or a form of entertainment; rather, it constitutes a fundamental means of learning, socialization, and identity formation. Within the play environment, children explore social roles, test hypotheses about the world, experiment with power relations, and reproduce cultural experiences (Carlson & Meyer, 2014). Gender, as a social and cultural construct, enters this process from an early age, shaping children’s play choices, interactions, and the identities they construct (Mikkola, 2008, 2022). Thus, play cannot be regarded as a “neutral” activity but rather as a field in which social stereotypes and expectations intersect and are reproduced.

Research has shown that even during the preschool years, children develop perceptions about which toys “belong” to boys and which to girls (Freeman, 2007). Toys such as dolls or kitchen sets are often associated with “feminine” roles, whereas building blocks, vehicles, and superheroes are linked to “masculine” activities (Lynch, 2015). These attitudes are reinforced by the family, the school, and the media, as well as by educators themselves who—often unintentionally—reproduce gender-based distinctions (Chapman, 2016).

MacNaughton (2000), emphasizes that pedagogical practice frequently serves as a vehicle for “invisible” gendered orientations, manifested through the organization of classroom space, the language used, and the selective reinforcement of activities. Similarly, Davies (2003), argues that children, through everyday play scenarios, do not merely reproduce gendered identities but also negotiate, perform, and transform them,

always in interaction with adults’ attitudes. This suggests that educators are not neutral observers but active participants in the construction of gendered meanings.

Cannizzaro (2019), in research with preschool teachers, highlights that although educators often claim not to interfere in children’s play choices, in practice they tend to reinforce stereotypes by guiding preferences through comments or by structuring activities in gendered ways. Lynch (2015), reaches similar conclusions, showing how educators’ perceptions of “boys’ and girls’ toys” indirectly shape children’s choices. Consequently, the notion that children “freely choose” their play is often misleading, as the context in which these choices occur is already socially charged.

Queer theory offers an alternative analytical lens for understanding gendered play. According to Blaise and Taylor (2012), gender is not a fixed category but a fluid social construction that children continuously renegotiate. Thus, play is not merely a reflection of gender norms but a space for creating new forms of identity and experimentation. A girl who assumes the role of a “superhero” or a boy who plays “parent” with a doll does more than challenge stereotypes—such actions contribute to the formation of alternative gender narratives. The pedagogical challenge, therefore, lies in encouraging these practices and preventing the reproduction of rigid binaries.

Wohlwend (2012), demonstrates that play operates as a “negotiation space” where children both internalize and subvert societal expectations regarding gender. Through pretend play, children can assume powerful roles regardless of their gender or experiment with identities that diverge from normative expectations. The pedagogical and educational responsibility of professionals lies in supporting this creative space to cultivate equality and respect for diversity.

In practice, dismantling gender stereotypes requires conscious pedagogical strategies. Arranging the classroom with diverse, non-gendered materials; using gender-neutral language; encouraging all children to participate in every activity; and engaging in critical discussions about stereotypes in stories and media are all practices that promote gender equality (Davies, 2003; MacNaughton, 2000).

The family also, plays an equally significant role. Freeman (2007), argues that parents often send contradictory messages: while they may encourage children to explore different activities, they also express concern when such activities challenge traditional norms. In this regard, school–family collaboration is essential to avoid contradictions and promote a coherent message of equality.

The theoretical discussion on the social construction of gender, as presented by Mikkola (2008, 2022), reminds us that gender identities are socially and culturally produced rather than biologically determined. This understanding carries direct pedagogical implications: if gender stereotypes are social constructs, then education can play a key role in dismantling them. Consequently, early childhood education, as the first institutional context of socialization, can function as a catalyst for promoting freedom of expression and the equal participation of all children in all forms of play.

In summary, investigating gender stereotypes in children’s play holds dual significance. Theoretically, it contributes to understanding gender as a fluid and socially produced phenomenon. Pedagogically, it provides practical tools for creating learning environments that do not confine children to gendered roles but instead encourage them to experiment, question, and construct new forms of identity. The mission of early childhood educators and preschool teachers is to transform play spaces into

environments of freedom, respect, and equality, thereby laying the foundation for inclusive and equitable education.

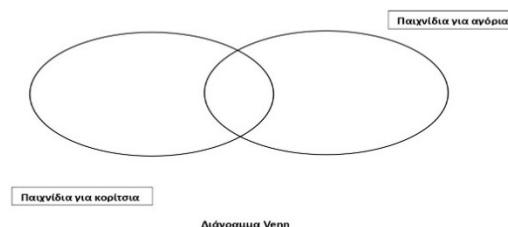
## METHODOLOGY

The present study was conducted during the 2024–2025 academic year with the aim of designing an appropriate educational intervention within the course Infant and Toddler Education (Theory & Laboratory). The intervention sought to deconstruct gender stereotypes held by Infant and Toddler Care Assistant students regarding children’s play. The primary objective was to investigate the perceptions of adult students enrolled in the third grade of a Vocational High School (EPAL), specializing in Infant and Toddler Care Assistance, concerning the gender dimension of children’s play. The sample consisted of eleven female and one male student, aged 35–50, attending an evening EPAL in Eastern Thessaloniki.

Data collection involved two “diagnostic teaching” activities (Stylianou-Georgiou & Chatzianastasi, 2022), combined with the “focus group” research method (Vrasidas, 2014), for a total duration of two teaching hours (80 minutes). The diagnostic teaching method was selected because it contributes to the development of a student-centered learning environment by identifying learners’ beliefs and misconceptions and creating situations that encourage critical thinking and reflection (Stylianou-Georgiou & Chatzianastasi, 2022). Similarly, focus groups, as described by Vrasidas (2014), facilitate an in-depth understanding of participants’ personal beliefs and attitudes through the development of open or structured dialogue on the subject under investigation.

Regarding the diagnostic evaluation activities, the first involved each student presenting one or more images of their childhood toys to the class. All images were then displayed on the classroom bulletin board. Subsequently, the second activity involved completing a worksheet containing a Venn diagram (see Figure 1). In this activity, participants were instructed to list in the left circle of the diagram the toys from the displayed images that they considered suitable for girls and, in the right circle, those they believed were appropriate for boys. Finally, in the overlapping area of the two circles, they were asked to record the toys they regarded as gender neutral.

Picture 1  
Venn Diagram



Regarding data collection within the focus group, a semi-structured interview format was employed. The interview questions were as follows:

-Are there toys that you believe are more suitable for boys? Which ones are more suitable for girls? Why?

-Have you ever heard someone say, “That is a toy for girls/boys”? How did that make you feel?

-If a boy wanted to play with dolls or a girl wanted to play with toy cars, what would you say?

-How would it be if everyone could play with any toy they wanted, without receiving comments?

-What toys would you like to try, but have never played with?

## RESULTS

The results of the diagnostic evaluation activities indicated that the majority of students presented and classified their childhood toys according to their belief that certain toys correspond to their own gender. Specifically, female students presented items such as dolls, stuffed animals, kitchen sets, painting kits, and puzzles, while the male student referred to transportation toys, Playmobil figures, building blocks, balls, and bicycles.

Similarly, data from the focus group revealed that 10 out of 12 participants—including the male student—expressed stereotypical responses concerning gendered perceptions of toys. Two female participants demonstrated non-stereotypical perspectives regarding the gender dimension of children’s play. Indicative responses are presented in Table 1 below.

Table 1  
Focus group responses

Question	Stereotypical Responses	Non-Stereotypical Responses
Are there toys that you believe are more suitable for boys or girls? Why?	<ul style="list-style-type: none"> <li>- Boys: active toys (building blocks, cars, balls).</li> <li>- Girls: dolls, kitchen sets, painting.</li> <li>- Boys have more energy and are more dynamic; girls are more nurturing and sensitive.</li> </ul>	<ul style="list-style-type: none"> <li>- I don’t believe toys have a gender; children choose according to their interests.</li> <li>- All toys should be available to all children; stereotypes limit development.</li> </ul>
Have you ever heard someone say, “That is a toy for girls/boys”? How did you feel?	<ul style="list-style-type: none"> <li>- Yes, I have heard it often.</li> <li>- I was not bothered; it is normal.</li> <li>- That’s how we were raised; we know which toys correspond to each gender.</li> </ul>	<ul style="list-style-type: none"> <li>- I have heard it and feel the need to intervene because it limits children.</li> <li>- I feel uncomfortable because it reproduces social roles and inequalities that should not exist today.</li> </ul>

<p>If a boy wanted to play with dolls or a girl with toy cars, what would you say?</p>	<ul style="list-style-type: none"> <li>- I wouldn't forbid it, but I would guide them toward toys more “appropriate” for their gender.</li> <li>- Boys: building blocks, balls. Girls: painting, kitchen sets.</li> <li>-It's better not to confuse them with toys of the other gender.</li> </ul>	<ul style="list-style-type: none"> <li>- I would encourage it; all toys develop skills for all children.</li> <li>- I would say they can play with whatever they want; there is no wrong toy.</li> </ul>
<p>How would it be if everyone could play with any toy they wanted without comments?</p>	<ul style="list-style-type: none"> <li>- Theoretically nice, but in practice it would create confusion.</li> <li>- Children need clear boundaries.</li> <li>- If everything were for everyone, they wouldn't learn to distinguish gender roles.</li> </ul>	<ul style="list-style-type: none"> <li>- We would feel freer and learn more.</li> <li>- It would boost self-confidence and reduce discrimination.</li> </ul>
<p>What toys would you like to try, but have never played with?</p>	<ul style="list-style-type: none"> <li>- I wouldn't try toys of the opposite gender.</li> <li>- I would never play with dolls because they are for girls.</li> <li>- Each gender has its own toys.</li> </ul>	<ul style="list-style-type: none"> <li>- Construction toys I didn't play with as a child.</li> <li>- Cranes and cement mixers.</li> </ul>

## DISCUSSION

The findings of the present study reveal that the majority of adult learners maintain stereotypical perceptions regarding the gender dimension of children's play. This tendency is not unexpected, as international literature emphasizes that adults—and particularly educational staff—often reproduce dominant social gender norms, even unconsciously (Cannizzaro, 2019; Chapman, 2016). The participants' views, as expressed through the diagnostic activities and the focus group, appear to align with the broader tendencies described in the theoretical framework of this study.

More specifically, the selection and classification of children's toys based on gender, as presented by the adult learners, reflect the findings of Freeman (2007) and Lynch (2015), who argue that both children and adults attribute gendered characteristics to toys. The female learners' categorization of dolls, kitchen sets, painting kits, and stuffed animals as “girls' toys,” and the male learner's classification of toy cars, Playmobil figures, balls, and bicycles as “boys' toys,” underscore the extent to which socially established gender expectations continue to shape adults' understanding of the world of play. This classification directly echoes Kogkidou's (2015), argument that toys function as cultural carriers that embody and transmit ideological messages.

Additionally, the repeated references to characteristics such as “boys have more energy” or “girls are more caring and sensitive” confirm that participants adopt biological conceptions of gender. These beliefs have been extensively analyzed by Mikkola (2008, 2022), who emphasizes that such stereotypes do not reflect actual gender differences, but rather social constructions systematically reproduced in both

public and private life. The fact that several participants regarded stereotypical statements as “normal,” as recorded in the focus group, further supports the notion that these perceptions are deeply internalized and rarely questioned.

Furthermore, the view that “free choice of play” might “confuse” children suggests the presence of a cognitive framework that perceives gender as an innate category rather than a social construct. This perspective contradicts queer theory, as articulated by Blaise and Taylor (2012), who maintain that gender is a fluid and continuously negotiated identity. The belief that toys may cause confusion among children highlights a fear of deviation from norms and reflects a normative model of gender socialization.

A particularly noteworthy finding is that only two out of twelve participants explicitly rejected gender stereotypes. These female learners expressed views consistent with contemporary pedagogical models that advocate equal access for all children to all types of play without restriction. Their perspectives align with Wohlwend’s (2012) approach, which conceptualizes play as a space for negotiating and reconstructing gender identities. The limited presence of such non-stereotypical views within the sample confirms the necessity of systematic awareness-raising interventions.

The data also underscore the pedagogical practice’s role in perpetuating stereotypes. Participants’ beliefs that “children need boundaries” or that “they should know the roles of the sexes” correspond to MacNaughton’s (2000) findings, which indicate that educators often act as unconscious agents of gendered guidance. This tendency was reinforced by several learners’ admission that they would “direct” a child toward a more “appropriate” toy. Such attitudes reflect a traditional pedagogical stance in which the educator functions as a regulator of behavior rather than a supporter of children’s free choices.

Moreover, participants’ references to phrases encountered in their family environments—such as “that’s how we were raised”—highlight the family’s role in shaping stereotypes, as noted by Freeman (2007). The pervasive presence of such messages across social contexts reinforces their reproduction and complicates efforts toward their deconstruction.

Finally, the finding that adult trainee childcare assistants tend to perceive gender categorization as functional rather than problematic reflects a deeply ingrained social logic that regards the maintenance of “normality” as essential to child-rearing. This very logic constitutes the core of gender stereotypes and, according to Davies (2003), it is the educator’s responsibility to challenge rather than reinforce it.

Overall, the discussion of the findings demonstrates that adults preparing to work in early childhood care and education settings require systematic professional development concerning the gender dimension of play. The presence of stereotypical perceptions already at the stage of initial training underscores the necessity of educational interventions designed to foster reflection, redefinition of beliefs, and the adoption of inclusive pedagogical attitudes.

## CONCLUSIONS

This study demonstrated that most adult trainee childcare assistants maintain stereotypical beliefs regarding the gender dimension of children’s play. This finding confirms existing literature and highlights the need for systematic pedagogical intervention. The results indicate that these perceptions are not isolated but form part of a broader social construction of gender that permeates everyday practices—often

beyond the awareness of early childhood professionals themselves. Recognizing this phenomenon constitutes the first essential step toward addressing it.

The observation that only two of the twelve participants adopted a non-stereotypical perspective suggests that the educational environment preparing future early childhood professionals requires critical re-examination. As adult learners, the participants already possess established beliefs and experiences that often hinder the adoption of new pedagogical approaches. This aligns with adult learning theory (Kokkos, 2005; Kapur, 2015), which posits that adults learn most effectively when prompted to reflect upon and reinterpret their pre-existing ideas and experiences.

Based on these findings, the implementation of targeted pedagogical interventions during the education and training of childcare assistants is deemed essential to enhance critical thinking and understanding of social gender. The following recommendations emerge from this study:

**Integration of reflective learning activities within structured teaching interventions:** Adult learners can benefit from experiential learning activities that prompt them to reconsider their perceptions of toys and gender roles. Such activities may include commenting on audiovisual and digital materials or engaging in role-playing exercises, encouraging self-awareness of unconscious biases.

**Redesign of the learning environment in laboratory courses:** To cultivate an inclusive culture, the educational environment should serve as a model. This can be achieved by enriching classrooms with a variety of non-gendered toys, presenting exemplary inclusive activities for early childhood, and adopting gender-neutral language during instruction. These practices model the inclusive behaviors that future childcare assistants are expected to develop.

**Critical engagement with gender stereotypes promoted by the media, particularly in relation to toys:** Incorporating analytical discussions on gender representation in advertisements, children’s programs, and toy catalogues can enhance understanding of the mechanisms that produce and reproduce stereotypes. Examining real-world examples may strengthen learners’ critical thinking and their ability to recognize social expectations.

**Training in the principles of inclusive pedagogy:** Empowering learners with knowledge of social gender theory and contemporary perspectives on identity can provide the theoretical foundation for attitudinal change. The integration of theory and practice may foster professional identity development and contribute to the creation of equitable learning environments for all children.

**Emphasis on collaboration with families:** Literature indicates that contradictory messages from home and school environments reinforce confusion and stereotype maintenance (Freeman, 2007). It is therefore essential to train future childcare assistants in communication strategies with parents to promote a shared stance toward unrestricted play.

**Enhancement of learners’ self-efficacy:** Adult students need encouragement to adopt new practices. Education and training programs should include structured feedback, staff support, and opportunities for ongoing professional development.

In sum, integrating educational interventions aimed at deconstructing gender stereotypes in children’s play is not merely a pedagogical necessity but also an ethical

imperative. Future childcare assistants—and early childhood educators more broadly—must be equipped to create environments where all children can express themselves freely, without gender-based constraints. Awareness and reflection constitute critical processes for achieving this transformation.

The present study supports the view that the deconstruction of gender stereotypes in adult education is both feasible and necessary. Through targeted pedagogical approaches, adult learners can cultivate critical consciousness and actively contribute to the creation of a more equitable and inclusive context for young children’s education and care.

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## AI LITERACY AMONG NEWLY APPOINTED PHILOLOGISTS

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### ABSTRACT

This paper investigates the level of artificial intelligence (AI) literacy among secondary school teachers of Philology (PE02) who were appointed to public education in the academic year 2024–2025. AI literacy is defined as the set of skills that enable individuals to critically evaluate AI technologies, to communicate and collaborate effectively with machines, and to employ them as tools in online, domestic, and professional contexts (Long & Magerko, 2020). It constitutes an emerging, multidimensional competence that individuals are expected to develop from an early age in order to respond effectively to the academic, professional, and social demands of the 21st century (Yi, 2021). AI literacy is a particularly critical skill for women educators, as it contributes both to their personal empowerment and to the expansion of their pedagogical capacities. The integration of AI into education by women teachers fosters the disruption of entrenched stereotypes, mitigates women’s underrepresentation in STEM fields, and offers significant opportunities for professional advancement (Shah, 2024). At the same time, it promotes the development of lawful and ethical practices in AI use across the educational community, as well as the cultivation of critical literacy. Newly appointed philologists, in particular, are called upon to address both the short-term and long-term challenges arising from the rapid introduction of AI into education. They are also tasked with bridging AI and the humanities, while ethically and critically equipping their students (Ning et al., 2025).

The aim of the present study is to assess the level of AI literacy among newly appointed teachers. The research method employed was a quantitative survey. A total of 218 female educators were selected through simple random sampling (Ning et al., 2025) and completed a self-assessment questionnaire comprising five distinct categories, structured on the revised Bloom’s taxonomy. The first category included demographic information, while the subsequent sections examined: (a) knowledge and beliefs, (b) the use of AI applications in teaching practice, (c) evaluation and innovation, and (d) adherence to ethical practices and guidelines (Ng et al., 2021; Almatrafi et al., 2024). The findings indicate that women educators are aware of developments in AI in education and adopt ethical practices in its implementation. However, they lag behind in the practical use of AI in the teaching process, in evaluating educational applications and AI systems, and in problem-solving. Therefore, it is imperative to provide further training for women educators in emerging technologies, through the design of modern and innovative professional development programs tailored to the realistic needs of the Greek educational system.

**Key Words:** AI literacy, Teacher AI literacy, Gender and AI, AI and education, Critical literacy, AI in the humanities

## INTRODUCTION

Artificial Intelligence Literacy (AIL) is recognized as one of the most crucial competencies of the 21st century. It refers to the set of abilities and skills associated with AI that individuals are expected to develop from early childhood in order to fully respond to the contemporary educational, professional, and cultural challenges of the modern world (Yi, 2021), as well as to avoid social marginalization (Mills et al., 2024).

AI literacy was first introduced in the scientific community in 2016 by Burgsteiner et al. (2016) and Kandlhofer et al. (2016) as a concept equally important to linguistic, numerical, and computational literacy. The researchers highlighted the inadequacy of educational systems to offer students consistent preparation and continuous guidance for addressing the demands of future academic and professional realities, due to the rapid dissemination of AI. Through the I-Robot educational program in robotics and AI they developed, they emphasized the need for secondary school students to become familiar with concepts such as algorithms, data, programming, and code development.

Long and Magerko (2020) were the first to define AI literacy as “the set of skills that enables individuals to critically evaluate artificial intelligence technologies, to communicate effectively with machines, to collaborate with them, and to use them as tools in online, domestic, and work environments”.

Laupichler et al. (2022) defined AI literacy as an individual’s ability to understand, use, monitor, and critically analyze AI applications, without necessarily being able to develop AI models themselves. The concept encompasses the AI-related competencies that the general population should possess and, consequently, focuses primarily on users who do not necessarily have a computer science background (non-experts). Kong et al. (2023) note that AI knowledge corresponds to the ability of individuals to recognize, use, and ethically evaluate AI-related products. Pinski and Benlian (2024) described general AI literacy as a sociotechnical competence that enables: (a) human interaction with AI, (b) knowledge of the stages and processes of content production (data input, processing, and output), and (c) the acquisition of experience in using relevant applications. They highlighted the need to distinguish between non-expert users, who use AI for personal and social purposes, and expert users, who possess specialized knowledge and employ these technologies in professional contexts.

Despite the rapid and widespread integration of AI into various applications, most users do not sufficiently understand how algorithms function and often fail to recognize whether and when they are interacting with an AI system. This leads to numerous misconceptions and biases regarding AI transparency and openness (Larsson & Heintz, 2020; Long & Magerko, 2020). Users often form inaccurate expectations about the capabilities of AI, and when these expectations are not met, collective disappointment arises, which may undermine its rational use (Long & Magerko, 2020). Therefore, acquiring AI competency is essential.

AI competency is defined as an individual’s confidence in clearly explaining and interpreting how AI technologies function and what their social impact is. Moreover, it includes the capacity to use these technologies ethically and responsibly, as well as to communicate and collaborate effectively with AI systems in different contexts. The concept also encompasses the ability to utilize such technologies in ways that promote collective benefit. Furthermore, a user who handles these systems competently is able

to think critically and evaluate their own level of knowledge, continually seeking to improve their understanding (Chiu et al., 2024).

AI-related skills are divided into four distinct categories (Kong et al., 2023) group. The first category highlights the cognitive dimension of literacy and encompasses the understanding of concepts associated with it, such as algorithms, supervised and unsupervised learning, and neural networks. Conceptual understanding forms the foundation that enables literate citizens to apply AI in their daily lives, to assess their perceptions and emotions regarding it, and to advance their knowledge and abilities. This category also focuses on the knowledge and skills required for using and implementing models. Users are not expected to understand complex mathematical formulas or to write programming code in order to work with such models. Nonetheless, conceptual understanding alone is insufficient for fully leveraging the potential of AI. Literate citizens are expected to develop metacognitive skills—namely, to solve problems by employing the appropriate tools and applications for each situation and to evaluate the resulting outcomes. Through this process, they formulate new strategies and continually enhance their problem-solving ability, which is a key component of metacognitive competence. The third level relates to the development of affective skills and the psychological readiness of users to accept AI. The use of such applications and systems often activates individuals emotionally and motivates them to focus on managing emerging challenges. When successful, users experience feelings of satisfaction and happiness. The final category concerns the social and ethical dimension. Literate citizens contribute to societal progress through their use of AI, solving problems and understanding both the positive and negative consequences that arise from its application within society.

#### BLOOM’S TAXONOMY AND TAXONOMIES OF ARTIFICIAL INTELLIGENCE SKILLS

In order to precisely determine the skills that render an individual literate in AI, as well as to develop measurement scales for AI literacy, the researchers employed Bloom’s Taxonomy (Carolus et al., 2023).

Bloom’s Taxonomy constitutes a theoretical framework for the hierarchy of learning objectives across all educational levels, initially developed in 1956 by the educational psychologist Benjamin Bloom. It introduced an innovative approach that contributed to the categorization and classification of reasoning and critical-thinking skills required in different learning environments, depending on their level of complexity (Ng et al., 2021a). The taxonomy distinguishes three domains of learning: (a) the cognitive domain, which describes the mental abilities involved in the production and management of knowledge; (b) the affective domain, which focuses on continuous emotional development and shapes individuals’ attitudes and dispositions toward learning; and (c) the psychomotor domain, which relates to skill development and encompasses physical abilities. In educational practice, the cognitive domain is used most extensively. Bloom organizes six hierarchical levels (Knowledge, Comprehension, Application, Analysis, Synthesis, Evaluation), which are presented progressively from the lowest to the highest level of cognitive response. Each level requires a greater degree of complexity and systematic thinking from learners, and it guides educators in formulating appropriate questions, designing learning activities,

and assessing student performance. The levels are considered sequential, such that each must be mastered before the next can be attained (Bloom, 1956).

Ng et al. (2021) integrated the revised Bloom’s Taxonomy into the theory of AI literacy with the aim of precisely identifying the essential skills that users need to develop. In the absence of an established classification of cognitive process levels specific to this form of literacy, the researchers employed this classical pedagogical framework in order to consolidate a clearly defined set of principles for teaching and learning AI. More specifically, they summarize AI proficiency according to four categories: (a) knowledge and understanding of the fundamental principles governing the functioning of algorithms, machine learning, and neural networks; (b) the use of AI applications across all domains of life; (c) the critical evaluation of AI applications and the creation of content through them; and (d) the articulation of ethical considerations. Knowledge and understanding of AI correspond to the two lower levels of Bloom’s taxonomy. The use and application of AI align with the third level, that of application. Evaluation and content creation correspond to Bloom’s three higher levels (Ng et al., 2021; Shiri, 2024).

Almatrafi et al. (2024) enrich this model by proposing six distinct skills: (a) recognizing applications that incorporate AI technologies; (b) knowing and understanding how these technologies function; (c) using and applying AI at a practical level; (d) evaluating its capabilities and selecting appropriate tools for each situation; (e) creating new content by leveraging AI tools and applications; and (f) navigating AI ethically and adopting proper practices. By reorganizing the framework proposed by Ng et al. (2021a), they introduce an additional skill—recognition—while separating evaluation and content creation into two distinct categories. Nonetheless, they maintain the hierarchical progression from lower to higher levels of cognitive complexity (Almatrafi et al., 2024).

Ethical factors are not included in the taxonomy, as they do not fall within the cognitive domain (Ng et al., 2021b; Shiri, 2024).

Ethical AI constitutes an emerging and interdisciplinary field within applied ethics that addresses the management of moral issues arising from the use of AI (Huang, 2022) and the relationship between humans and machines (Siau & Wang, 2020). At the same time, it seeks to propose solutions that can establish a clear framework of ethical practices and to critically evaluate these solutions and practices (Huang, 2022). A necessary precondition for the development of ethical AI is the ethics of AI. The ethics of AI encompasses theories, guidelines, policies, and regulations through which AI adheres to ethical norms and behaves in an ethically responsible manner (Huang, 2022). It examines the ethical conduct of individuals who use, design, build, and interact with AI systems (Siau & Wang, 2020). Furthermore, it extends to the cultivation of machine ethics. As new technologies, robots, and agents continue to evolve, it becomes essential to train them to make ethical decisions (Siau & Wang, 2020). Fjeld et al. (2020) and Siau and Wang (2020) summarize the ethics of AI based on eight fundamental principles: privacy, accountability, safety and security, transparency and explainability, fairness and non-discrimination, human control of technology, professional responsibility, and the promotion of human values. UNESCO adds AI literacy as an additional fundamental principle, through which openness and universal accessibility to new technologies are achieved (Miao & Holmes, 2024).

## AI IN EDUCATION: TEACHERS AI LITERACY

Undoubtedly, the rapid advancement of AI poses a significant challenge for educational systems. The term “AI in education” refers to the use of AI technologies—such as machine learning and natural language processing—that enhance the educational experience. It includes the use of algorithms that analyze data drawn from educational environments, identify patterns, and generate predictions (Harry, 2023). The integration of AI into educational processes has the potential to bring about radical transformations, making teaching and learning more effective, personalized, and engaging for all stakeholders (Crompton et al., 2022; Ning et al., 2025). The advantages of implementing AI applications in education are diverse, benefiting students, teachers, and administrators alike.

For students, the most significant advantage is personalized learning. Through appropriate applications, they gain access to a wide range of educational resources and receive the support necessary to achieve their goals and improve their performance (Harry, 2023). AI systems employ various methods, such as adaptive testing, individualized exercises, access to multimedia content, and immediate feedback. In contrast to traditional instruction, where all learners must follow the same pace, AI emphasizes learner-centred education, allowing students to assimilate content based on their own needs and abilities, minimizing frustration or stress and maximizing the efficiency of the learning process (Saleem et al., 2025). Moreover, AI-based learning tools contribute to knowledge retention, improve problem-solving skills (Harry, 2023), and foster the development of soft cognitive skills (Zogopoulos et al., 2025) and other forms of literacy, such as digital and computational literacy.

Additionally, these systems can identify learning gaps and propose strategies and interventions to address them, thereby helping low-performing students improve. Conversely, high-achieving students are encouraged to explore more complex concepts and advanced material (Shemshack et al., 2021; Harry, 2023; Saleem et al., 2025). Predictive modelling also enables short- and long-term assessment of student performance and can warn of the risk of failure with an accuracy exceeding 93% (Shoiab et al., 2024).

Participation and interaction are key predictors of successful educational outcomes. Personalized learning systems, chatbots, and virtual assistants provide immediate feedback and individualized assistance, enabling students to remain engaged without losing interest or becoming discouraged (Saleem et al., 2025). By incorporating interactive elements such as gamification, virtual simulations, and adaptive quizzes, these systems make learning more enjoyable, appealing, and interactive for learners of all levels, while also encouraging collaboration among students and teachers (Khurma et al., 2024). This fosters a sense of control and autonomy in learning, while increasing students’ intrinsic motivation and self-efficacy (Saleem et al., 2025). However, for students to fully benefit from these technologies, a balance between human and technological interaction is essential (Bhatia et al., 2024), along with access to high-quality learning materials and teacher guidance that helps students exploit learning opportunities supported by these systems (Yang & Ogata, 2023).

Teachers also benefit from AI. Many processes become automated—such as timetable organization, grading, and answering frequently asked questions—allowing teachers to focus entirely on instruction, providing meaningful feedback, and offering academic and emotional guidance to students and parents (Ahmad et al., 2022).

Additionally, access to numerous educational resources or the ability to create new ones enhances lesson planning, creativity, and productivity (Ning et al., 2023). AI also offers more opportunities for professional development and personal growth (Harry, 2023).

Finally, AI plays a beneficial role in educational administration and leadership. Automation facilitates administrative processes within educational institutions, such as student registration, form submission, personnel management, staff evaluation, record-keeping, and communication (Ahmad et al., 2022). Furthermore, access to large volumes of data and the ability to process them support structured, semi-structured, and unstructured decision-making by leadership teams. Consequently, strategic decisions are improved, and participation and transparency in decision-making are broadened, helping to advance the institution’s educational vision (Dai et al., 2024).

Teacher AI Literacy (TAIL) refers to the ability of educators at all levels to thrive and function effectively in the era of artificial intelligence. It presupposes their fundamental capacity to demonstrate cognitive and professional flexibility, enabling them to respond to rapid technological and pedagogical changes, utilize intelligent teaching systems proficiently, acquire essential AI knowledge, and develop skills that can be integrated into both daily teaching practices and broader educational planning (Ning et al., 2025). TAIL is considered a highly significant competence, as educators represent a large and active segment of society. They need to be AI-literate not only to possess knowledge and skills but also to develop awareness and critical reflection regarding the role of AI in education and society (Sperling et al., 2024; Ning et al., 2025). Such knowledge and skills are necessary for solving complex educational problems, addressing the challenges of educational reforms, and providing students with high-quality, personalized learning experiences (Velandar et al., 2024). Research has also demonstrated a direct correlation between teacher AI literacy and high-quality teaching outcomes. Specifically, according to Kim et al. (2021), teachers with higher TAIL levels improved student learning outcomes and increased both their own satisfaction and that of their students with the educational process.

The skills required for teacher AI literacy are often categorized into three or four groups, based on the revised Bloom’s Taxonomy and the TPACK (Technological Pedagogical Content Knowledge) model, which emphasizes the integration of technological, pedagogical, and content knowledge (Ning et al., 2025). The UNESCO framework, highlighting the insufficient attention to teacher AI literacy, identifies three main categories of competencies: a) knowledge and understanding of AI principles and methods, b) the use and application of AI in everyday teaching practice, and c) ethical orientation (Miao & Holmes, 2024). Zhao et al. (2022) propose four categories: knowledge and understanding, practical application, evaluation of AI tools and outcomes, and ethical considerations. Similarly, Biagini et al. (2023) distinguish four levels: cognitive, functional, critical, and ethical. Despite differences, these theoretical models share key characteristics, including pedagogical knowledge, teaching skills, and attitudes toward AI in education, which are essential for teacher adaptation in a continuously evolving society and for their professional development (Ning et al., 2025).

Teachers’ willingness and preparedness to teach with and integrate AI into educational practice play a crucial role in their professional growth. This reflects not only their adaptability to technological advances but also their ability to redefine their pedagogical role, thereby enhancing their professional profile in a constantly changing

educational environment (Ayanwale et al., 2024). Conversely, stress and lack of readiness act as deterrents, hindering the adoption of new technologies and AI literacy (Katsarou, 2021).

AI literacy is strongly associated with the practical acceptance and implementation of AI. Strategic and reflective integration of AI tools in classroom settings significantly enhances pedagogical effectiveness and professional development far more than mere theoretical knowledge or isolated incorporation of AI concepts into existing curricula (Ding et al., 2024).

Furthermore, promoting AI literacy extends beyond general educational contexts, highlighting the importance of ensuring women’s inclusion and active engagement in the development and application of AI technologies. Women’s AI literacy is a critical factor for promoting equality and inclusivity in the digital and technological sectors. Developing AI skills for women encompasses not only acquiring technical knowledge but also understanding the social, ethical, and economic implications of AI, as well as the ability to actively participate in designing, implementing, and evaluating AI systems. Enhancing women’s AI literacy helps reduce stereotypes and discrimination in technology, while encouraging the creation of innovative solutions that reflect diverse perspectives and societal needs. Furthermore, educating and empowering women in AI contributes to their equitable participation in the workforce and decision-making processes within organizations, supporting the sustainability and social responsibility of technological applications. Therefore, integrating AI education programs focused on developing women’s skills is fundamental to achieving a more just, inclusive, and progressive society (Eguchi et al., 2021; Wang & Cheng, 2021). The integration of AI into education by women teachers not only challenges entrenched gender stereotypes but also addresses the persistent underrepresentation of women in STEM-related fields, offering substantial opportunities for professional growth and leadership within educational and technological contexts (Shah, 2024). By actively engaging with AI tools, women educators can model innovative pedagogical practices, demonstrating how digital technologies can be leveraged to create more inclusive, participatory, and learner-centered environments. Simultaneously, their involvement fosters the adoption of lawful and ethical practices in AI usage, promoting accountability, transparency, and fairness in educational decision-making processes. Furthermore, this integration contributes to the cultivation of critical AI literacy among both educators and students, equipping them with the analytical skills to evaluate AI systems’ societal impacts, ethical implications, and potential biases. In doing so, women teachers play a pivotal role in bridging technological expertise and social responsibility, thereby shaping an educational landscape that is not only technologically advanced but also equitable and socially conscious (Wang & Cheng, 2021; O’Connor & Liu, 2024).

#### RESEARCHING AI LITERACY

The present study was conducted with the aim of investigating the AI literacy of philologists (PE02) who were appointed to secondary education in August 2024 and assigned to staff the country’s gymnasiums and lyceums from the 2024–2025 school year onward. Examining the literacy of this sizable specialty constitutes a critical research area that has not yet been sufficiently explored. Despite the abundance of studies on AI literacy in secondary education, previous research both internationally

and nationally has not fully captured teachers’ knowledge, skills, and attitudes, and often fails to address the correlation between AI literacy and demographic factors such as gender, age, and educational background (Sperling et al., 2024).

Given the pervasive presence of AI technologies in educational and societal contexts, newly appointed teachers are those who will be called upon to critically address emerging challenges in the near future and over the long term. Philologists, in particular, serve as guardians of the humanities, playing a crucial role in transmitting knowledge, fostering democratic and ethical values, and promoting critical thinking (Ng et al., 2023). Understanding the extent to which this new generation of teachers possesses the necessary knowledge, skills, and attitudes to navigate emerging developments contributes to the advancement of scientific knowledge. At the same time, it informs the redesign of educational policy within institutions, the modernization of curricula, the restructuring of assessment methods, and the planning of innovative professional development programs (Druga et al., 2022; Ning et al., 2025).

Finally, it is essential to address their ethical preparedness and readiness to confront issues of transparency, algorithmic bias, personal data protection, or potential distortions of their pedagogical role. Enhancing these competencies can strengthen teachers’ resilience and self-actualization, ultimately fostering a fair, technologically informed, and human-centered educational environment.

To investigate the AI literacy of newly appointed PE02 teachers, a reliable and contemporary research instrument, the Artificial Intelligence Literacy Scale for Teachers (AILST), was used. This scale was developed by Ning et al. in 2024 and published in January 2025. It theoretically examines AI literacy based on the general AI Literacy framework developed by Long & Magerko (2020), Ng et al. (2021), and Carolus et al. (2023). It then delves deeper into the theoretical frameworks for teachers’ AI literacy (Teachers’ AI Literacy / TAIL) as developed by Zhao et al. (2022).

The present research instrument is based on the previously mentioned tool by Ning et al. (2025). It includes twelve demographic questions derived from the original questionnaire but adapted to the current context of the Greek educational system. These multiple-choice items explore participants’ gender, age, highest educational attainment, region of appointment, years of prior experience, and service in general and special education. This category also examines their prior relationship with technology, including computer literacy, participation in ICT training, involvement in AI-focused professional development programs, and the use of AI in their daily lives. The remainder of the questionnaire is divided into four sub-sections, following the framework of Ning et al. (2025) and the revised Bloom’s Taxonomy. It includes 45 items/statements assessed using a five-point Likert scale, where 1 corresponds to “Strongly Disagree” and 5 to “Strongly Agree.” The five-point Likert scale facilitates participants’ engagement with the research and enables operationalization, that is, the conversion of abstract concepts into measurable data.

The present study employed a quantitative survey design to systematically examine the knowledge, attitudes, and beliefs of newly appointed teachers regarding AI and its integration into education. Utilizing a structured questionnaire with closed-ended items on a five-point Likert scale ensured both reliability and comparability of the collected data (Ψιλούτσικου, 2023). Full access to the population of newly appointed philologists allowed the implementation of simple random sampling without replacement, ensuring equal participation opportunities, minimizing bias, and enhancing the

representativeness and accuracy of the findings (Παπαγεωργίου, 2015). A non-experimental design was adopted, as the variables were observed and analyzed as they naturally occurred, without any intervention or manipulation (Λιναρδής et al., 2023; Ψιλούτσικου, 2023). This approach enabled the extraction of robust and generalizable insights into teachers’ AI literacy.

The next section primarily presents how teachers utilize AI in the educational process. The data focus on their ability to select appropriate AI applications, use AI for designing educational scenarios, create instructional resources, and provide personalized guidance. Forty-five percent of participants reported using AI to a considerable extent, indicating that the majority have already integrated the technology into their teaching practices to a significant degree. However, only 6.3% indicated very high levels of AI usage, suggesting that extensive and systematic application remains limited.

Interestingly, the overwhelming majority of teachers (~65%) have attempted at least once to incorporate an AI tool into their teaching practice or lesson planning. Regarding the creation of instructional resources and educational scenarios, 38% of participants stated that they use AI to simulate or generate teaching scenarios aligned with the curriculum, while 30% expressed a more cautious approach.

## RESULTS

Regarding the demographic characteristics of the participants, the majority were women (76.25%) (Table 1). Most fell within the 35–40 age group, followed by participants aged 41–45 and 51–60, while younger (22–30) and older (over 60) age groups were negligible. A significant proportion of participants held advanced academic degrees, with 63% possessing one or more postgraduate qualifications, 10% holding doctorates, and 6% currently pursuing doctoral studies. Notably, participants in the older age brackets predominantly held undergraduate degrees.

Table 1  
Gender of the participants

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Ανδρ	63	22,0	22,1	22,1
	Γυναί	222	77,6	77,9	100,0
	κα	Total	285	99,7	100,0
Missing	System	1	,3		
Total		286	100,0		

In terms of school placement, nearly half were assigned to middle schools, with a slightly smaller proportion in high schools, and a small number serving in institutions that combine middle and high school classes. The majority (78%) were placed in general education, reflecting the Ministry of Education’s hiring priorities for that academic year. Most participants (58%) had 0–5 years of prior teaching experience,

while 26% had 6–10 years. School locations were diverse, with nearly half in semi-urban areas, a quarter in urban areas, and one-fifth in rural regions.

Regarding AI familiarity, the vast majority rated their computer skills as “Excellent” or “Good,” and 74% had participated in general ICT training. However, only one-third had attended AI-specific professional development programs (Table 2). Awareness and use of AI varied: while over 70% reported understanding what AI is, fewer participants felt confident in defining it. Daily use ranged from minimal to extensive, with the majority using AI tools occasionally or partially, and a small proportion using them frequently. Among AI applications, ChatGPT was by far the most commonly used, followed by other tools such as Canva and Gemini.

Table 2  
AI Training Program

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Ναί	93	32,5	32,6	32,6
	Όχι	192	67,1	67,4	100,0
	Total	285	99,7	100,0	
Missing	System	1	,3		
	Total	286	100,0		

The next section examines teachers’ knowledge and beliefs regarding AI. Nearly half of the participants (51.3%) reported having an adequate understanding of what AI is, while smaller proportions indicated partial understanding (18.8%) or comprehensive knowledge (20%). Only 10% reported limited or no knowledge of AI (7.5% and 2.5%, respectively). Concerning their ability to accurately define AI, similar patterns emerged: 45% of participants considered themselves capable of providing an adequate definition, 31.3% partially, and 12.5% fully. Those reporting “limited” knowledge accounted for 10%, while only 1.3% stated they could not define it at all. Despite this variation, the overwhelming majority of philologists expressed a strong willingness to engage in AI-related professional development. Specifically, 68.8% were determined to participate in training programs to gain proficiency in emerging AI technologies and integrate them into their teaching practices. Meanwhile, 22.5% maintained a neutral stance, and only 8.7% indicated no intention to pursue such training. The low standard deviation (0.91) suggests that, although responses covered the full range of the scale, the majority were clustered around 4, indicating a high level of consensus among participants.

The penultimate section, which corresponds to the two highest levels of the revised Bloom’s taxonomy, focuses on teachers’ ability to evaluate AI educational applications and create/innovate using AI. The majority of teachers (65%) reported that they critically select the applications they integrate into the classroom, taking into account their relevance to the subject matter, functionality, and ethical considerations. In contrast, 11% do not engage in such evaluative practices. Additionally, 45% of teachers assess the effectiveness of AI applications based on enhancing student engagement and increasing interest in the lesson.

The next set of questions explored creativity and innovation. Teachers reported that using AI in the classroom makes them feel both creative and innovative. This trend is

particularly strong, as 69% of participants agreed with the statements regarding creativity and innovation, while only a negligible 1.5% disagreed. However, when asked to assess their ability to create educational resources using AI, the majority of participants expressed a neutral to positive stance, with a smaller portion (21.3%) expressing a negative view. These distributions indicate that while self-perceived creativity is recognized as an internal and stable trait, its practical application in a specialized educational context may generate some hesitation and caution. This finding highlights the potential need for further professional development and support, so that creativity and innovation can be effectively translated into practical and realistic competencies for using AI in the production of educational materials.

The next section of the questionnaire addresses teachers' views and practices regarding the ethical dimension of AI in education. In this section, a clear tendency is observed for responses to cluster toward the right end of the scale. Eighty percent of teachers reported that, before integrating an AI application into their teaching, they verify its reliability. Additionally, 46% indicated a cautious approach toward AI, carefully filtering the resources it provides.

A significant proportion of newly appointed teachers (86%) stated that they place particular emphasis on protecting students' privacy when using AI applications in instruction, a percentage that reflects nearly universal acceptance of privacy as a critical ethical principle.

These findings suggest that while teachers are generally receptive to integrating AI into their pedagogical practices, ethical vigilance, especially regarding privacy and responsible use, is a dominant concern. This underscores the importance of professional development programs that emphasize AI ethics, ensuring that teachers are equipped not only with the technical skills to use AI but also with the ethical judgment necessary for its responsible implementation in education.

## DISCUSSION

The findings of this study provide a comprehensive overview of AI literacy among newly appointed Greek language teachers (PE02) and highlight both their strengths and areas for development. Overall, the teachers demonstrate moderate AI literacy, characterized by a basic understanding of artificial intelligence, familiarity with AI tools, and awareness of its educational potential. While most participants feel confident in lower-order cognitive tasks—such as identifying and defining AI concepts, and applying AI in simple instructional scenarios—they encounter challenges in higher-order tasks, including critical evaluation of AI applications, innovative integration in lesson planning, and holistic assessment of student performance.

The study also reveals a strong ethical awareness among teachers, who prioritize student privacy, evaluate AI applications for reliability, and consider the ethical implications of AI use in education. Professional development emerges as a key factor: teachers who have received AI-related training exhibit higher confidence, better problem-solving skills, and a more strategic approach to integrating AI into their teaching practices. Similarly, educational attainment correlates positively with AI integration, professional development engagement, and the ethical and effective use of AI, confirming the hypotheses of this research.

Furthermore, the research highlights that while daily personal use of AI supports classroom integration, caution arises when teachers perceive AI tools as unreliable,

underscoring the need for trustworthy, evidence-based AI resources in schools. Age and teaching experience also influence attitudes: older teachers tend to adopt a more cautious approach, whereas those with more professional experience emphasize ethics, evaluation, and peer support.

In conclusion, the study underscores the critical role of AI literacy in modern education. Building on the moderate competence demonstrated by the participants, targeted professional development, systematic training, and the integration of AI literacy into teacher education programs are essential. These measures will enable teachers not only to leverage AI effectively for enhancing learning outcomes but also to promote ethical, responsible, and human-centered educational practices, thereby fostering a future-ready and equitable educational environment.

Although no statistically significant differences were observed between male and female participants in terms of AI literacy levels, it is important to recognize that the relationship of women with AI and technology is socially and culturally mediated. Research suggests that societal norms, gendered expectations, and historical underrepresentation of women in STEM fields can influence confidence, engagement, and self-perception regarding technological competencies. In the context of education, female teachers often navigate both professional demands and sociocultural expectations, which may shape how they approach the adoption and integration of AI tools in their teaching practices. Consequently, fostering AI literacy among women educators not only promotes equity in professional development but also contributes to challenging gender stereotypes, increasing participation in technology-mediated education, and encouraging the ethical and responsible use of AI across the school community.

It is therefore recommended that newly appointed teachers receive further professional development initiatives organized by the Ministry of Education, secondary education directorates, and teachers' associations, in order to acquire more comprehensive and substantial knowledge, overcome biases, and exchange experiences and techniques among themselves. The development of critical AI literacy is essential so that both students and teachers can explore emerging AI applications collaboratively and in a spirit of mutual cooperation.

Regarding suggestions for further research, it is proposed to conduct qualitative studies (e.g., interviews) to investigate in depth the motivations, intentions, and factors influencing teachers' use of AI. Furthermore, an in-depth review of existing professional development programs is recommended to examine all relevant parameters (implementing bodies, duration, educational content, etc.) and assess their adequacy. Finally, research should explore the use of AI in educational administration.

In addition, it is strongly recommended to develop and implement women empowerment programs within the context of AI education. Such initiatives could provide targeted training, mentorship, and networking opportunities, helping women educators overcome sociocultural barriers, build confidence in AI and technological skills, and actively contribute to innovation and ethical practices in the classroom. By fostering inclusive and gender-sensitive professional development, the educational system can promote equity, increase female participation in technology-mediated teaching, and cultivate a generation of teachers and students who are prepared to responsibly leverage AI for educational advancement.

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## **GENDER AND EDUCATIONAL LEADERSHIP**

### **EDUCATIONAL LEADERSHIP: FROM THE “GLASS CEILING” TO THE “LABYRINTH” OF OPPORTUNITIES**

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#### **ABSTRACT**

Phenomena visible in administrative reality and in the field of education, such as the “glass ceiling” and the “sticky floor,” are the focus of the present literature review. The gender dimension in educational leadership is evidenced through the experiences of female principals in Thessaloniki and is then examined within the leadership of higher education institutions (Avgeri, 2015). The aim is to shed light on the multiple facets of equality and inclusion in educational environments, highlighting both the challenges and the possibilities for change.

Despite institutional progress and the social struggles of recent decades, Greek reality continues to be marked by deeply rooted stereotypes that sustain a patriarchal character and limit women’s professional advancement. School principals in Thessaloniki report obstacles related to traditional gender perceptions, and the absence of mentoring, while being called upon to balance their professional ambitions with expectations concerning their family role (Avgeri, 2015). Women in positions of responsibility display characteristics often described as “feminine”, which in many cases come into conflict with traditional male models of administration. However, these characteristics highlight new forms of leadership that can strengthen the cohesion of educational organisations (Jackson and O’Callaghan, 2009; Avgeri, 2015).

The social realities that describe career obstacles are also of particular interest. The “glass ceiling”, as a symbol of invisible yet unyielding barriers, is gradually giving way to the “labyrinth”, where the path is complex but not unattainable, and to the “firewall,” which implies obstacles that are present but permeable and manageable. This reflects a new perception: challenges are no longer entirely impenetrable but require persistence and supportive institutional structures (Avgeri, 2015). Women who experience high levels of discrimination continue to face the persistent presence of the “glass ceiling”, which negatively affects both their professional advancement and their job satisfaction (Jackson et al., 2014). Moreover, the “sticky floor” describes the tendency of women’s career progression to slow down, as documented by the gender pay gap (Kee, 2006).

Building on the above, specific practical measures are proposed: the implementation of equal opportunity policies, transparent procedures for promotion, staff training aimed at recognizing unconscious biases, and the enhancement of accountability through the systematic evaluation of diversity indicators (Abbas et al., 2021). An additional contribution is the Micro-Audit of Invisible Leadership Protocols, a small-scale practical instrument designed to facilitate the identification and correction of micro-practices that reproduce gender inequalities. This tool is designed to be incorporated into existing administrative processes and to function as a form of immediate feedback for educational leaders (Avgeri, 2015).

An important dimension in advancing equality in educational leadership is the effective integration of gender mainstreaming. This approach goes beyond isolated initiatives and seeks the systematic incorporation of gender perspectives at all levels of institutional planning and practice (Ilagan, 2019). Within the context of higher education, gender mainstreaming requires the transparent allocation of resources and the implementation of active measures to address both structural and cultural barriers (Unterhalter and North, 2010).

A love for education, personal fulfillment, and the desire for social change emerge as key forces that drive women to seek and attain leadership roles. Their experiences highlight that the gradual erosion of patriarchal norms and the creation of support networks are fundamental prerequisites for advancing gender equality (Jackson and O’Callaghan, 2009). Through sustained effort, educational institutions can be transformed into spaces where diversity is not perceived as an obstacle but as a source of strength and innovation.

**Key words:** glass ceiling, gender mainstreaming, educational leadership, micro-audit, gender inequalities

## 1. Introduction

In many education systems, women constitute the majority of teachers but a minority of those who occupy senior leadership posts. This vertical segregation is visible in schools, where men are often over-represented in headship positions, and in higher education, where women remain under-represented among deans, rectors and other senior managers (Jackson and O’Callaghan, 2009; Jackson et al., 2014). The persistence of this imbalance raises questions about how gender operates within educational organisations and about the kinds of barriers women encounter as they move through their careers.

The metaphor of the glass ceiling has been widely used to describe invisible, structural barriers that prevent women from progressing beyond a certain level, even when they appear to have the necessary qualifications and experience (Jackson and O’Callaghan, 2009). In parallel, the sticky floor metaphor captures the forces that keep women concentrated in low-paid and low-status jobs, limiting their chances to even begin climbing the organisational ladder (Kee, 2006). These concepts emphasise that the problem is not only at the top of the hierarchy but also in the lower and middle layers, where women’s mobility is constrained from the outset.

More recently, the image of a labyrinth has been suggested as a more accurate way to describe women’s leadership trajectories (Jackson et al., 2014). Instead of a single ceiling that blocks progress at a fixed point, the labyrinth metaphor suggests that women face multiple junctions, dead ends and detours over time. Some manage to navigate this complex path and reach positions of authority, but their journeys are typically more demanding and less straightforward than those of their male colleagues.

In educational settings, these dynamics are particularly significant. Schools and universities are sites where ideas about knowledge, authority and care meet, and where leadership has a direct influence on the experiences of students, teachers and communities. Studies of women principals and academic leaders indicate that gendered expectations about authority, communication and emotional expression shape both how women are perceived and how they themselves approach leadership (Avgeri, 2015;

Henningsen et al., 2022). At the same time, gender equality policies and gender mainstreaming initiatives have been introduced in many education systems, with mixed results (Unterhalter and North, 2010; Ilagan, 2019).

The aim of this paper is to examine how gendered barriers to educational leadership have been conceptualised and studied, and to explore what these findings imply for practice. The paper addresses three main questions:

How do concepts such as the glass ceiling, sticky floor and labyrinth help explain women’s under-representation in educational leadership?

What roles do institutional practices, gender stereotypes and self-selection play in shaping leadership pathways?

How can educational institutions use tools such as gender mainstreaming and reflective micro-audits to support more inclusive leadership cultures?

The paper uses a qualitative literature review approach. It first outlines the methodology, then presents key themes from the selected studies, followed by an integrated analysis. It concludes by proposing a practical reflective tool, the Micro-Audit of Invisible Leadership Protocols, that can be adapted and applied in different educational contexts.

## 2. Methodology

### 2.1 Research design

This paper adopts a qualitative, narrative literature review design. The purpose is to understand how gendered barriers to educational leadership are conceptualised and explained in the literature, rather than to quantify their extent. A narrative review is appropriate because it allows the integration of theoretical, empirical and policy-oriented studies into a single, coherent argument, without the procedural constraints of a full systematic review.

### 2.2 Scope and selection of sources

The review focuses on gender and leadership in education and higher education, with particular attention to the concepts of the glass ceiling, sticky floor, labyrinth, gender bias and gender mainstreaming. The evidence base consists of nine academic texts, journal articles, an edited volume, an annual review article and a master’s thesis. These were purposively selected because they directly address these themes and relate to educational contexts.

The sources include empirical and conceptual work on glass ceiling effects in higher education (Jackson and O’Callaghan, 2009; Jackson et al., 2014; Abbas et al., 2021), analysis of gender pay gaps and sticky floor dynamics (Kee, 2006), a comparative study of women secondary school principals in Greece and Sweden (Avgeri, 2015), research on gender stereotypes, bias and self-selection in leadership (Heilman et al. 2024; Henningsen et al., 2022), and work on gender mainstreaming in education systems and higher education institutions (Unterhalter and North, 2010; Ilagan, 2019).

### 2.3 Data extraction and analysis

Each source was read in full and brief analytic notes were made on: the definitions and use of key concepts (such as glass ceiling, sticky floor, labyrinth, gender mainstreaming, bias and self-selection); the aspects of educational leadership examined (for example school principals, deans, institutional culture, policy frameworks); and the explanations and solutions proposed for gender inequalities.

These notes were then compared across the nine texts to identify recurring patterns and points of divergence. From this comparative reading, several core themes emerged: (a) different ways of conceptualising gendered barriers, (b) the role of organisational culture and stereotypes, (c) insights from the lived experiences of women educational leaders, (d) the promises and limits of gender mainstreaming and (e) implications for institutional practice. These themes structure the literature review and inform the analysis and discussion. The proposed Micro-Audit of Invisible Leadership Protocols was developed inductively from these themes, with particular emphasis on informal practices, implicit bias and gaps in implementation.

#### 2.4 Limitations

This methodology has certain limitations. The review is narrative and purposive rather than systematic; it does not attempt exhaustive coverage of all studies on gender and educational leadership. The focus on the selected texts means that the discussion reflects the perspectives and contexts represented in those works. In addition, the paper relies entirely on secondary data, as no new empirical material was collected.

Despite these limitations, the chosen approach is suitable for the aims of the study, allowing for a focused and conceptually grounded discussion of gendered barriers and responses in educational leadership, closely tied to a clearly specified set of sources.

### 3. Literature Review

#### 3.1 Conceptualising gendered barriers: Glass ceiling, Sticky floor, Labyrinth

The glass ceiling remains one of the most recognised metaphors for gender inequality in leadership. Jackson and O’Callaghan (2009) describe glass ceiling effects as a specific form of discrimination that prevents women and other under-represented groups from reaching higher-level positions despite apparent equality in rules and procedures. They emphasise that such effects are structural: they arise from organisational arrangements and cultural norms rather than from individual deficiencies. Promotion criteria that favour uninterrupted careers, or expectations of long, inflexible working hours, can disadvantage those with care responsibilities, who are disproportionately women.

The sticky floor refers to the concentration of women in low-paid, low-mobility jobs from which upward movement is difficult. Kee (2006), analysing the Australian labour market, shows that gender pay gaps are often largest at the bottom of the wage distribution. Many women do not gradually climb towards senior roles but remain “stuck” in positions with limited prospects. In education, this can be seen in the over-representation of women in early childhood and primary teaching and their under-representation in headship positions or leadership roles at regional or national level.

The labyrinth metaphor, discussed by Jackson et al. (2014), offers a broader view of these dynamics. Instead of focusing on a single, invisible ceiling at the top, it highlights that women’s paths to leadership are shaped by multiple small barriers and detours. These may include unequal access to mentoring, informal exclusion from key networks, gendered distribution of administrative tasks, and expectations about how a “good” leader behaves. Some women navigate these obstacles successfully, but their routes are often longer and more complex than those of men in similar roles.

Abbas et al. (2021) add to this picture by identifying specific organisational and cultural factors that contribute to the glass ceiling in higher education institutions. These include male-dominated leadership cultures, limited support for women’s professional

development, and stereotypes that associate leadership strongly with male characteristics. Their findings reinforce the view that gendered barriers are embedded in everyday practices and expectations, not only in formal rules.

### 3.2 Gender, leadership and organisational culture in education

Educational organisations are shaped by particular understandings of what leadership looks like. In many contexts, leadership has historically been associated with authority, control and rational decision-making—traits that are often culturally coded as masculine (Jackson and O’Callaghan, 2009; Heilman et al., 2024). When such images dominate, women who aspire to leadership may be seen as not fitting the implicit template.

Heilman et al. (2024) explain how descriptive stereotypes (beliefs about what women are like) and prescriptive stereotypes (beliefs about how women should behave) can produce systematic bias. If leaders are assumed to be assertive and independent, while women are expected to be warm and communal, then women who seek leadership positions face a perceived lack of fit. When they adopt agentic behaviours, they may be judged as too aggressive or unlikeable; when they do not, they may be regarded as weak or unqualified. This double bind contributes both to external discrimination and to internal doubts about suitability for leadership.

In higher education, Henningsen et al. (2022) show that the under-representation of women as deans is partly driven by these cultural expectations. Women academics often perceive dean roles as highly political, conflictual and incompatible with work-life balance. They may also receive less encouragement from senior colleagues. As a result, they are less likely to put themselves forward for such roles. The authors argue that this “self-selection” is not simply an individual choice; it is a response to institutional cultures that make leadership appear unattractive or unwelcoming to women.

### 3.3 Insights from Avgeri’s comparative study

Avgeri’s (2015) work is particularly important because it brings the discussion to the level of daily school life. Her comparative study of upper secondary women principals in Thessaloniki and Stockholm does not focus only on formal structures, but on how gender is experienced in practice. She examines interviews with principals in both countries and shows how national context, institutional culture and personal histories shape their leadership trajectories.

In the Greek case, Avgeri (2015) describes a school culture where formal rules coexist with strong informal expectations. Women principals often assume leadership after many years of teaching and are sometimes the first woman to hold the position in their school. They report that colleagues and parents initially test their authority more than they would with a man. This can appear as questioning decisions, bypassing the principal to appeal to male figures higher up the hierarchy, or assuming that a woman will be more flexible and accommodating. These reactions do not always take the form of open conflict, but they accumulate as repeated signals of doubt.

At the same time, the Greek principals in Avgeri’s (2015) study frequently emphasise collaboration, participation and care. They invest time in building staff relationships, mediating conflicts and supporting students’ emotional needs. Rather than treating these practices as purely “feminine,” Avgeri adopts a gender-influence perspective: women draw on experiences and skills that have been socially associated

with femininity, but they use them strategically in leadership. This produces a style that is neither simply soft nor simply tough, but context-sensitive and relational.

The Swedish case in Avgeri's (2015) comparison provides an instructive contrast. Swedish principals operate in a policy environment with a longer history of explicit gender equality measures. Women principals there still face challenges, but they describe more institutional support and less open questioning of their legitimacy. By placing the Greek experiences alongside the Swedish ones, Avgeri shows that gendered barriers are not inevitable. They are shaped by local cultures, policy frameworks and expectations about leadership.

Overall, Avgeri's (2015) study enriches the general glass ceiling and labyrinth discussion by illustrating how women leaders navigate expectations in concrete settings. It confirms that leadership in education is not only about occupying a formal position, but about constantly negotiating authority, care and gendered perceptions within a specific organisational context.

#### 3.4 Gender mainstreaming in policy and practice

As a response to persistent inequalities, many education systems have adopted gender mainstreaming as a strategy. Unterhalter and North (2010) describe gender mainstreaming as the process of integrating gender perspectives into all stages of policy-making, implementation and evaluation. In principle, this means that every decision -whether about curriculum, staffing or resource allocation- should consider its gendered implications.

Unterhalter and North (2010) identify at least two distinct ways in which gender mainstreaming in education is understood. In an instrumental approach, mainstreaming is framed in terms of efficiency, enrolment targets or economic growth. Gender is considered mainly because closing gaps is seen as beneficial for development. In a more rights-based approach, mainstreaming is linked to women's rights, social justice and a deeper critique of power relations in education systems. When the instrumental logic dominates, mainstreaming can easily become a technical exercise focused on reports, indicators and action plans, without necessarily questioning who holds power and whose interests are prioritised.

Their analysis shows that mainstreaming efforts often remain on the surface. Gender units may be created and workshops organised, but these structures sometimes sit at the margins of decision-making. They may be consulted late in the policy process, or their recommendations may not be integrated into budgetary decisions (Unterhalter and North, 2010). This leads to what they call depoliticised mainstreaming: gender is present in language and formal commitments, but deeper patterns that sustain inequality are left largely untouched.

Illagan's (2019) case study of a higher education institution illustrates similar tensions. The examined university adopted gender mainstreaming and established mechanisms such as a gender and development office, training activities and gender-responsive programmes for students and staff. However, the analysis reveals variation across faculties and departments in terms of awareness, engagement and implementation. Some units integrated gender considerations into curriculum design, research and community extension work. Others treated mainstreaming as an external requirement, something to comply with rather than a framework that could inform their core practices.

A key insight from Ilagan (2019) is that mainstreaming can be undermined by limited ownership. If gender initiatives are seen as the responsibility of a specific office or a small group of “gender advocates,” they may fail to influence mainstream organisational routines. To be effective, mainstreaming needs broad participation: deans, heads of department, teachers and administrative staff all need to see gender equality as part of their own responsibilities, not just as an add-on.

Taken together, Unterhalter and North (2010) and Ilagan (2019) suggest that there is a gap between the promise and the reality of gender mainstreaming in education. Many of the formal elements are in place -policies, committees, training- but their impact on leadership opportunities and everyday decision-making is uneven. This perspective is important for understanding why, despite visible commitments to equality, women’s under-representation in leadership persists.

#### 4. Analysis and discussion

The literature indicates that gender inequalities in educational leadership are maintained by an interaction of structural, cultural and individual factors. The metaphors of the glass ceiling, the sticky floor and the labyrinth capture different dimensions of this interaction: barriers to advancement at higher levels, constraints that keep women in low-status positions, and the complex, sometimes fragmented paths that women must navigate throughout their careers. These metaphors are not merely descriptive; they also guide how problems are framed and what kinds of solutions are seen as possible.

From a structural perspective, promotion systems and organisational hierarchies in education can appear neutral but still produce unequal outcomes. Criteria that emphasize uninterrupted service, long working hours or particular types of research output may disadvantage those whose careers include career breaks or heavier teaching and care responsibilities, a pattern that often affects women disproportionately (Jackson and O’Callaghan, 2009; Kee, 2006; Abbas et al., 2021). In schools, headship roles may be filled through informal recommendations or “shoulder tapping” rather than open, competitive procedures, which can favour those already embedded in established networks and reinforce existing gender imbalances.

Cultural factors further shape these structural dynamics. Stereotypes about leadership as assertive, detached and decisively agentic can clash with normative expectations that women be warm, accommodating and relational (Heilman et al., 2024). In such contexts, women leaders may face a persistent double bind: if they act in line with traditional leadership norms, they risk being judged as too harsh; if they act in a more relational way, they may be considered insufficiently strong. Avgeri’s (2015) findings from Greek upper secondary schools illustrate this tension vividly, as women principals report both subtle and direct questioning of their authority, while at the same time their collaborative and caring leadership practices are not always recognised as “real” leadership capital.

Individual-level processes, especially self-selection, are closely linked to these cultural and structural conditions. Henningsen et al. (2022) show that women academics may decide not to pursue dean positions because they anticipate conflict, exposure to bias and heavy workloads. This self-selection does not simply reflect personal preferences; it is shaped by perceptions of leadership roles as risky, politically charged and poorly supported. When leadership is consistently framed and experienced

in this way, it is understandable that many potential women candidates choose not to enter or remain in the leadership pipeline, reinforcing patterns of under-representation.

Gender mainstreaming is often presented as the institutional response to such inequalities. In principle, it calls for the integration of gender concerns into all aspects of policy and practice. However, the work of Unterhalter and North (2010) and Ilagan (2019) highlights a significant implementation gap. Mainstreaming can be interpreted instrumentally, as a technical requirement focused on indicators and reports, rather than as a rights-based project concerned with changing power relations. In such cases, gender offices and committees may be established, but they operate at the periphery of decision-making. The resulting arrangements can create an appearance of progress without substantially altering who is recruited, promoted or supported into leadership.

A more critical reading of the literature suggests that both research and policy responses still tend to focus heavily on “fixing” women -through leadership training, confidence-building or mentoring- rather than restructuring the organisational environments that produce unequal outcomes in the first place. Studies often document barriers but devote less attention to how successful changes have been achieved, or to how intersectional factors such as class, ethnicity or age interact with gender in educational leadership. Moreover, there is relatively limited empirical work in specific national contexts, such as Greece, that follows women leaders over time and examines how policies like gender mainstreaming translate into school- or department-level practices. The Micro-Audit of Invisible Leadership Protocols proposed in this paper is an attempt to respond to these gaps by linking the macro-level language of mainstreaming to concrete micro-level routines. By encouraging institutions to interrogate who is informed, encouraged and selected for leadership, and how these processes unfold in everyday settings, the micro-audit seeks to connect structural critique with manageable, context-sensitive action.

##### 5. The Micro-Audit of Invisible Leadership Protocols

The Micro-Audit of Invisible Leadership Protocols is proposed as a small-scale, adaptable tool that educational organisations can use to examine their own practices. The term “protocols” refers to the routines, unwritten rules and habits that shape how leadership opportunities are created, perceived and allocated. The micro-audit is not a formal evaluation instrument; it is a structured reflection process designed to reveal patterns that might otherwise be overlooked.

The tool rests on three principles: simplicity, reflection and actionability. It should be feasible to use within existing meeting structures, prompt honest discussion, and lead to concrete ideas for change. It can be implemented at school level, within a department or at faculty level in higher education.

The micro-audit is organised around three areas:

###### Area A: Access and Visibility

Who usually hears first about upcoming leadership opportunities (e.g., acting headships, committee chair roles, project coordination)?

Are such opportunities advertised openly to all relevant staff, or mainly shared informally with a small circle?

Over the past few years, which colleagues have repeatedly been given chances to develop leadership experience, and does this group reflect the diversity of the staff?

###### Area B: Selection and Evaluation

When someone is chosen for a leadership role, what arguments are typically used to justify the decision (for example, “strong personality,” “good fit,” “seniority,” “calm under pressure”)?

Are these arguments applied consistently to both men and women?

Are there recurring patterns in who is seen as “natural” leadership material and who is advised to wait or “gain more experience”?

Area C: Feedback and Support

Do staff members, especially women, receive explicit encouragement to consider leadership roles and support in preparing for them?

Are there mentoring arrangements, and if so, who has access to them?

In performance reviews, is leadership potential discussed in a way that avoids gendered assumptions about how leaders should speak, behave or present themselves?

These questions can be discussed in small groups, with notes taken on specific examples and concerns. The focus is not on blaming individuals, but on identifying patterns and routines. After the discussion, the group identifies a small number of practical changes that could be implemented in the short term. Examples include:

Requiring that all leadership vacancies be advertised to all staff rather than filled solely through personal invitations.

Including a standard item in performance reviews that invites staff to indicate interest in future leadership roles.

Ensuring that leadership development and mentoring opportunities are offered to a balanced group of staff, including women and other under-represented groups.

By design, the micro-audit links the insights of the reviewed literature -especially on informal practices, implicit bias and self-selection (Heilman et al., 2024; Henningsen et al., 2022; Abbas et al., 2021)- with simple, everyday actions. It does not replace broader gender mainstreaming strategies, but complements them by focusing attention on the small decisions and routines that, over time, contribute to glass ceiling and sticky floor effects.

## 6. Conclusions and recommendations

The journey from the “glass ceiling” to the “labyrinth” reminds us that progress is real but incomplete. Women are rising, leading, and changing institutions. But they’re doing so in systems that weren’t designed with them in mind. Until leadership becomes a space that welcomes a variety of voices, we will continue to lose talent to discouragement and exclusion.

The review and analysis presented in this paper show that women’s under-representation in educational leadership is the result of multiple interacting factors rather than a single, visible barrier. The metaphors of the glass ceiling, the sticky floor and the labyrinth help to capture different aspects of this reality: structural obstacles to advancement, constraints that keep women in low-level positions, and the complex, often fragmented routes that women must follow throughout their careers. Empirical studies in schools and higher education institutions indicate that organisational structures, institutional cultures, gender stereotypes and individual responses all contribute to maintaining these patterns (Jackson and O’Callaghan, 2009; Jackson et al., 2014; Kee, 2006; Abbas et al., 2021).

The evidence also suggests that formal commitments to gender equality are not sufficient on their own. Educational organisations may endorse equality in policy

documents while, in practice, continuing to rely on opaque selection processes, informal networks and biased evaluations. Avgeri's (2015) work on women principals in Greece and Sweden illustrates how women leaders must constantly negotiate their authority in everyday interactions, particularly in contexts where male leadership has long been taken for granted. Similarly, research on academic leadership shows that women often anticipate conflict, bias and workload pressures and therefore decide not to pursue senior positions, which reinforces existing imbalances (Henningsen et al., 2022; Heilman et al., 2024).

Gender mainstreaming provides a useful framework for addressing these issues, but its impact depends on how it is implemented. The studies by Unterhalter and North (2010) and Ilagan (2019) highlight the risk that mainstreaming becomes a technical or peripheral activity if it is not integrated into core institutional processes such as recruitment, promotion, curriculum design and resource allocation. A more substantive approach would treat gender equality as a shared responsibility of leaders, managers and staff at all levels.

Within this broader agenda, the Micro-Audit of Invisible Leadership Protocols proposed in this paper offers one practical step. By directing attention to who hears about opportunities, how candidates are selected and how leadership potential is discussed, the micro-audit can help institutions identify subtle practices that sustain inequality and develop concrete, small-scale changes. While modest in scope, such reflective tools can support wider policy efforts and contribute to gradually reshaping the labyrinth that women encounter in educational leadership. The long-term goal is to move towards organisations where leadership pathways are more transparent and equitable, and where access to positions of responsibility depends less on gendered expectations and more on demonstrated competence and commitment.

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## THE RELATIONSHIP BETWEEN EMOTIONAL INTELLIGENCE AND SELF-EFFICACY OF PUBLIC EDUCATIONAL UNIT LEADERS

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### ABSTRACT

The present study explores the relationship between emotional intelligence and self-efficacy levels of public educational unit leaders and the differences in self-efficacy by gender. In addition, it aims to investigate if dimensions of emotional intelligence predict self-efficacy. The study employed a descriptive-correlational design and utilized two scales to gather data on participants' levels of emotional intelligence and self-efficacy. A total of 190 leaders from public primary educational units across four peripheral regions of Greece were selected using cluster random sampling. A quantitative research approach was employed, using descriptive statistics, Pearson correlation, T-Test for independent samples, and regression analysis. The findings indicated a statistically significant positive moderate correlation between emotional intelligence and self-efficacy ( $r = 0.578$ ,  $P < 0.05$ ). Furthermore, a statistically significant positive moderate correlation was also observed between the four subscales of emotional intelligence and self-efficacy ( $P < 0.05$ ). However, there were no statistically significant differences by gender in all dimensions of emotional intelligence. The regression analysis revealed that the dimensions self-control and well-being of emotional intelligence could predict self-efficacy. The findings offer significant insights for professionals in educational settings.

**Key Words:** Emotional intelligence, Self-efficacy, Educational leaders, Primary education

## 1. INTRODUCTION

Recently, the continuous changes worldwide have also affected the field of education. Under these conditions it seems that educational leaders hold a key role in ensuring the effective delivery of quality education (Josep, Etcuban, Paez, Jaca, Aventuna & Horteza, 2020). Thus, they should develop skills/competences such as emotional intelligence and self-efficacy in order for educational units to function effectively.

According to López-González, Martínez, Lomboy and Expósito (2024) emotional intelligence encompasses both the ability to comprehend and effectively use emotional information, as well as the tendency to experience and express positive emotions. It serves as a foundation for effective emotional regulation and significantly influences a leader's capacity to address the needs of their team, motivate others, and cultivate a supportive and connected work environment (Ulutaş, 2024).

Self-efficacy in the educational context refers to an educator's belief in their ability to achieve positive outcomes in student learning and engagement, even when working with challenging or unmotivated students (Lazarides & Warner, 2020). It involves confidence in classroom management, student engagement, and the use of effective teaching methods, all of which contribute to a teacher's overall effectiveness (Mentari & Pratama, 2024). Also, self-efficacy correlates positively with professional development (Li, Manoharan & Cui, 2022).

Since emotional intelligence and self-efficacy are important characteristics for educators and, in particular, education leaders to possess in order to be effective, it would be a valuable contribution to the existing bibliography to define the relationship between emotional intelligence and their self-efficacy levels.

## 2. LITERATURE REVIEW

### 2.1. Emotional Intelligence

Emotional intelligence is defined as the capacity to self-motivate and endure frustrations which involves managing impulses and delaying gratification to regulate emotions and maintain clear thinking, empathy, and hope (Morrison, 2007).

Studies have shown (Kargeti, 2021; Serrat, 2017) that emotional intelligence associated with remarkable results in the work sector, such as increased levels of work performance, productivity, etc., as new horizons are opened through the principles it espouses in terms of understanding and valuing behaviors, management styles, attitudes and interpersonal relationships.

Over the decades many theoretical models have been suggested in order to describe and interpret the concept of emotional intelligence. There are three wide categories – models which are (Kanesan & Fauzan, 2019): a) the ability model that refers to one's ability to both understand and process emotions, b) the trait model that includes the individual's self-perceived abilities and dispositions (Petrides & Furnham, 2001) and c) the mixed model that combines elements from the two models mentioned above, namely emotional intelligence as an ability and emotional intelligence as a personality trait (Bru-Luna, Martí-Vilar, Merino-Soto & Cervera-Santiago, 2021). In our study, the trait model for emotional intelligence is adopted.

### 2.2. Self-efficacy

Another skill that is crucial for educational unit leaders to possess in order to manage an educational unit efficiently is self-efficacy. Self-efficacy, in general, pertains to the constellation of convictions regarding an individual's competence to

excel in diverse prospective contexts encapsulating affirmative self-perceptions that significantly impact motivation and fortitude in confronting adversities and attaining aspired results (Lazić, Jovanović & Gavrilov-Jerković, 2021).

Extensive research has demonstrated that people with high levels of self-efficacy experience difficult projects as challenges rather than threatening situations, and for this reason they constantly set such challenges for themselves and show full commitment to them (Bandura, 1994). In addition, they exhibit tenacity and dedication (Szczepańska-Gieracha & Mazurek, 2020) and they possess superior mechanisms for coping (Caliendo, 2023).

The characteristic that distinguishes self-efficacy from other general concepts, such as self-esteem and self-confidence, is the fact that self-efficacy refers to a specific task (Bray-Clark & Bates, 2003). In addition, the concept of self-efficacy is also separated from the concept of self-concept, as self-efficacy reflects the criticism of the individual's degree of effectiveness and ability to succeed on a specific task (Klassen, Bong, Usher, Chong, Huan, Wong & Georgiou, 2009).

### 2.3. Formulation of research hypotheses

Studies have emphasized the relationship between emotional intelligence and self-efficacy (AL Btoush, Malak, Hamaideh & Shuhaiber, 2025; Ran, Zeb, Nisar, Yasmin, Poulouva & Haider, 2022). In particular, in the context of education, a statistically significant relationship was found between emotional intelligence and general self-efficacy among university students which in turn led to the reduction of challenges in making career decisions (Ran, Zeb, Nisar, Yasmin, Poulouva & Haider, 2022). Therefore, we proposed hypothesis as follows:

Hypothesis 1: There is a correlation between educational unit leaders' degree of emotional intelligence and self – efficacy.

Beyond the positive relationship between emotional intelligence and self-efficacy, it is also important to explore the relationship among the subscales of emotional intelligence and self-efficacy. Nikoopour, Farsani, Tajbakhsh and Kiyai (2012) identified that trait emotional intelligence sub-constructs were significantly linked to teacher self-efficacy sub-constructs and overall teacher self-efficacy. Thus, we propose the hypothesis:

Hypothesis 2: There is a correlation between the dimensions of emotional intelligence and self - efficacy of educational unit leaders.

Another issue regards the emotional intelligence concept is whether levels of emotional intelligence differentiate according to teachers' sex. Thus, according to recent studies, women educators reported higher scores in emotional intelligence compared to male educators (Khabbaz, Seifoori, & Ahangari, 2024). Therefore, we proposed hypothesis as follows:

Hypothesis 3: There are statistically significant differences between male and female educational unit leaders' degree of emotional intelligence.

Research among educators has indicated that their levels of emotional intelligence seem to significantly predict the degree of their self-efficacy (Anwar, Zaki, Memon & Thurasamy, 2021), which has many positive effects in their mental health and performance. Thus, our final hypothesis is as follows:

Hypothesis 4: Emotional intelligence is a statistically significant predictor of leaders' self-efficacy.

### 3. METHODOLOGY

The aim of this descriptive and correlational study was to examine the relationship between public educational unit leaders' levels of emotional intelligence and self-efficacy. The study population consisted of public educational unit leaders who were working in educational units located in seven peripheral regions of north Greece during autumn and winter of 2024. The sample comprised of 190 educational leaders who served in primary educational units located in four of the seven peripheral regions of north Greece and selected through cluster random sampling. The study method which was used in the present study was quantitative, applying a structured questionnaire designed and administered by the investigators.

#### 3.1. Data Collection Tools

The researchers of this study used a structured questionnaire which includes two scales and a demographic section. The scales used in this study were the Trait Emotional Intelligence Questionnaire-Short Form (TEIQue-SF) and the New Generalized Self-Efficacy Scale (NGSE). The following questionnaires were used to collect data:

Trait Emotional Intelligence Questionnaire-Short Form (TEIQue-SF) was developed by Petrides and Furnham (2001; 2003) assessing levels of emotional intelligence and consists of 30 items each using a 7-point Likert scale ranging from 1 (Strongly Disagree) to 7 (Strongly Agree). This scale measures four dimensions which are: Emotionality, Self-Control, Sociability and Well-being. Here, it should be noted that the items 2, 4, 5, 7, 8, 10, 12, 13, 14, 16, 18, 22, 25, 26, 28 of the scale were reversed with a negative load (reversed items) according to the instructions of the researchers who developed the scale. The Greek validity and reliability study of the scale was conducted by Stamatopoulou, Galanis and Prezerakos (2016) and Cronbach's  $\alpha$  value was found to be 0.89. The alpha value was calculated as 0.89 in this study.

The second scale is the New Generalized Self-Efficacy Scale designed by Chen, Gully and Eden (2001) measures the total self-efficacy degree and is comprised of 8 items each using a 5-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). The Greek validity and reliability study of the scale was conducted by Pilafas, Lyrakos and Louka (2024) and Cronbach's  $\alpha$  value was found to be 0.909, which was calculated as 0.9 in this study.

#### 3.2. Data Collection Procedure

Participants who met the study inclusion criteria and were willing to participate were provided with a written consent form to sign, which included understanding their rights to access their information and the right to withdraw at any point. Attendees were asked to sign voluntarily an informed consent form to participate in the study. The research questionnaires were administered online among educational unit leaders and the link to the questionnaire was sent via school emails.

### 3.3. Data Analysis

The data of the present research study was analyzed using SPSS version 20 (IBM Corp., Armonk, NY, USA). Descriptive statistics were used for data analysis. Independent samples t-test was used to compare the mean EI scores of participants according to their gender and Pearson's correlation test was used to compare scale scores. Also, the relationship between emotional intelligence as independent variable and self-efficacy as dependent variable was examined by linear regression analysis.

## 4. RESULTS

The results showed that the majority of educational unit leaders was men (54.2%, n=103) and 45.8% (n=87) was women. About half of them (51.6%) belongs to the 56 - 65 age group, followed by the 45 - 55 age group with a percentage of 33.2%. As for further studies, the majority stated that they hold a master's degree (62.7%), 18.9% declared no further studies and 13.2% had a second bachelor degree. In addition, 66.8% had more than 20 years of service and 27.4% had between 16-20 years of experience. As regard to the prefecture of work, 35.3% of educational units leaders were working in school units in the prefecture of Imathia, 26.8% in Pieria, 22.1% in Chalkidiki and 15.8% in Kilkis (Table 1).

Table 1: Descriptive indicators related to demographic characteristics of the sample

VARIABLE		PERCENT %
SEX	Men	54.2
	Women	45.8
AGE GROUP	23-33	0.5
	34-44	13.7
	45-55	33.2
	56-65	51.6
FURTHER STUDIES	Second bachelor	13.2
	Master degree	62.7
	PhD	0.5
	Master degree + PhD	4.7
	None	18.9
YEARS OF SERVICE	6-10	1.1
	11-15	4.7
	16-20	27.4
	>20	66.8
PREFECTURE	PIERIA	26.8

KILKIS	15.8
CHALKIDIKI	22.1
IMATHIA	35.3

Pearson Correlation Coefficient (r) analysis was used to find the relationship between the level of educational unit leaders’ emotional intelligence and their degree of self – efficacy. Pearson correlation was considered to be ideal in our research as the aim was to measure the linear relationship between these two variables. Also, for data analysis and selection of relevant tests, normality and statistical assumptions were examined. The result of the Shapiro-Wilk test indicates that the condition of normal distribution of scores was established. The value of its significance level for the variables was more than 0.05, which indicated that the distribution of variables was normal and this was another reason for using Pearson correlation. Thus, there was a significant positive moderate correlation found between participants’ total emotional intelligence scores and total self-efficacy scores ( $r = 0.578$ ,  $P < 0.001$ ) which indicated that as levels of leaders’ emotional intelligence increased, so did the degree of their self-efficacy (Table 2).

Table 2: Examination of the relationship between educational unit leaders’ emotional intelligence and self – efficacy total scores

Variable		Total Self-efficacy	
		r*	P
Total Intelligence	Emotional	,578	<0,01**

Also, there was a significant positive moderate correlation between all the four dimensions scores of emotional intelligence (Emotionality, Self – Control, Sociability and Well – being) and the total self – efficacy scores (Table 3). In particular, the subscales Self-control ( $r = 0.526$ ,  $P < 0.001$ ) and Well-being ( $r = 0.483$ ,  $P < 0.001$ ) had the strongest correlations with the total self – efficacy. On the contrary, Sociability ( $r = 0.402$ ,  $P < 0.001$ ) and Emotionality ( $r = 0.405$ ,  $P < 0.001$ ) had the weakest correlations with the total self-efficacy.

Table 3: Examination of the relationship between the four subscales of emotional intelligence and total self – efficacy of the educational unit leaders

Variable	Total Self-efficacy	
	r*	P
Emotionality	,405	<0,01**
Self-control	,526	<0,01**
Sociability	,402	<0,01**
Well-being	,483	<0,01**

In Table 4, the analysis was to compare men and women educational unit leaders’ means regarding their level of emotional intelligence to determine whether the population means are different. The results of Levene’s Test for Equality of Variances showed that  $P = 0.894$  which was greater than 0.05 so the null hypothesis was accepted that the variances were equal. The t-test for Equality of Means showed that  $P = 0.083$  which was greater than the alpha value of 0.05 and meant that the null hypothesis was

accepted so that there was not a statistically significant differences between men and women educational unit leaders regarding their levels of emotional intelligence.

Table 4: Means comparisons of men and women educational unit leaders’ emotional intelligence

	Levene's Test for Equality of Variances		t-test for Equality of Means			
	F	P	t	df	P	
Total emotional intelligence	,018	,894	-1,742	188	,083	

Table 5 depicts the results of univariate linear regression which was used to test if total leaders’ emotional intelligence explained their levels of self-efficacy. According to the model, the variables involved in the regression prediction model were Self-control and Well-being. R2 value for these variables were 0,374 which indicated that they explained 37.4% of the variation in leaders’ self-efficacy (p = 0.000). The variation value of self-efficacy arised from the following equation:

$$\text{Self-efficacy} = 12.778 + 0.346 \times (\text{Well-being}) + 0.244 \times (\text{Self-control}) + 0.141 \times (\text{Sociality}) - 0.035 \times (\text{Emotionality}).$$

Table 5: Linear regression analysis of the relationship between subscales of emotional intelligence with self-efficacy.

Model	R2	Unstandarized Coefficients		Standari	t	p
		B	Std . Error	zed Coefficients Beta		
(Constant		12,7	1,9		6,4	
)		78	82		46	
Emotiona		-,03	,07	-,038	-,4	0,6
lity		5	8		54	50
Self-	0,3	,244	,05	,342	4,2	0,0
control	74		8		37	00
Sociabilit		,141	,07	,134	1,7	0,0
y			9		84	76
Well-		,346	,07	,321	4,8	0,0
being			2		31	00

## 5. DISCUSSION

The aim of this study was to determine the relationship between educational unit leaders’ levels of emotional intelligence and their degree of self – efficacy. The results show that there is a statistically significant positive relationship between their overall emotional intelligence and their levels of self – efficacy. This result does not come as a surprise as there are many research studies which have found correlations. Ngui and Lay (2020) investigated the relationship between emotional intelligence and the level of self – efficacy of student teachers and the results indicated that emotional intelligence

was significantly related to self – efficacy. Another study in pre-service teachers found that there was a statistically significant positive correlation between their emotional intelligence and their self-perceptions of efficacy, suggesting that elevated emotional intelligence is linked to enhanced self-efficacy among individuals who are undergoing preparation for the teaching vocation (Lilly & Venikapalli, 2023). Overall, research has shown that high levels of emotional intelligence show a positive correlation with high levels of teacher self-efficacy (Vesely, Saklofske & Leschied, 2013).

Regarding the four subscales of trait emotional intelligence – emotionality, self-control, sociability and well-being – the results of this study indicate that there is a statistically significant positive relationship between these four subscales of emotional intelligence with educational unit leaders’ total self – efficacy. This finding aligns with the results found in previous studies which has shown that all the dimensions of emotional intelligence have an impact on teachers’ total self – efficacy (Nikoopour, Farsani, Tajbakhsh & Kiyae, 2012). Therefore, it can be inferred that increased levels of emotionality, self-control, sociability and well-being lead the educational unit leader to better efficacy perceptions about their skills and capabilities.

As for educational unit leaders’ gender regarding their levels of emotional intelligence, the results of this paper indicated that there are not statistically significant differences between male and female educational leaders’ degree of emotional intelligence. However, there are some research studies which support the existence of gender differences in teacher emotional intelligence. This may be due to the fact that male and female educational leaders are subject to the same professional demands and expectations, which fosters the development of similar levels of emotional intelligence.

According to the findings of the current study, only the subscales self-control and well-being of emotional intelligence involved in the regression prediction model. The R<sup>2</sup> value was 0.374 which means that they explained 37.4% of the variation in leaders’ self-efficacy degree. In social science research R<sup>2</sup> which is between 0.10 and 0.50 is acceptable when all or some of the explanatory variables are statistically significant (Ozili, 2023). Thus, the findings of our study are acceptable as two out of four model variables are statistically significant ( $p = 0.000$ ) indicating that our research hypothesis is partially confirmed. Therefore, it seems that if interventions are made regarding leaders’ well-being and self-control, it is possible for higher levels of self-efficacy to be achieved.

Studies have shown that teachers’ emotional intelligence is a statistically significant predictor of their self-efficacy suggesting that the augmentation of emotional intelligence may concurrently yield positive outcomes for the self-efficacy of school principals (Aparisi, Granados, Sanmartin, Martínez-Monteagudo & García-Fernández, 2020; Ulutaş, 2024).

## 6. CONCLUSION

The findings of this study highlight the importance of skills such as emotional intelligence and its constituent dimensions, in particular self-control and well-being, which have been identified as influential factors affecting leaders' self-efficacy levels. These results accentuate the imperative for the continuous enhancement of emotional intelligence and self-efficacy, given their critical importance in advancing the educational work environment. Such competencies are essential in equipping leaders of public educational institutions with the skills to efficiently manage the educational unit and improve their leadership capabilities, thus promoting the sustainable

advancement of educational institutions. Overall, the findings suggest the necessity of implementing in-school professional development and training programs for both educational leaders and educators, aimed at enhancing their emotional intelligence and self-efficacy.

#### 6.1. Limitations of the Study and Future Recommendations

The study acknowledged several limitations. First, the research sample was relatively small. In addition, the sample consisted exclusively of educational leaders working in units primarily located in peripheral areas, thereby excluding those from major urban centers or island regions. Furthermore, data collection was based on participants' self-reported responses, which may be subject to potential bias. Future research should aim to include a larger and more diverse sample, incorporating educational leaders from various regional contexts. Finally, a more comprehensive understanding of the topic could be achieved by integrating both quantitative and qualitative research methods to capture a wider range of perspectives.

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# INNOVATIVE LEADERSHIP, LEARNING MOTIVATION, AND SERVICES MANAGEMENT IN EDUCATIONAL UNITS: EXPLORING GENDERED PERSPECTIVES OF TEACHERS

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## ABSTRACT

This study investigates the relationship between innovative leadership and teachers' learning motivation, situating the analysis within the broader field of services management and educational leadership. Leadership practices are widely recognized as central to the effectiveness of educational organizations, not only in terms of administrative efficiency but also in shaping professional development and promoting inclusive, innovative cultures (Özdemir, 2023; Hsieh et al., 2024). The research focuses on how teachers perceive the characteristics of an innovative leader, the extent to which these perceptions influence their personal motivation for learning, and the ways in which gender plays a role in shaping these dynamics.

International research underscores gender-based differences in educational leadership, particularly in terms of representation, leadership priorities, and styles. Although women make up the majority of the education workforce, they remain significantly underrepresented in senior leadership positions (Morley, 2014). Men are more likely to prioritize strategic and managerial competencies, while women tend to value interpersonal relationships and collaboration (Brinia, 2012). In terms of leadership style, women generally adopt a transformational and collaborative approach, whereas men are more inclined toward transactional or corrective models (Alharthi, 2024).

The primary aim of the study is to highlight the leadership attributes that teachers value most in fostering innovation and professional growth. At the same time, the study examines whether male and female teachers differ in how they assess innovative leadership and connect it to their own learning motivation. By doing so, the research contributes to ongoing discussions about gender equity and diversity in educational leadership, offering insights into how leadership styles and organizational culture can respond to the needs of diverse teaching populations.

A quantitative methodological approach was adopted, with data collected through a Likert-type questionnaire administered to primary and secondary education teachers. The instrument captured perceptions of leadership characteristics, individual motivation for professional learning, and the perceived connection between these two

areas. Data analysis was conducted using statistical tools to identify correlations and differences across gender.

The theoretical framework draws on existing literature on innovation, leadership theories, and motivation in education, while situating these concepts within the realities of school systems. Innovative leadership was conceptualized as openness to new ideas, encouragement of creativity and teamwork, and sustained support for professional development through a culture of innovation (Tidd et al., 2005). Learning motivation was framed as a multidimensional construct shaped not only by internal factors but also by the organizational environment and leadership practices (Yu et al., 2018).

Findings confirm that teachers' learning motivation is significantly influenced by their perceptions of innovative leadership. Characteristics such as openness, encouragement of creativity, and support for collaboration were consistently associated with higher levels of motivation (Afsar & Umrani, 2019). Furthermore, the analysis revealed notable gender differences: women and men often emphasize in different aspects of leadership, with female teachers placing stronger value on interpersonal support, inclusivity, and professional trust, while male teachers tended to prioritize structural efficiency and the leader's ability to manage change. These distinctions underline how gender roles and identities shape teachers' experiences of leadership and professional development, and they highlight the importance of gender-sensitive approaches in educational management.

The study concludes by emphasizing the need for further research into the intersection of innovation, leadership, and learning motivation, particularly from a gender-aware perspective. Practical implications include the adoption of inclusive leadership models that value diversity, promote professional growth, and ensure equitable access to opportunities for teachers of all genders. By framing services management as both a technical and a social justice process, school units can build innovative, equitable, and resilient educational environments.

This research aligns closely with the conference themes of Gender and Educational Leadership and Management, Equity and Inclusion in Educational Leadership, and Organisational Change for Social Justice in Education, offering evidence that leadership practices informed by gender awareness are key to fostering motivation, innovation, and equity in schools.

**Key Words:** services management, learning motivation, innovative leadership, educational units, equity

## INTRODUCTION

Innovation has been defined as the development and use of new ideas, behaviors, or practices (Daft & Becker, 1978; Damanpour & Evan, 1984; Ullah et al., 2024). It is characterized by its multidimensional nature and includes processes that seek to reform, develop, and implement new ideas and behaviors (Rekliti & Trivella, 2000). In addition, it is a dynamic process with a social character, in which combinations or connections between variables are made, leading to the emergence of new ideas which, in turn, appear as new technologies, applications, markets, and organizational practices with the ultimate goal of creating value (Ungerer, 2011). However, the criteria for innovation are not science or technology, but the changes that take place in the socio-economic

environment and in people's behavior. Therefore, innovation is not synonymous with new technology, but is related to the creation of new values or new possibilities for action (Akram, 2016). To achieve a significant and transformative result, the immediate dissemination and implementation of innovation on a large scale is required. That is why innovation requires three important steps: an idea, its implementation, and the result that comes from executing the idea itself and produces change. (Serdyukov, 2017).

#### Innovation and educational organisations

Educational innovation initially refers to activities that promote education as a product, teaching methods, and leadership models applied to the management of available resources. For this reason, teachers play a key role in any innovative educational change (Fullan, 2005). This implies that educational leaders must take care to motivate teachers to participate in educational programs that promote the creation of common values and new educational concepts (Lourmpas&Dakopoulou, 2014). Therefore, innovation in education is of great importance as it plays a significant role in ensuring a sustainable future (Serdyukov, 2017). An innovative school climate refers to the shared perceptions of the members of the school community regarding the practices, processes, and behaviors that promote the creation of new knowledge and practices (Moolenaar et al., 2010). In a school environment, innovation consists of teaching practices and school policies that support innovation (Greany, 2018). At the same time, it depends on the behavior of the people who work there. Therefore, the innovative behavior of employees plays an important role in organizational success and survival (Thurlings et al., 2015). Innovation enhances the teaching approach by linking cognitive subjects and changing the orientation of teaching (Hallstedt et al., 2013). It focuses on the leader who creates a dynamic professional environment where everything changes and is influenced, while the rest of the teachers continue to be involved in the processes (Polka & Kardash, 2013). The school unit adopts specific characteristics to enable the success of innovation, which affects its functionality on multiple levels, thus concluding that there is a strong dynamic between innovation and leadership (Papadopoulou & Avdimiotis, 2020).

Improving a school is therefore not possible without implementing innovations in education, and consequently, educational innovation is unlikely to occur without a willingness to change on the part of the entire school community (Ubaidillah et al., 2018). That is why innovative behaviour on the part of teachers in schools is essential. It helps to meet the needs and demands of a rapidly changing society for both students and their teachers (Brandsford et al., 2005).

#### Innovation and Leadership

Leadership is considered one of the most visible elements of management, with a primary focus on engaging people. Part of its activities include administrative functions, guidance, inspiration, initiative, and motivation for participation in order to achieve organizational goals (Brem et al., 2016). It can influence the ability and motivation of individuals and teams to achieve specific goals (Ellemers et al., 2004; Hongdao et al., 2019). It refers to the unique qualities of an individual and is considered a certain ability, skill, or characteristic that is capable of influencing and stimulating others. This aspect is interesting because of a leader's ability to stimulate innovation (Avery et al., 2004; Becker et al., 2022).

Tidd and Bessant (2019) argued that the characteristics of innovation in an organization include a shared vision, leadership, a willingness to create an innovative organization, collaboration, continuous engagement in innovative activities, and an appropriate incentive system. Similarly, Hongdao et al. (2019) considered leadership to be an essential element for the success and adoption of innovation in an organization. The extent to which leadership influences the innovative work behavior of employees depends on the interactions of leaders with their subordinates, as well as other organizational factors (Koseoglu et al., 2017; Masood & Afsar, 2017). According to Kozioł-Nadolna (2020), innovative leadership has five dimensions: creative thinking, willingness to innovate, tolerance for different opinions and various risks, creation of innovation mechanisms, and implementation of innovative ideas.

Innovative leaders are characterised by their ability to sense the needs of others, anticipate change and have a positive attitude towards it. They are decisive, plan their actions carefully and persistently, and manage persuasion effectively. They combine a holistic vision with attention to detail and choose a participatory leadership style (Kanter, 1985; Wang et al., 2022). In addition, the leader's ability to creatively solve problems that arise in the organization is also important, as this can influence organizational innovation. It is the person who plays a decisive role in creative thinking, with their different skills influencing this process at various stages (Mumford et al., 2003; Basadur 2004; Mumford et al., 2004). Therefore, a leader who possesses specific skills necessary to promote creative thinking can facilitate different phases of the creative process of their colleagues and thereby enhance innovation.

Deschamps (2008) lists five characteristics of an innovative leader who promotes modern solutions. Specifically, this is a person who possesses an exceptional combination of creativity and discipline, acceptance of uncertainty, risks, and failures, combined with the ability to push their team to draw conclusions and gain experience for the future. They also have a high degree of personal commitment to the mission of promoting innovation and seeking ideas, both technological and from external sources. He is distinguished by his willingness to experiment, his courage to abandon projects that have been started but prove ineffective, and his ability to distinguish which ones should be continued and which ones should be completed. In addition, it has a talent for creating and leading teams, as well as attracting and retaining colleagues with innovative ideas.

Hill et al. (2014) concluded that innovative organizations need leaders who can abandon conventional leadership and management styles in order to build organizations capable of continuous innovation, develop creative teams of employees, and create relationships based on mutual trust. For Lee (2015), innovative leaders must be more aggressive in change, in creating the future, and in seeking opportunities for better and higher-quality survival in the future. On the other hand, Buekens (2013) and Vargas (2015) considered that leaders in the context of "survival" in an often-changing environment are called upon to be creative. Therefore, leadership plays an active role and, in order to achieve its leadership goals and innovation, it influences and adapts its environment. Innovative leaders promote change in their organization. According to Metcalf and Morelli (2015), the characteristics that distinguish them are that they clarify the organization's vision through strategic initiatives, build effective teams and help colleagues, cultivate alliances and collaborations. In addition, they anticipate and respond to challenges and opportunities, develop stable and resilient solutions, and

finally develop and promote hypothesis testing, evaluation, learning, and continuous improvement.

For schools to function as learning organizations, it is important that school leaders themselves are models of learning (Bush & Middlewood, 2005). For this reason, school leadership plays an important role in the implementation of any innovation in the educational unit. However, the principal-leader must be open to change so that they can convey this to their fellow teachers who are willing to engage in change processes. In order to manage change, every leader must have not only knowledge and certain skills, but also personal characteristics that enable them to manage change effectively (Bagga et al., 2023). When leaders are innovative, they can empower those around them, challenge existing practices, seek new solutions to existing problems, and stimulate ongoing dialogue that promotes reflection. Principals who keep themselves informed about new research findings and current educational trends are better able to support their vision and implement innovative changes to improve their school. Consequently, innovative schools are run by principals who are proactive and discover new ways to perform their duties while being creative with the resources available and professional development. Through their innovative actions, they inspire others to collaborate, generate new ideas, and acquire new skills, thereby creating an innovative school climate (Coleman, 2007; De Jong et al., 2022).

When the management of a school is open to new ideas, it can ensure the introduction of innovations in the school. The principal is responsible for promoting and facilitating the adoption of innovations, as well as combating the inevitable conflicts, doubts, and disputes that may arise from feelings of uncertainty about innovations. His contribution is constantly increasing through their ability to reassure teachers' concerns. In addition, in order to implement innovation in the school, the principal is called upon to follow rationality, to encourage the participation of other teachers in the processes, to promote cooperation and communication, and at the same time to assess the school climate and its needs in order to create the right conditions for change (Papakonstantinou, 2008). The key to success in adopting innovation in schools can be considered to be elements of the principal's personality, such as self-confidence, integrity, knowledge in the areas of organization, tolerance of daily work pressure, and charisma (Papakonstantinou, 2014). In a school organization, the principal needs to have a certain dynamic that will help them achieve not only their personal goals but also the goals they have set with the teachers of the school (Antypas & Panagiotopoulos, 2017).

Therefore, an innovative school principal is expected to be flexible as a leader, to focus on learning and exploration, to adapt easily to change, to be a pioneer in many areas, and to make joint decisions. Furthermore, they should be interested in teamwork, have strong intuition, pursue new visions, strive to introduce modern technological innovations in the school, and be able to demonstrate sufficient flexibility in every issue (Özdemir, 2023). Leadership facilitates the implementation of innovation, particularly in educational organizations (Rikkerink et al., 2016). It can influence the innovative capacity of organizations (Chen et al., 2016) or affect the creation of conditions that facilitate innovation, especially those related to organizational learning (García-Morales et al., 2012). It is carried out by teachers during their work but is also facilitated by management to the extent that it is promoted by the work environment (Preston et al., 2012). Watt (2002) states that innovation in schools has four dimensions, which are

the culture and climate that prevail in the school, the innovative individuals who comprise it, the leadership and procedures followed within it, and finally the school infrastructure.

#### Learning motivation

Motivation can be defined as the tendency to satisfy an individual's needs (Filgona et al., 2020). However, motivation is the element that causes an individual to want to know, act, understand, believe, or acquire specific skills. People differ significantly in their motivations. Therefore, before taking any action based on them, it is necessary to understand the personal characteristics that influence their driving forces, as these can be more easily identified. Overall, motivation is the core that directs, controls, and reinforces persistence in human behavior (Tohidi & Tarokh, 2006). The way in which employees perceive their work environment seems to be of great importance, as it can influence their motivation to learn in that environment and/or the quality of their learning process (Vanthournout et al., 2014). People with strong learning motivation make efforts to succeed when they identify a learning opportunity, which may lead to the acquisition of new knowledge and skills (Simmering et al., 2009).

Learning motivation refers to the desire of employees to acquire new knowledge, which drives them to become more creative and innovative in their work (Gong et al., 2009). It therefore concerns an internal state that directs and maintains learning behaviors. It motivates the continuous search for new opportunities for growth and development, overlooking potential challenges or failures that may be encountered along the way. This is the decisive internal motivation that shapes an individual's attitude towards learning and their willingness to make the necessary effort to achieve their goal. In other words, it is the key to achieving personal and academic aspirations (Ahmad et al., 2024). Internal motivation refers to the self-determination that drives the learner to participate in an activity and motivates them to engage in learning for the sake of learning. They stem from the learner's desire to learn and develop, guided in this effort by the pleasure and satisfaction that the process offers them as they remain focused on their goals (Woolfolk, 2019).

According to Zhang and Chen (2021), the functional definitions of adult learning motivation can be explained based on the following areas:

1. Professional development: Benefits career development, improves functional ability for work, and helps in seeking promotion.
2. Social relationships: Expansion of interpersonal relationships and social network.
3. External expectations: Participation in the learning process due to the demands and expectations of superiors, compliance with their instructions and encouragement, as well as the influence of others' participation in educational activities.
4. Enjoyment of the pursuit of knowledge: Enhancing professional development and cognitive interest, as well as broadening horizons through learning.
5. Self-fulfillment: Pursuing personal development to enhance adaptation and self-awareness.

Teachers' motivation to promote their professional development stems from their desire to improve both their teaching practices and their students' learning outcomes. A large proportion of teachers are driven by an internal quest to achieve perfect teaching, comparing current methods with idealized educational standards, which cultivates a sense of professional dissatisfaction that drives their learning. Motivation theorists

argue that autonomous learning motivations are a means of optimizing learning and performance, individual adaptation and psychological functioning, greater creativity, and persistence in many different educational settings (Deci et al., 1996; Reeve, 2002; Niemiec & Ryan, 2009; Ryan & Deci, 2020). This implies the success of programs that teachers choose to participate in new learning experiences (Gorozidis & Papaioannou, 2014). Through the involvement of teachers in professional learning activities within the school context, both their own professional development and the development of the school are encouraged, and as a result, their teaching practices are improved (Thoonen et al., 2011).

#### Innovation and Learning Motivations

With regards to innovative work behavior among employees, the study of learning motivations serves to provide a holistic understanding of it (Afsar et al., 2018; Choi et al., 2016) and, consequently, to a deeper understanding of innovation within the organizational work context (Afsar & Umrani, 2019). When employees are motivated to learn, they are more willing to make efforts based on their curiosity and desire to learn (Ryan & Deci, 2000a; Ryan & Deci, 2020). Learning motivations are therefore considered a source of improvement in an employee's innovative behavior due to the positive impact and cognitive flexibility they offer (Shalley et al., 2004; Lyubomirsky et al., 2005). Moreover, employee engagement in innovative work behaviors is closely linked to their learning motivation (Yu et al., 2018). These allow employees to focus more intensely and make greater efforts to acquire new knowledge and skills, which will consequently increase their cognitive level and, therefore, their innovative behavior (Afsar & Umrani, 2019). In particular, employees' internal motivations can lead to innovative work behaviors as they give employees the feeling that they are in control of their activities (Yu et al., 2018). Furthermore, employees' willingness to engage in innovative activities is reinforced by their motivation to learn, i.e., their desire to acquire new knowledge that will encourage them to be creative and innovative in their work (Asbari et al., 2021a).

Learning motivation is an important driving force for learning behavior and makes it easier for learners to actively engage with learning content. It allows them to understand the direction of learning and actively participate in learning activities in order to complete tasks to achieve predetermined learning objectives. It has already been pointed out that learning motivation and learning behavior are key factors in the effectiveness of learning, which can lead to innovation among learners. Learning motivation is also positively related to the ability to innovate, which is the result of a change in learning behavior (Zhang & Chen, 2021).

## METHODOLOGY AND DATA ANALYSIS

### Sample and research population

The target population of the research includes primary, secondary, and tertiary education teachers from public and private formal education. From this population, a sample of one hundred and forty-two (N=142) teachers was selected through random sampling. Specifically, the sample consisted of 64.1% women and 35.9% men. Their ages ranged from 24 to 63 years, with an average age of 39.87 years. The average length of service of the sample was 10.24 years.

### Data Analysis

The processing and analysis of the collected data was carried out using SPSS (Statistical Package for the Social Sciences) Statistics 30.0.00 software. This data provided information on how participants evaluate innovative work and learning motivations, as well as variations in their responses according to gender. The effect of gender on perceptions of innovative leadership and personal learning motivation was investigated using a linear regression model that defined the innovative leadership score and learning motivation as dependent variables and gender as an independent variable. The following analysis examines the correlation between teachers' perceptions of innovative leadership (Innovative Leader Score) and learning motivation (Learning Motivation Score), dividing men (Gender = 1) and women (Gender = 2) into two different groups. The aim is to determine whether there is a relationship between these two variables and to compare the strength of the relationship (correlation coefficient) for the two genders separately.

Comparatively, it is observed that although in both cases the correlation is positive and significant, indicating that both men and women show a positive relationship between their perceptions of the innovative leader and learning motivation, the correlation for men ( $r = 0.609$ ) is stronger than that for women ( $r = 0.496$ ). These results highlight the need to understand the different ways in which gender may influence the relationships between innovative leadership perceptions and learning motivation. Regression analysis was used to examine whether gender influences perceptions of innovative leadership or learning motivation. As shown in Table 1,  $R^2 = 0.003$  indicates that only 0.3% of the variance in Innovative Leader Score measurements are explained by gender. The adjusted  $R^2$  is negative ( $-0.004$ ), suggesting that gender does not contribute to the variance in the result.

Table 1

Summary of model for regression analysis of the effect of gender on innovative leader scores

Model	Mo del	R	R Square	Adjusted R Square	Std. Error of the Estimate
1		.059a	.003	-.004	19.03799

a. Predictors: (Constant), Gender of participants

Table 2 shows that gender does not significantly affect the score for innovative leaders. Specifically, the unstandardized coefficient  $B = 2.333$  indicates that for each unit increase in the participant gender variable, the Innovative Leader Score increases by 2.333 units. However, the statistical significance level ( $p = .485$ ) indicates that this variable does not have a significant effect on the dependent variable. The lack of statistical significance suggests that factors other than gender may influence perceptions of innovative leadership.

Table 2

Regression coefficients for predicting the innovative leader score

Model	Unstandardized Coefficients	Std. Error	Standardized Coefficients	t	Sig.
1	(Constant)	154.050	5.693	27.060	<.001

Gender of participants	2.333	3.330	.059	.700	.485
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a. Dependent Variable: InnovativeLeaderScore

As shown in Table 3, no statistically significant effect of gender on learning motivation was found. Specifically,  $R^2=0.007$  shows that only 0.7% of the variance in learning motivation scores is explained by gender, which is an extremely low explanatory power of the model.

Table 3

Model summary for the regression analysis of the effect of gender on learning motivation scores

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.082a	.007	.000	7.03985

a. Predictors: (Constant), Gender of participants

Below, Table 4 shows that gender does not significantly affect the learning motivation score. Specifically, the unstandardized coefficient  $B = -1.201$  indicates that, based on the friend, the predicted learning motivation score decreases by 1.201 points. However, this effect is not statistically significant ( $p = .331$ ), which means that the gender of the participants is not a statistically significant predictor of learning motivation scores. The lack of statistical significance suggests that factors other than gender may influence perceptions of personal learning motivation.

Table 4

Regression coefficients for predicting learning motivation scores

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	56.162	2.105		26.679	<.001
	Gender of participants	-1.201	1.231	-.082	-.976	.331

a. Dependent Variable: LearningMotivationScore

## CONCLUSIONS AND RECOMMENDATIONS

The results of the study revealed interesting findings regarding how teachers perceive innovative leaders, their personal learning motivations, and the gender differences that emerge in these two cases. The findings of the study showed that men give greater priority to unconventional approaches and technological familiarity among leaders, in contrast to women, who focus more on communication, clarity of objectives, and encouragement of creativity, elements that highlight a collaborative approach to leadership on their part. This underscores the differences in the needs and approaches of the two genders within their educational organization. Gender also does not significantly influence learning motivation. Finally, the research findings showed that, statistically, gender is not a significant factor in shaping teachers' perceptions of innovative leaders and personal learning motivation. This suggests that other demographic factors may play a more important role.

The results and conclusions of this study pave the way for future scientific research that will deepen our understanding of leadership and learning motivation in the context of achieving innovation in educational organizations. Regarding the exploration of gender, the differences noted in the research on innovative leaders provide an opportunity to explore the issue through qualitative research such as interviews or focus groups with the aim of gaining a better understanding of the differences in priorities and expectations set by each gender with regard to innovative leadership in an educational organization. It is also considered appropriate to investigate other demographic parameters such as age, years of service, educational level, and position of responsibility of teachers. These findings will provide a more holistic picture of the factors that may influence teachers' perceptions of innovative leadership and learning motivations.

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## **GENDER ISSUES IN HIGHER EDUCATION & EDUCATIONAL TOURISM**

### **FROM LITERATURE TO STREAM: A CROSS-CULTURAL PROJECT ON GENDER, IDENTITY, AND INCLUSION**

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#### **ABSTRACT**

This presentation shares the story of an interdisciplinary project that brought together literature, STREAM activities, and international collaboration, all with a special focus on how gender is experienced in education. The inspiration came from the works of Alki Zei, the much-loved Greek author whose novels have shaped generations of readers and often touch on themes of identity, justice, and equality (Zei, 1982; Zei, 2009). For our students, Zei’s stories became more than literature — they were a gateway into reflecting on social roles, cultural identity, and the way gender influences everyday life. The project took place in a primary school and unfolded in close cooperation with a partner school in Greece. Students on both sides read and discussed selected works by Zei, exchanging their thoughts on the characters, the situations they faced, and the questions of fairness and equality raised in her writing. These discussions quickly moved beyond the pages of the books and into the students’ own lives, as they shared personal reflections on how gender is represented in their families, schools, and communities. To deepen this engagement, we linked the literary work with STREAMbased activities. Students created digital storytelling projects, designed visualizations, and built creative responses that connected literature with science, technology, and the arts. This not only allowed them to express themselves in new ways, but also gave them the tools to question how gender is represented in both traditional cultural narratives and modern technological environments. The integration of literature and STREAM reflects recent research that highlights the value of interdisciplinary practice in making complex issues such as gender more accessible and engaging for students (Bybee, 2013; English, 2016). One of the most valuable aspects of the project was the intercultural dialogue. By working directly with a school in Greece, students experienced firsthand how cultural context shapes the way gender is understood. The exchanges helped them to see both the differences and the similarities in their perspectives, creating a strong sense of empathy and inclusion. In this way, the project demonstrated how schools can become spaces not only of learning but also of genuine cultural and personal connection. This aligns with European educational research stressing the importance of equity, diversity, and inclusion in policy and

practice (Beetham & Demetriou, 2021; UNESCO, 2020). The presentation will highlight three key insights from this experience: 1. Literature as a starting point for social reflection: How stories such as those by Alki Zei can open doors to discussions about gender, identity, and equality in a way that feels personal and meaningful to students. 2. The power of interdisciplinary practice: How combining literature with STREAM activities encourages creativity, critical thinking, and deeper engagement with sensitive topics such as gender (Francis & Skelton, 2005). 3. The role of international partnerships: How collaboration across borders can broaden perspectives, foster empathy, and strengthen the inclusion of gender perspectives in education. This project aligns with the ICOMEU 2025 sub-themes of gender analysis in education, good practices on gender equality in educational units, and technology-driven inclusion in learning environments. It offers a practical and human-centered example of how schools can address gender issues through innovative teaching practices that value both cultural heritage and modern educational tools.

**Key Words:** Gender in education; interdisciplinary learning; STEAM; literature; Alki Zei; cross-cultural collaboration; inclusion.

## INTRODUCTION

Education in the 21st century is marked by an increasing recognition that schools are not only places where students acquire knowledge, but spaces where they negotiate identity, encounter diversity, and learn to interact with social realities. As European educational systems intensify their focus on equity, inclusion, and gender awareness, the role of schools in shaping students’ understanding of themselves and others has become more critical than ever. International and national policy frameworks, including those advanced by UNESCO (2020), call for education systems that actively challenge gender bias, promote social justice, and empower learners to become reflective, engaged citizens.

Against this backdrop, the project “From Literature to STREAM: A Cross-Cultural Project on Gender, Identity, and Inclusion” was designed to help primary students explore concepts of gender, identity, and social fairness through a combination of literary engagement, STREAM-based activities, and intercultural cooperation. The project was implemented at the 4th Primary School of Komotini and the 12th Primary School of Alexandroupoli—two schools located in regions with distinct cultural textures, offering a unique environment for exploring gender perceptions among young learners.

The decision to use literature as the starting point stemmed from a belief in the power of stories to give children a voice and provide them with symbolic tools for understanding the world. The novels of Alki Zei, an iconic Greek author, were selected because of their nuanced depictions of social and political realities, and because her characters often confront issues of fairness, gender roles, and personal identity. In discussing these stories, students were able to link the fictional worlds to their lived experiences, raising questions about how gender shapes expectations, opportunities, and relationships.

STREAM pedagogy — combining Science, Technology, Reading/Writing, Engineering, Arts, and Mathematics — expanded this engagement by allowing students to express literary insights creatively and analytically. STREAM served as a bridge

between narrative interpretation and hands-on exploration, offering diverse entry points for students with varying strengths. Whether through coding animations, designing visual representations, constructing models, or engaging in artistic performance, students were encouraged to approach gender and identity as dynamic and socially situated constructs.

Finally, a cross-cultural exchange between the two schools enabled students to engage directly with peers outside their immediate community. Through structured online meetings and shared digital workspaces, they compared interpretations of literary characters, discussed gender norms in their respective environments, and reflected on similarities and differences. Teachers observed that students articulated their ideas more thoughtfully when speaking to peers in another school, suggesting that intercultural dialogue heightened empathy and sharpened critical thinking.

This expanded paper presents the full conceptual foundation, methodology, implementation process, and outcomes of the project. It includes classroom observations, student responses, STREAM activity examples, and reflections on the cross-cultural dialogue. By weaving academic analysis with selective narrative elements drawn from classroom practice, the paper demonstrates how interdisciplinary and intercultural approaches can help young learners engage meaningfully with gender and identity. Ultimately, this work aims to contribute to ongoing discussions within the ICOMEU community on how to design educational practices that promote gender awareness and inclusion in ways that are developmentally appropriate, socially grounded, and pedagogically innovative.

## LITERATURE REVIEW

The literature informing this project spans three key areas: gender in education, the pedagogical power of literature, and interdisciplinary approaches such as STREAM. To situate the project in broader educational discourse, this section examines these areas in depth and establishes a conceptual foundation for the project’s design. Gender in Education

Gender in education has been widely researched, with extensive evidence underscoring how gender norms influence student identity, classroom participation, and academic confidence (Beetham & Demetriou, 2021). The school environment is a socializing space in which gender expectations are reinforced through interactions, curriculum materials, and institutional practices. Some students internalize expectations that limit their potential; for example, boys may be discouraged from expressing vulnerability, while girls may be urged to prioritize politeness over assertiveness. Francis and Skelton (2005) argue that these subtle pressures accumulate over time, shaping subject preferences, self-esteem, and long-term aspirations.

Primary education is a critical stage in this process because younger students are still forming foundational understandings of fairness, identity, and difference. Interventions during this stage can influence long-term attitudes toward gender equity. For that reason, educational systems across Europe have made gender awareness a strategic priority, calling for curricula that present gender as a social construction rather than a fixed attribute (UNESCO, 2020). Schools are encouraged to help students critically examine stereotypes, understand their own experiences, and develop respect for diverse gender expressions.

Literature as a Tool for Gender Education

Literature provides a rich context for exploring gender and identity because it invites readers into worlds where characters confront social norms, challenge injustice, and express emotions. Stories allow students to examine gender dynamics from a safe distance, interpreting characters' struggles while developing insight into their own. Research on children's literature highlights its power to shape moral reasoning and empathy, particularly when narratives focus on issues such as discrimination or equality (Zeï, 1982; Zeï, 2009).

Alki Zeï's novels stand out as particularly powerful tools for this purpose. Zeï's protagonists frequently navigate complex social environments where gender expectations intersect with political and familial pressures. In *Petros' War*, for instance, young characters navigate a climate of occupation, resistance, and social tension; in *Wildcat Under Glass*, the protagonist confronts expectations of femininity amid cultural unrest. These narratives expose readers to characters who resist stereotypes, allowing students to question established gender roles.

In classroom discussions during the project, students were quick to notice moments when characters defied expectations—for example, when a girl showed bravery or leadership, or when a boy expressed fear or sensitivity. These moments became catalysts for examining how similar expectations appear in their own environments.

STREAM Education

STREAM pedagogy extends STEM by integrating artistic expression and literacy. It invites learners to engage with material through multiple modalities, combining logical reasoning, creativity, and communication. Bybee (2013) argues that STREAM fosters transferable skills such as problem-solving, design thinking, and interdisciplinary awareness. English (2016) highlights its value in connecting academic subjects to real-world concerns.

STREAM is particularly useful in discussions of gender because it disrupts traditional subject hierarchies. Students who might feel less confident in reading find expression through coding or modeling. Others who excel in writing bring narrative sophistication to visual representation. These multiple entry points help challenge gendered assumptions about who is good at science, who is creative, or who belongs in leadership roles.

The integration of STREAM with literature offers opportunities for students to reimagine characters' experiences, represent themes visually, and explore scientific or technological issues embedded in social contexts. For example, constructing a coded animation of a pivotal moment in a novel can prompt discussions about emotion, agency, and perspective-taking.

#### Cross-Cultural Educational Collaboration

Cross-cultural collaboration provides opportunities for learners to encounter alternative interpretations and worldviews. UNESCO (2020) emphasizes that intercultural dialogue supports social cohesion and helps students appreciate diversity. In the context of gender education, cross-cultural exchanges can reveal how norms vary across communities and how identity is shaped by cultural and social structures.

In this project, collaboration between schools in Komotini and Alexandroupoli allowed students to examine gender expectations beyond their immediate peer group. Teachers observed that students were often surprised by the similarities between their experiences but equally intrigued by subtle differences. This fostered a deeper awareness of gender as a cultural phenomenon, not a universal standard.

## METHODOLOGY

The project was grounded in qualitative educational research, using an action-research approach to examine how interdisciplinary and intercultural activities influence students’ understanding of gender and identity. Action research was chosen because it aligns with the project’s emphasis on reflective teaching, iterative practice, and classroom-based inquiry.

### Participants and Context

Participants included students aged 10–12 from two primary schools: the 4th Primary School of Komotini and the 12th Primary School of Alexandroupoli. The two cities have distinct cultural compositions, including linguistic diversity, varied family structures, and different community-based gender expectations. This diversity enriched the cross-cultural component of the study.

Teachers involved in the project were experienced in literacy teaching, STREAM activities, and intercultural collaboration initiatives. Their dual roles as facilitators and observers allowed for continuous reflection and data collection.

### Data Collection

Data were collected through:

Student reflective journals  Classroom discussion recordings  Digital storytelling projects  Artistic and technological STREAM creations  Teacher observation logs  Excerpts of student dialogue during cross-cultural exchanges

The variety of data sources allowed for triangulation and a holistic understanding of students’ perspectives. Phases of the Project

### Phase 1: Literary Engagement

Students read selected passages from Petros’ *War and Wildcat Under Glass*. Discussions focused on character analysis, gender representation, and emotional response. Teachers guided students in identifying stereotypes, moments of resistance, and examples of fairness and injustice.

### Phase 2: STREAM-Based Activities

Literary insights were translated into STREAM outputs. Activities included:

Designing animated sequences of key narrative events

Constructing physical models of story settings

Using mathematical patterns to analyze character relationships

Creating artworks inspired by emotions or turning points

Coding interactive storytelling sequences

These activities provided multiple avenues for expression and fostered collaborative problem-solving.

### Phase 3: Cross-Cultural Collaboration

Students from the two schools met online at key stages of the project. They:

Shared their STREAM creations

Compared interpretations of characters

Discussed gender expectations in their families and communities

Reflected on similarities and differences

Teachers observed that students communicated more thoughtfully and respectfully during these sessions, aware that they were representing their school and community.

### Data Analysis

Data were coded thematically across categories such as:

Awareness of gender stereotypes

Empathy and perspective-taking  
Engagement with STREAM activities  
Intercultural understanding  
Self-reflection and identity discourse  
Themes were refined through iterative coding and comparison across sources.

### PROJECT DESCRIPTION

This section provides a detailed narrative of the project’s implementation, illustrating how literature, STREAM, and cross-cultural dialogue worked together to foster student engagement with gender and identity.

#### Literary Foundation

Introducing students to the works of Alki Zei created an emotional anchor for the project. Teachers selected chapters that highlighted issues related to justice, gender expectations, and personal courage. Students were encouraged to discuss not only what characters did, but why they acted as they did, and how society influenced their choices.

In one classroom discussion, a student remarked that a female character “was brave even though everyone expected her to be quiet.” This spontaneous observation opened a conversation about gendered expectations in the students’ own families. Importantly, students were not prompted to disclose personal information; instead, teachers facilitated hypothetical discussions such as, “Why might someone think girls should be quiet? Where does this idea come from?” This approach respected students’ boundaries while fostering critical thinking.

#### STREAM Integration

STREAM activities added a layer of creativity and problem-solving that deepened engagement. The interdisciplinary nature of STREAM meant that students approached gender themes from cognitive, emotional, and imaginative angles.

#### Examples of Expanded STREAM Activities

##### Digital Storytelling:

Students used tablets to create short animated videos reenacting moments from the novels. In deciding how to animate emotions such as fear, frustration, or courage, they discussed how gender influences the way characters express these feelings.

##### Engineering Models:

Groups constructed 3D models of the towns depicted in the novels, adding symbols to represent social structures that influenced gender roles. One group created a miniature scene showing a girl character standing outside a “boys-only” activity group, sparking a dialogue on exclusion.

##### Mathematical Patterns:

Students created charts tracking character interactions, visually mapping who spoke most often, who made decisions, and who influenced key events. These visualizations helped students recognize power imbalances within narratives.

##### Arts and Performance:

Students developed short dramatic scenes based on moments in the novels. Teachers noted that boys readily volunteered to portray emotionally expressive characters—an example of how the project subtly disrupted gender norms.

##### Cross-Cultural Collaboration in Depth

The online meetings between Komotini and Alexandroupoli served as focal points of the project. Students introduced their STREAM creations and posed questions to their peers. Teachers structured the sessions with guiding prompts such as:

“How did you interpret this character’s decision?”

“Do you think boys and girls in your community face the same expectations?”

“How is fairness taught in your school or family?”

Students often expressed surprise that their peers in the other school shared similar concerns about fairness, inclusion, or expectations. These discoveries strengthened a sense of belonging and common purpose.

In one exchange, after presenting an animation, a student asked their peers: “Do girls in your school also get told not to climb trees?” The laughter and shared responses that followed illustrated how cross-cultural dialogue humanized the topic and made gender visible as a shared social construct rather than an individual experience.

## FINDINGS / RESULTS

Results are organized into five key themes that emerged consistently across the data sources. Each theme is supported by student comments, teacher observations, and analyses of STREAM outputs.

### Increased Awareness of Gender Stereotypes

Students became noticeably more aware of how gender expectations influence behavior, choices, and opportunities. Their journals reflected increasing sophistication over time. Early entries tended to describe gender in simple terms—e.g., “boys play football” or “girls like art.” Later entries revealed more nuanced reflections, such as “Maybe boys don’t cry because they are afraid someone will laugh, not because they don’t feel sad.”

Through discussions, students also recognized that stereotypes are often communicated subtly. For example, teachers observed that students began identifying gendered patterns in the novels, such as expectations placed on female characters to be responsible or polite.

### Enhanced Empathy and Emotional Expression

As students connected emotionally with literary characters, they began articulating their own feelings more openly. During a discussion of a scene where a character felt powerless, one boy commented, “I also sometimes feel small when people don’t listen.” This willingness to express vulnerability marked a shift away from restrictive gender norms.

STREAM activities amplified this by giving students creative tools for expressing complex emotions. Teachers reported that students who rarely spoke in traditional lessons produced deeply expressive visual art or animations that revealed sophisticated emotional insight.

### Strong Engagement Through Multimodal Learning

The variety of STREAM activities ensured that students could engage through their strengths. Teachers noted that students who initially showed limited interest in reading became highly motivated when asked to animate a scene or design an engineering model. Conversely, students who were more verbally expressive enjoyed writing scripts or crafting narratives for their digital stories.

This multimodal engagement fostered a sense of ownership over the project, making gender analysis an active and enjoyable process rather than an abstract discussion.

#### Deepened Intercultural Understanding

Cross-cultural exchanges allowed students to see gender expectations as contextual rather than universal. They learned that while some norms were similar across communities, others differed based on family traditions, school culture, or personal experiences.

Teachers observed that these discussions helped students develop empathy and respect. Students expressed curiosity about each other’s experiences and often commented on how they felt “connected” or “similar” despite attending different schools.

#### Growth in Identity Reflection

Students demonstrated increased self-awareness as they considered how gender influences identity. Their journal entries revealed reflections such as “I want to choose my hobbies myself, not because of being a girl” or

“I didn’t know boys could like dancing.” These statements indicate that the project encouraged students to question norms and reimagine possibilities for themselves and others.

### DISCUSSION

The findings demonstrate that the integration of literature, STREAM activities, and cross-cultural collaboration can effectively support young learners in exploring gender and identity. This section analyzes the significance of these findings within the broader educational landscape.

#### Literature as Emotional and Intellectual Anchor

Zeï’s novels provided students with relatable characters and emotionally resonant narratives. Literature created a bridge between cognitive understanding and emotional engagement, enabling students to discuss gender ideas openly. The use of narrative distance—discussing characters rather than themselves—allowed students to express opinions they might have hesitated to share directly.

#### STREAM as a Bridge Between Analysis and Creation

STREAM activities allowed students to translate literary insights into creative outputs. By building models, animating scenes, or designing visual patterns, students engaged with gender themes cognitively, emotionally, and artistically. This multimodal approach disrupted gendered assumptions about who excels in certain subjects and promoted equal participation across students of all genders.

#### Cross-Cultural Dialogue as a Catalyst for Perspective-Taking

Intercultural exchanges enriched the project by exposing students to alternative viewpoints. Students recognized that experiences of gender are influenced by culture, community, and family. These exchanges helped them appreciate similarities and differences, strengthening empathy and encouraging greater self-reflection. Implications for Educational Practice

The results suggest that interdisciplinary, literature-based, and intercultural approaches can support gender awareness in developmentally appropriate ways. This aligns with European educational goals promoting equality, diversity, and inclusion. Teachers can adapt this model to various contexts, using literature and STREAM activities to foster meaningful dialogue.

## CONCLUSION

The project demonstrated that primary school students can meaningfully engage with complex topics such as gender, identity, and inclusion when provided with developmentally appropriate tools and structured opportunities for expression. Literature offered emotional depth, STREAM provided multiple pathways for learning, and cross-cultural collaboration nurtured empathy and understanding.

By integrating these elements, the project supported students in discovering their own voices, questioning stereotypes, and appreciating diversity. As European education systems advance inclusive and equitable pedagogies, this model offers a practical and human-centered approach. Future research could expand the project’s duration, involve additional schools, or explore how family engagement might further enrich students' understanding of gender.

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PROMOTING EDUCATIONAL TOURISM DESTINATIONS  
THROUGH EUROPEAN EDUCATIONAL PROGRAMMES: A  
GENDER AND SERVICES MANAGEMENT PERSPECTIVE

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### ABSTRACT

Education is one of the most significant public goods, because it refers to the human capital and contributes to the formation of the character and capabilities of an individual. It also plays a substantial role in the economic growth and social development of a country. In this manner, education is a growing service sector whose basic aim is student satisfaction that depends on educational practices, quality of teaching and services involved in the process of learning. Educational tourism refers to the learning process while travelling to a certain travel destination. It corresponds to the needs of increasing demand in mobility programmes and contributes to the social, economic and cultural development of places by procuring additional income to tourist destinations. The internationalization of education and training, the recognition and certification of the teachers' professional qualifications is promoted through European Educational Programmes such as the Erasmus+. Perceived travel risk is related to the decision of where to travel or not based on factors that may increase travel safety. For

the needs of the present research, a framework of the push-pull theory, Herzberg’s motivation theory and travel risk perception was applied in order to investigate their role for the participation of Primary Education teachers from three Greek prefectures, those of Imathia, Larissa and Pieria. The results show that the teachers from these regions present similarities and differences when gender demographics are incorporated to the dimensions of motivational factors and perceived travel risk when there is a choice of travel destination for educational tourism and continuous professional development purposes.

**Key Words:** services management, educational tourism, thematic tourism, tourism destination, European Educational Programmes

## INTRODUCTION

Customer satisfaction refers to the way that products and services meet the expectations of the customer. In this manner, customer satisfaction is an undefined and slightly obscure concept. The expression of satisfaction differs from person to person and from one product to another. Thus, satisfaction has to do with the customer’s attitude towards the divergence between their expectations and experience (Johnson et al., 2001; Hansemark & Albinsson, 2004). Education is perceived as one of the most significant public goods, because it concentrates all human capital and significantly contributes to the formation of the character of an individual and its capabilities but it also plays a substantial role in the economic growth and social development of a nation (Viaene & Zilcha, 2013; Lu, Laux, & Antony, 2017; Cinnirella & Schueler, 2018). Thus, education is a growing service sector in many economies which advances very rapidly and contributes significantly to economic competitiveness (Gupta & Kaushik, 2018). Educational institutions present similarities to other service-based companies whose utmost objective is to earn their customers’ satisfaction (Singh & Singh Jasial, 2020). In educational institutions, the students are considered to be the primary customers (Douglas et al., 2008). In that manner, student satisfaction depends on several factors such as educational practices, quality of teaching and services involved in the learning process (Weerasinghe & Fernando, 2017).

Education and travel have been interconnected for centuries (Stone & Petrick, 2013). The internationalization of tertiary education has offered a new dimension to existing travel patterns making education an important sub-sector in tourism, a sub-sector which is defined as educational tourism that has grown significantly over the past decades (Ritchie, Carr, & Cooper, 2003). Educational tourism combines a variety of different types of experiences aimed at making use of travel for educational purposes (Abubakar, Shneikat, & Oday, 2014; Stoner et al., 2014; McGladdery & Lubbe, 2017; Kim & Jeong, 2018; Talawanich, Jianvittayakit, & Wattanacharoensil, 2019; Choe & Bae, 2022). The concept of educational tourism covers the aspect of learning while travelling to learning-oriented travel (Ritchie, Carr, & Cooper, 2003). In that manner, two types of learning can be discerned: informal which takes place during the trip and formal which is the actual goal of the trip itself and thus, it can be said that education can be the primary and secondary motive for travel (Živković et al., 2022).

In recent years, short-term study abroad programmes have become one of the most dynamic parts of international educational travel and tourism, because they offer a variety of attractive and distinct characteristics such as shorter stays, lower costs, better structured programmes, supervised opportunities for learning, inter-group interactions and pre-departure preparation (Lokkesmoe et al., 2016; Ishakova & Bradly, 2022). Generally, the activities of educational tourism include participation in conferences, study tours for adults, studies at universities within a country or in other countries and on the other hand, school trips or international mobilities programmes are considered to be a major part of educational tourism (Ojo & Rajayuso, 2019). Thus, educational mobility can produce additional income for tourist destinations, which means that educational tourism could be seen as an important element of the tourist destination management (Árva & Könyves, 2010).

All things considered, educational tourism corresponds to the needs of increasing demand in mobility programmes and it can be used as a tool for promoting and consolidating various tourist destinations helping visitors to develop positive attitudes with the interaction of academic activities with recreational ones and thus making the activity a significant experience in diverse environments (Franco, Sánchez, & López, 2022). Educational tourism is based on learning, understanding and respecting the values of cultural diversity, it contributes to the social, economic and cultural development of places, produces knowledge and at the same time promotes the social, economic and cultural development of the local communities (Franco, Sánchez & López, 2022).

Nowadays, educational tourism is becoming a very important sector of the economy which aims to increase student and staff mobility, enhance the learning and research experience and improve the transfer of knowledge via active participation in multifaceted projects, thematic networks, joint degrees and initiatives at regional and international level (Kublashvili, 2013). One of the main objectives of the European Union is to create a knowledge-based economy. This objective could be achieved through the strengthening of international mobility, the internationalization of education and training, the recognition and certification of professional qualifications. One of the first initiatives to increase mobility and to promote the internationalization of education was the launching of the Erasmus programme in 1987 (Starczewska, 2017). Europe has become increasingly influential in terms of educational development, spanning from exchange programmes at school level to policy development across the continent (Schratz, 2014). There is a commitment within the European Education Area 2025 for the continuous development of teachers and trainers and transnational mobilities. The belief of the European Commission is that by projecting teachers and trainers to the future could help them engage in their continuous professional development so as to be able to achieve a high quality of teaching (European Commission/EACEA/Eurydice, 2021).

The professional development of teachers, of their identity and learning could be considered the underlying spirit of the European Commission's programmes for the mobility of teachers and their professional development through the Erasmus+ KA1 projects (Jurasaitė-Harbison & Rex, 2010; Deal & Peterson, 2016). The push-pull theory has been implemented in research in the education sector and more particularly in surveys about the factors that push and pull the students to study or continue their

studies in other areas or countries (Severino, Messina, & Llorent, 2014; Arredondo et al., 2017; Negm, 2018; Cheung et al., 2018; Amaro, Marques, & Alves, 2019; Kuo & Wong, 2019; Lejealle, King, & Chapuis, 2020) or to participate in European Educational Programmes and more specifically in Erasmus programmes (Krzaklewska, 2008; Souto-Otero et al., 2013; Lesjak et al., 2015; Beerkens et al., 2015; Semiz & Salman, 2017; Ricolfe & Pinto, 2019; Nichifor & Timiraş, 2019; Perez-Encinas, Pomedá, & De Wit, 2020). Moreover, Herzberg's motivation theory has been implemented in research in the education sector (Gokce, 2010; Forte & Flores, 2014; Chu & Kuo, 2015; Pakdel et al., 2018; Nzowa, 2020; Sing & Bhattacharjee, 2020) and more specifically in research conducted about the teachers' continuing professional development (McMillan, McConnell, & O'Sullivan, 2016; Po & Vinitwatanakhun, 2019; Koskimäki et al., 2020).

In the tourism industry, risk perception is a very much researched topic especially when it comes to international travel (Pine & McKercher, 2004; Floyd et al., 2004; Reisinger & Mavondo, 2005; Schroeder et al., 2013; Leggat & Franklin, 2013; Mirehie et al., 2020; Caber et al., 2020). The explanation or risk perception is that of the subjective evaluation of the risk of a threatening situation which is based on its features and severity (Sjöberg, Moen, & Rundmo, 2004; Moreira, 2008). Risk perception can influence an individual's behaviour based on its perception (Weinstein, 1988). The perceived travel risk in general or to a specific destination is very much related to the intention to change an individual's travel plans, travel to a certain destination or avoid a certain destination (Sönmez & Graefe, 1998b; Reisinger & Mavondo, 2005; Pennington-Gray, Schroeder, & Kaplanidou, 2011; Schroeder et al., 2013). Thus, perceived risk not only influences the decision of where to travel but also influences the decision of travelling or not in the first place (Floyd et al., 2000; Lepp & Gibson, 2003; Reisinger & Mavondo, 2005; Rittichainuwat & Chakraborty, 2009) but also the intention to return to a destination (Schusterschitz et al., 2010). Generally, tourists and educational tourists in particular are more likely to avoid educational destinations where there is an increased safety risk such as terrorist attacks, natural disasters and a pandemic outbreak (Pizam & Fleischer, 2002; Rittichainuwat & Chakraborty, 2009).

## METHODOLOGY

For the needs of the present research, a framework of the push-pull theory, Herzberg's motivation theory and travel risk theory was used in order to investigate the role they may play in the participation of Primary Education teachers from Greece in European Educational Programmes according to their gender. More particularly, a quantitative survey was conducted among the Primary Education teachers in the prefectures of Imathia, Larissa and Pieria. 732 teachers participated in this research.

According to the above reasoning, the following research questions were formulated:

What is the role of gender in the push factors for the participation of teachers in European Educational Programmes?

What is the role of gender in the pull factors for the participation of teachers in European Educational Programmes?

What is the role of gender in the motivation factors according to Herzberg for the participation of teachers in European Educational Programmes?

What is the role of gender in the travel risk perception for the participation of teachers in European Educational programmes?

The quantitative research was conducted with the use of a structured questionnaire and it was distributed via Google Forms. The present questionnaire was based on previous international surveys about the push-pull factors, Herzberg’s motivational factors and travel risk factors. It was adapted in the Greek language and its answers were measured in the Likert scale from 1-5: 1=Totally disagree-5=Totally agree.

A pilot survey was conducted among Primary Education teachers from all the prefectures involved in the research, before distributing the questionnaire, in order to take into consideration their comments and observations about the wording of the questions, to decide whether the questionnaire is of interest for the respondents and whether the questions were comprehensible by the teachers who took part in the survey.

The participating teachers found the questionnaire easy to understand, easy to complete and not at all time consuming. The analysis of the survey data was conducted with the use of the SPSS tool. During the research, ethical and moral issues about the psychology of the respondents were taken seriously into account.

## RESULTS AND DISCUSSION

The present research investigated the role that Herzberg’s motivation theory, push-pull motivation factors and perceived travel risk play for the participation of Primary Education teachers from the Greek prefectures of Imathia, Larissa and Pieria, play for their participation in European Educational Programmes.

### 1st Research Question

Regarding the role that gender plays in the push factors, it is observed that there is a significant difference between the female and the male participants.

Table 1  
Push Factors (Gender Differences)

Gender	Mean	F	p
Male	3.76	22.827	<.001
Female	4.03		

More particularly, it can be seen from the above table that females score significantly higher of the push motivators. This means that marketing towards women should highlight emotional and self-fulfillment benefits. On the other hand, men may need different messaging focusing on alternative motivators.

### 2nd Research Question

As far as the pull factors are concerned, the following table shows that there is a difference between the female and the male participants, although that difference may have a smaller effect.

Table 2  
Pull Factors (Gender Differences)

Gender	Mean	F	p
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Male	3.38	6.385	.012
Female	3.48		

More specifically, the results from the above table show that females again score higher than males on the pull motivators as they did on the push ones. Thus, it can be said that destination attributes (culture, scenery, activities) should be emphasized in marketing towards women. As for men, they may respond more to adventure or experiential elements.

### 3rd Research Question

The motivational factors according to Herzberg reveal a highly significant difference between the two genders.

Table 3  
Herzberg Factors (Gender Differences)

Sex	Mean	F	p
Male	3.62	20.291	<.001
Female	3.89		

The above table shows that females value Herzberg’s motivational factors (for example: comfort, safety, service quality) more strongly than males. That means that women value more the stress comfort, safety and high service quality, whereas men focus more on novelty, challenge or value-for-money aspects.

### 4th Research Question

The last research question refers to the role that travel risk perception plays for each gender when they come to the decision to travel for attending a European Educational Programme.

Table 4  
Travel Risk Perception (Gender Differences)

Sex	Mean	F	p
Male	2.36	0.048	.827
Female	2.35		

According to the table above, no significant difference is observed between the two genders. That is, both genders perceive travel risks similarly. Thus, it can be said that risk and safety communications can be gender-neutral and the focus may shift to other demographic factors such as age or experience.

## IMPLICATIONS

The present research could be used as a policy tool so as the European educational organizational and administrative services could promote the teachers’ participation in European Educational Programmes. More particularly, it can be said that the integration of a gender-sensitive approach could help in the promotion of educational tourism and

European Educational Programmes such as the Erasmus+ programme. It can also be implied that gender influences access, safety perceptions and participating motivations. In that manner, service managers could address these dynamics in destination planning and promotion. Because, implementing inclusive and gender-aware policies helps to enhance both the equity and competitiveness of educational tourism destinations and also the aligning with EU gender equality objectives strengthens the credibility and the long-term sustainability of such initiatives.

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## **EDUCATION & MANAGEMENT: FROM KNOWLEDGE TO CAREERS THROUGH GENDER PERSPECTIVES**

### **GENDER EQUALITY IN TEXTBOOKS: GENDER STEREOTYPES AND THE HIDDEN CURRICULUM OF TEXTBOOKS**

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#### **ABSTRACT**

School textbooks are among the most influential mechanisms for transmitting social values and norms. Through language, imagery, and examples, they convey not only knowledge but also implicit social messages about gender, power, labor, and social roles (Apple, 1979; Sadker, et al., 2009). These implicit messages constitute what is known as the hidden curriculum, which operates alongside the official curriculum, shaping students’ attitudes, expectations, and behaviors (Snyder, 1971).

In this context, the analysis of school textbooks reveals that gender stereotypes persist despite policies promoting equality. Women and girls are more often represented in traditional roles (mother, teacher, caregiver), while men and boys are linked to high-status professions, science, and technology (Blumberg, 2015; UNESCO, 2020). In addition, boys and men are usually depicted in energetic roles (exploring, experimenting, doing things), while girls and women are usually shown as passive (watching the men/boys, talking). This gender imbalance is not merely statistical - it serves as a mechanism of social reproduction, as students internalize the models presented to them as natural and desirable (Connell, 2002).

The hidden curriculum is further reinforced through the language of textbooks, where the masculine form often functions as the “neutral” gender, and through the selection of examples that reflect traditional family and labor structures (Alexopoulos, et al., 2022; Maidou & Polatoglou, 2008). Even when women appear in non-traditional roles, they are frequently accompanied by references to emotionality or morality, thereby indirectly reinforcing stereotypes of femininity.

The impact of these representations is multifaceted: they influence teachers’ expectations, students’ performance through mechanisms such as stereotype threat (Steele, 1997), and, most importantly, girls’ career aspirations in STEM fields (Brussino, & McBrien, 2022). International studies show that school textbooks continue to underrepresent women and promote limited role models for both genders (Crawford et al., 2024).

In this presentation I will focus on the images and drawings that accompany the text in 2 textbooks from the secondary educational level, because pictures are the first thing that catches the eye in a book, and furthermore, images have an immediate, subconscious impact. The main axes of analysis will be: Quantitative Representation: How many times do men/boys appear as central characters versus women/girls, Professional Representation: How are professional roles portrayed, Stereotypical representation: prestige and power professions vs care, support occupations, Active-passive roles: Who takes action vs who observes or cares? Color Codes and Appearance: Use of traditional colors (blue/pink) and emphasis on women's appearance. Through this analysis I want to explore whether the images, even if the text promotes equality, nullify the message through visual stereotypical representation.

Addressing gender stereotypes in school textbooks requires not only revising content but also critically examining the hidden curriculum—training authors and educators to deconstruct stereotypes, and promote balanced gender representation, through the development of pedagogical practices that foster equality and empathy (UNESCO, 2020).

**Key Words:** Gender stereotypes, school textbooks, hidden curriculum, educational equality, gender representation in education

## INTRODUCTION

School textbooks constitute one of the most influential mechanisms for transmitting knowledge, yet their function extends far beyond the mere delivery of facts. As primary agents of socialization, they convey implicit social messages regarding power, labor, and gender roles (Apple, 1979; Sadker et al., 2009). While the official curriculum outlines academic competencies, these implicit messages form what Jackson (1968) and Snyder (1971) defined as the "hidden curriculum", a subtle yet powerful force that shapes students' attitudes, expectations, and behaviors alongside formal instruction. Through this mechanism, schools function not only as educational institutions but as sites of social reproduction and cultural transmission (Giroux, 1983).

Despite global policies promoting gender equality, the analysis of educational materials often reveals a persistent adherence to traditional stereotypes. Research consistently indicates that women and girls continue to be overrepresented in domestic and caregiving roles, while men and boys are disproportionately linked to high-status professions, particularly in science and technology (Blumberg, 2015; UNESCO, 2020; Brugeilles & Cromer, 2009). This dichotomy is not merely occupational but behavioral; male characters are frequently depicted in energetic, exploratory roles, whereas female characters are often relegated to passive positions, observing rather than acting. As Connell (2002) argues, this imbalance serves to naturalize gender hierarchies, leading students to internalize these modeled inequalities as desirable norms.

While linguistic bias, such as the use of the masculine form as the "neutral" gender, is a well-documented aspect of this hidden curriculum (Alexopoulos et al., 2022; Maidou & Polatoglou, 2008), the visual component of textbooks warrants specific scrutiny. As Kress and van Leeuwen (2006) note in their grammar of visual design, images possess an immediate, often subconscious impact that operates independently of the text. Even when a textbook's language ostensibly promotes equality, visual representations may nullify this message by adhering to what Goffman (1979) termed

"ritualizations of subordination," where women are visually depicted as physically smaller, withdrawn, or functionally lower-ranking than men.

The implications of these representations are multifaceted. They influence teacher expectations and trigger mechanisms such as stereotype threat (Steele, 1997). Critically, they dampen girls' career aspirations in STEM fields by framing these domains as incongruent with female identity (Makarova et al., 2019; Brussino & McBrien, 2022). As recent international studies confirm, school textbooks continue to underrepresent women and promote limited role models for both genders (Crawford et al., 2024).

In this presentation, I focus specifically on the images and illustrations within two secondary-level textbooks to examine this visual hidden curriculum. Because visual stimuli are often the first element to capture a student's attention, they are critical in forming initial impressions of gender norms. This analysis explores four main axes:

**Quantitative Representation:** The frequency of male versus female central characters.

**Professional Representation:** The dichotomy between prestige/power professions and care/support occupations.

**Active-Passive Roles:** The portrayal of agency versus observation.

**Color Codes and Appearance:** The use of gendered aesthetics and the emphasis on female appearance.

By critically examining these visual narratives, this study aims to highlight the necessity of not just revising text but actively deconstructing the visual habits that perpetuate inequality.

## METHOD

This study focuses its analysis specifically on the visual content of textbooks — the images, drawings, and photographs that accompany the text. The rationale for this focus is twofold: images have an immediate and subconscious impact that can bypass critical analysis, and their messages can either reinforce or directly contradict the explicit, egalitarian messages of the written content.

The analysis was conducted on images from two Greek secondary education textbooks. The first one is “Technology” for 1st Grade of General Lyceum (Τεχνολογία για μαθητές Α' Γενικού Λυκείου). Although this textbook is rather old, an extensive internet search did not mention when it was initially published. The oldest version mentioned year of publication 2006. The second textbook is “Home Economics” for 1st Grade of Gymnasium' (Οικιακή Οικονομία Α' Γυμνασίου), publication year 2012.

The visual analysis was structured along four primary axes to systematically deconstruct the representation of gender:

**Quantitative Representation:** This axis measures the raw frequency of appearance, comparing how often men and boys are depicted as central characters versus women and girls. This simple count reveals which gender is given more prominence and visibility.

**Professional Representation:** This involves a qualitative assessment of the professional roles assigned to each gender. The analysis contrasts the depiction of men in professions associated with prestige, authority, and technical skill against the portrayal of women in roles centered on care, support, and service.

**Active vs. Passive Roles:** This axis examines the agency of the characters depicted. It scrutinizes who is shown taking action—exploring, building, experimenting, or leading—and who is shown in a passive posture, such as observing, caregiving, or being acted upon.

**Stereotypical gender roles:** This dimension concerns a set of social and behavioural norms that dictate how individuals of a specific sex "should" behave, think, and feel. These constructs create a binary opposition between masculinity and femininity, often treating them as natural rather than socially constructed.

**Symbolic Codes and Appearance:** This dimension analyzes the subtler visual cues that reinforce stereotypes, including the use of traditional gendered color palettes (e.g., blue for boys, pink for girls) and the disproportionate emphasis placed on the physical appearance and attractiveness of female characters.

The central hypothesis guiding this research is that even when the textual content of a textbook promotes principles of gender equality, stereotypical visual representations can effectively nullify this message, perpetuating bias through the powerful hidden curriculum of imagery.

## RESULTS

### The Visual Reinforcement of Gender Stereotypes

The visual analysis reveals a consistent and pervasive pattern of gender stereotyping across all methodological axes, providing strong evidence for the power of the hidden curriculum in modern educational materials. The images do not merely reflect society; they actively construct and reinforce a limited and traditional view of gender roles.

#### 1. Quantitative Imbalance and Character Centrality

The most straightforward finding is a clear quantitative disparity, that can be observed for the Technology textbook (Table 1). Men and boys are depicted more frequently than women and girls throughout the analyzed textbook. On the contrary, in the Home Economics textbook, men and boys, women and girls or both are depicted equally in frequency. Furthermore, when they appear, male characters are more often positioned as the central figures in an image, drawing the viewer's focus and implying greater importance, as in Picture 1a, where a man is standing during a presentation, while other men and a women watch him.

Table 1  
Gender depicted in both Textbooks

	Male	Female	Both	Things
Technology	18 (12.4 %)	8 (5.5 %)	5 (3.5 %)	114 (78.6 %)
Home Economics	17 (14.3 %)	17 (14.3 %)	17 (14.3 %)	(57.1 %)

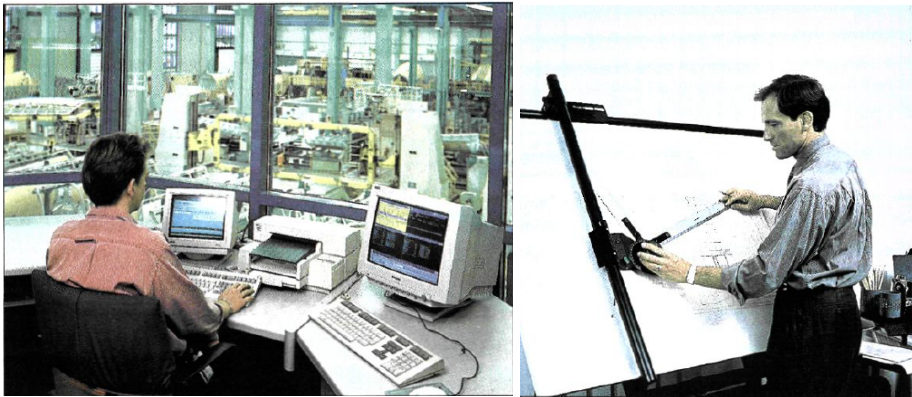
#### 2. The Segregation of Professional Roles

A stark segregation of professional roles is evident in the visual content. Men are consistently shown in positions of authority, as for example in Picture 1a, where a man is making a presentation. In the audience are three men and only one woman, all watching the presenter. Men are also shown having technical expertise, as shown in Picture 1a and 1b. Even in Picture 1b, where two men and one woman sit as equals around a working space, the computer is handled by one of the men. Men are also often depicted doing physical labor (Picture 1c, 3b). This was evident in specific images depicting doctors, scientists, police officers, farmers driving tractors, and workers operating forklifts in production facilities. In stark contrast, women are overwhelmingly relegated to caregiving and support occupations, such as nurses, teachers, and cashiers, reinforcing the stereotype that female professional value lies in nurturing and assistance rather than leadership and innovation.



a b c

Picture 1. a. Men in position of authority. b. and c. Men depicted using machines and technological equipment.



a b

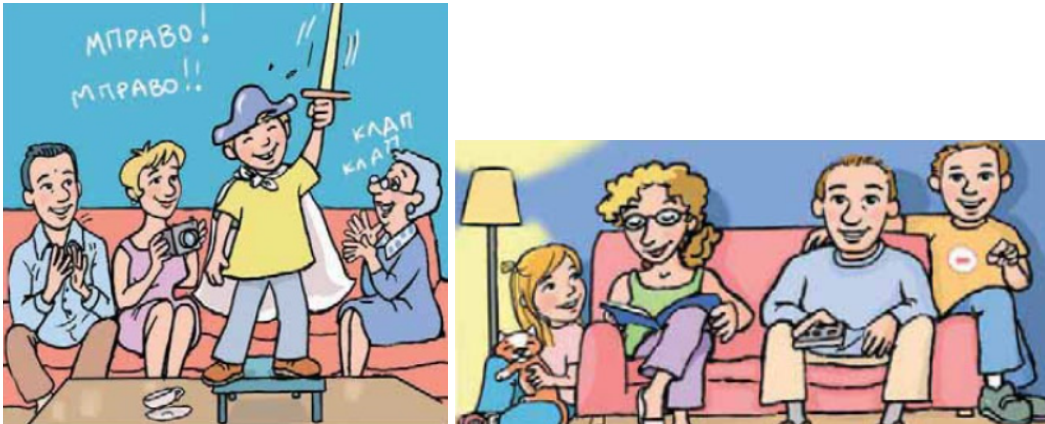
Picture 2a. Man overseeing machines. Picture 2b Man having technical occupations.



Picture 3a and 3b. Men prefer technical occupations, they understand technical drawings, use heavy machinery and tools.

### 3. The Action-Passivity Divide

The portrayal of agency is sharply divided along gender lines. Male characters are overwhelmingly depicted in active, dynamic roles. The use of heavy machines (Picture 1c), and specialized equipment (Picture 1b, 2a, 3a, and 3b). The boy in picture 4a has a central role – the attention of the whole family is directed towards him. Men are usually shown exploring, experimenting, building (Pictures 3a and 3b), and engaging with the world, often in outdoor or professional settings (Picture 1c, 3a). Even in picture 4b, where a family is portrait together, almost in a similar way, the mother and the girl seem calm and talk quietly, while the man and the boy are actively engaged, watching TV. Female characters are frequently shown as passive observers of male action (Pictures 4a) confined to indoor or domestic settings or engaged in caregiving. This visual dichotomy reinforces the notion of men as "doers" and women as "watchers."



Picture 4. Family representations (from Home Economics). a. The boy is the center of attention. b. In the family depiction, although all are sitting close together, the mother and the girl seem calm and talk quietly, while the man and the boy are engaged watching TV.



Picture 5. When girls and boys are depicted together, they engage usually in quiet, non-antagonistic activities, like having conversations.

When girls and boys are depicted together, they usually engage in quiet, non-antagonistic activities, like talking, having conversations (Pictures 5a and 5b), board games, etc.

#### Stereotypical gender roles:

This dimension concerns a set of social and behavioural norms that dictate how individuals of a specific sex "should" behave, think, and feel. These constructs create a binary opposition between masculinity and femininity, often treating them as natural rather than socially constructed.



a b

Picture 6. a Men are depicted antagonistic. b Men have usually higher hierarchical jobs.

Men should be antagonistic (Picture 6a). They also hold higher jobs higher in the hierarchy in an organization supervising men and women in lower positions and approving or rejecting their work. The placement of the standing man in Picture 6b, between the two women, is both degrading and disrespectful towards them. He is standing too close, leaning over them, invading their personal space, while also showing his authority.

#### The Aesthetics of Femininity

Finally, the analysis reveals a distinct emphasis on the appearance of female characters. Women's clothes are more complicated, hindering their mobility, in comparison with men. This issue is not simply that women are presented as "beautiful, modern, and young," (Picture 7) but that this focus comes at the expense of representing them as "everyday working women." This contrast reinforces a narrow, ornamental view of femininity, subtly suggesting that a woman's value is tied to her looks, while a man's is tied to his actions and profession.



Picture 7. Women are usually depicted beautiful, wearing complicated dresses.

#### The Depiction of men and women in non-stereotypical roles

Only quite rarely, are men or boys and women or girls depicted in non-stereotypical roles. There were only 6 such occasions in the Technology textbook, where women were presented in active roles, which involve use of technology, or equipment. Only once was a man shown in a non-traditional way – which occurred in the Home Economics textbook, where a man is feeding a baby. It is impressive that the representation of the background is also suggesting a feminine aesthetic with the pink color and the white schematic flowers, while his expression is also calm and supportive, also not associated with typical male stereotypes.



Picture 8. A man depicted in a non-stereotypical role (Home Economy).

Although women are usually represented in traditional roles, as caregivers, and working indoors, the Technology textbook has some very interesting presentations of women and girls (Pictures 9). Picture 9a shows a woman changing a tire, in picture 9b

a girl is fixing a bike, while in picture 9c women scientist are depicted, using specialized equipment.



a b c

Picture 9. Women in non-stereotypical representations.

These findings, taken together, paint a clear picture of a visual hidden curriculum that systematically reinforces traditional gender roles, undermining any explicit textual commitment to equality and shaping the worldview of students in profound ways.

#### DISCUSSION: THE EDUCATIONAL AND SOCIAL IMPACT OF STEREOTYPICAL REPRESENTATIONS

The stereotypical images found in textbooks are not benign illustrations; they have measurable and detrimental consequences for student identity development, academic performance, and future life opportunities. The hidden curriculum they perpetuate functions as a powerful barrier to achieving genuine gender equality.

The multifaceted impact of these representations includes:

**Shaping Teacher and Student Expectations:** The visual curriculum primes educators and students alike, creating subconscious biases that channel boys and girls towards predetermined academic and professional paths.

**Activating Stereotype Threat and Impairing Academic Performance:** As defined by Steele (1997), "stereotype threat" describes how the fear of confirming a negative stereotype can impair performance. When girls are constantly exposed to images suggesting that STEM fields are a male domain, their confidence and performance in these subjects can be negatively affected.

**Constraining Career Aspirations:** As noted by Brussino & McBrien (2022), the limited and stereotypical role models presented in educational materials directly influence and restrict the career aspirations of students, particularly girls. When they do not see women depicted as scientists, engineers, or leaders, they are less likely to envision themselves in those roles.

These findings are not unique to the materials analyzed here but are situated within a global context. International studies by organizations like UNESCO (2020) and researchers such as Blumberg (2015) and Crawford et al. (2024) consistently confirm that school textbooks worldwide continue to underrepresent women and promote limited, stereotypical gender roles. This demonstrates a systemic global challenge that requires a concerted and intentional response. To move forward, it is crucial to translate this understanding of the problem into actionable solutions.

## CONCLUSION AND RECOMMENDATIONS FOR FOSTERING EQUALITY

This paper has argued that the visual hidden curriculum in school textbooks remains a significant and often overlooked barrier to achieving genuine gender equality in education. The analysis demonstrates that despite progress in official policies, the imagery within these critical educational tools continues to reinforce a narrow, stereotypical, and outdated vision of gender roles. To dismantle this barrier, a dual approach targeting both classroom practice and content creation is essential.

### Strategies for Educators: Active Intervention in the Classroom

Teachers are on the front lines of interpreting and delivering curricular content. They have the power to mediate and challenge the messages embedded in textbooks through proactive pedagogical strategies.

**Critical Reading and Media Literacy:** Educators should explicitly teach students to be critical consumers of media, including textbook images. This involves guiding them to ask crucial questions like, "Who is represented in this image?", "Who is absent?", and "What message does this portrayal send about gender roles?"

**Use of Supplementary Materials:** Teachers must actively seek out and incorporate supplementary materials that challenge stereotypes and showcase diverse gender roles. This includes providing examples of women in non-stereotypical roles (e.g., female scientists, athletes, or a butcher) and men in roles that defy traditional masculinity (e.g., as hairdressers, makeup artists, or caregivers).

**Reflective Pedagogical Practice:** It is vital for educators to engage in self-reflection on their own teaching practices. They should critically examine how their language, classroom management, and choice of examples might either unintentionally reinforce the hidden curriculum or effectively challenge it.

### Strategies for Authors and Policymakers: Systemic Change in Content Creation

Lasting change requires intervention at the source, e.g., the creation and selection of educational materials. Authors, publishers, and education policymakers must adopt new standards for gender representation:

Balanced Quantitative and Qualitative Representation: Mandates should be established to ensure an equitable balance in both the frequency (quantitative) and nature (qualitative) of gender portrayals in all educational materials.

Diversity of Roles: Textbook content must consciously depict men and women across a full spectrum of professions, family roles, and emotional expressions, moving beyond stereotypical confines and reflecting the true diversity of human experience.

The goal is to transform the hidden curriculum from an invisible source of stereotypes into a powerful and explicit vehicle for promoting equality, critical thinking, and active citizenship. By making the invisible visible, we can ensure that our educational materials truly support the development of every student's full potential, free from the constraints of outdated biases.

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# **GENDER SOCIALIZATION, STEREOTYPES & LEARNING**

## **EMOTIONAL LITERACY FOR EQUITY: CHALLENGING GENDER STEREOTYPES AND EMPOWERING ALL LEARNERS**

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### **ABSTRACT**

Contemporary research in educational psychology and gender studies indicates that school environments often reproduce traditional gender roles through unequal emotional expectations and stereotypical behavioural norms. Social and Emotional Learning (SEL), when implemented in a structured and holistic manner, is a powerful tool for dismantling these patterns and cultivating inclusive educational settings that promote equality for all students. This paper examines how SEL practices can challenge implicit gender stereotypes by strengthening emotional literacy, empathy, agency, and voice among learners, regardless of gender identity or expression. Drawing on established theoretical models (e.g., CASEL) and practical classroom applications, the paper highlights pedagogical strategies such as narrative work, reflective journaling, cooperative learning, and critical dialogue. These practices enhance emotional authenticity, resilience, and mutual respect within the school environment. SEL emerges not merely as a behaviour management tool but as a transformative pedagogical pathway towards equity, empowerment, and social justice.

#### **1. Introduction**

Educational systems worldwide continue to grapple with persistent gender inequalities embedded in their structures, norms, and expectations. Schools, as microcosms of society, often reproduce the cultural narratives, emotional expectations, and behavioural norms that shape gendered identities (Connell, 2012; Renold, 2022). The post-pandemic years intensified these dynamics: increased exposure to digital environments, social isolation, and disruption of school routines have magnified both hyper-sexualised expectations for girls and emotional suppression norms targeted at boys.

In this context, Social and Emotional Learning (SEL) has emerged as a necessary pedagogical framework for fostering emotional wellbeing, interpersonal skills, and equitable educational environments (CASEL, 2020). Beyond its well-established benefits for behaviour, academic performance, and mental health, SEL now occupies a central role in discussions about gender equity, identity development, and inclusive schooling.

This paper explores how SEL can operationalise equity by challenging rigid gender norms and supporting the development of emotionally literate learners capable of

empathy, resilience, and relational awareness. While grounded in established theoretical models, the paper adopts a practical pedagogical orientation, offering concrete classroom strategies, examples, and reflection-based approaches for educators.

## 2. Theoretical Framework: Gender, Emotion and Schooling

### 2.1 Gender as a socio-cultural construction

Gender is not a fixed biological category but a socially constructed performance shaped by norms, expectations, and power relations (Butler, 1990; Connell, 1995). In school settings, these constructions appear through:

- Behavioural expectations
- Emotional norms
- Peer reinforcement
- Teacher biases (often unconscious)

Research consistently shows that school environments reward gendered behaviours:

girls are often encouraged to be compliant, nurturing, and restrained, while boys are incentivised to be assertive, independent, and emotionally stoic (Sadker & Sadker, 2009).

### 2.2 Emotional norms as gendered norms

Emotion is also culturally gendered. Boys are commonly discouraged from expressing vulnerability, fear, or sadness, while girls are socialised to suppress anger, assertiveness, and leadership impulses (Kring & Gordon, 1998). These norms shape identity development, academic confidence, mental health, and peer relationships.

### 2.3 SEL as a framework of emotional democratization

SEL provides a structured approach to emotional literacy, healthy relationships, and responsible decision-making (Durlak et al., 2011). When implemented critically—attentive to issues of gender, culture, and power—SEL becomes a mechanism for:

- Redistributing emotional permission
- Challenging restrictive gender norms
- Cultivating agency and voice
- Building inclusive relational cultures

## 3. Practical Pedagogical Approach: SEL Tools for Gender Equity

This section offers concrete, classroom-ready tools, fully grounded in research and aligned with the abstract you submitted.

### 3.1 Narrative Pedagogy (Bruner)

Narrative learning allows children to encounter alternative identities and scripts. Stories that intentionally disrupt traditional roles—e.g., a girl leading an adventure or a boy expressing fear without losing heroism—expand the emotional and identity possibilities available to learners.

Practical application:

- Read stories with subverted gender patterns
- Have students rewrite endings with different gender dynamics
- Encourage character-based emotional exploration: “What was the hero afraid of? How did she handle it?”

### 3.2 Reflective Journals (Schön)

Reflective journaling strengthens metacognition and emotional awareness. It allows students to process experiences privately, without peer pressure.

Prompts:

“Write about a time you wanted to say something but hesitated.”

“What makes you feel strong?”

“What emotion is hard for you to express?”

### 3.3 Circle Time (Mosley)

Circle Time enables a democratic, safe space for emotional expression. All voices are equal; no hierarchy exists.

Outcomes:

Reduction in gendered silencing

Increased empathy and listening

Normalisation of diverse emotional expression

### 3.4 Cooperative Learning (Johnson & Johnson)

Cooperative structures dismantle fixed roles. Rotating responsibilities (leader, recorder, reporter, time-keeper) prevents gendered role assignment.

Impact:

Girls take leadership roles

Boys practice collaborative, empathetic behaviours

### 3.5 Critical Pedagogy (Freire)

Critical dialogue helps students name stereotypes and interrogate them.

Activities:

Analyse media portrayals of boys/girls

Discuss emotional “rules” they experience

Explore questions like “Who benefits when some emotions are forbidden?”

## 4. Discussion

The integration of Social and Emotional Learning into everyday classroom practice can generate conditions under which rigid gender norms lose their normative force. The examples provided above demonstrate that SEL is not an “add-on” or a supplementary programme, but a pedagogical orientation capable of reshaping the emotional and relational climate of the school. This has significant implications for gender dynamics.

First, SEL enables what Zembylas (2014) calls emotional disruption—the capacity for learners to recognise and question affective expectations imposed on them. When boys are encouraged to acknowledge vulnerability or disappointment, and when girls are supported in expressing anger or agency, emotional norms become flexible rather than prescriptive. Through structured emotional literacy practices, children begin to inhabit a broader repertoire of feelings, behaviours, and identities than those sanctioned by traditional gender scripts.

Second, the practices discussed (narrative work, reflective journaling, circle processes, and critical dialogue) create spaces of permission where children experience

emotional safety. Research in feminist pedagogy (hooks, 1994; Lenz Taguchi, 2010) highlights that empowerment cannot occur in emotionally hostile or psychologically unsafe environments. SEL establishes the relational foundations necessary for students to challenge stereotypes without fear of ridicule, punishment, or social exclusion.

Third, classroom-based SEL interventions have the potential to transform peer cultures. Peer dynamics, particularly during middle childhood, strongly reinforce gendered norms (Renold, 2005; Francis, 2010). When SEL-based activities normalise empathy, listening, and the articulation of diverse emotional states, peer groups gradually adopt less hierarchical and more relationally attuned behaviours. Emotional literacy thus becomes a shared social resource, not an individual trait.

Fourth, SEL promotes what Noddings (2005) terms relational ethical awareness. Students learn not only to understand their emotions but also to consider how their actions, biases, and interactions affect others. This ethical dimension is essential for gender equity: dismantling stereotypes requires an understanding of fairness, respect, and responsibility in interpersonal relationships.

Finally, critically oriented SEL strategies foreground the intersection of emotion, identity, and power. When teachers invite students to analyse gender norms, media representations, and emotional expectations, learners become active participants in reconstructing their own identities. This positions SEL as a practice of emancipation, aligning with Freire’s vision of education as a process of naming and resisting oppression.

## 5. Implications for Educators and Schools

The adoption of SEL as a framework for gender equity has profound implications for educational practice, teacher training, and school culture. A gender-responsive SEL approach requires a multilayered strategy.

### 5.1 Teacher Professional Development

Educators need structured training that goes beyond the mechanics of SEL. They must develop:

- Awareness of their own gendered assumptions
- Skills for facilitating sensitive emotional dialogues
- Strategies for identifying and intervening in gendered peer dynamics
- Competence in selecting inclusive texts, stories, and classroom materials

Such training challenges the notion of teacher neutrality and positions educators as active cultural participants in shaping equitable emotional norms.

### 5.2 Whole-School Implementation

SEL programmes are most effective when implemented at a whole-school level rather than isolated in individual classrooms (OECD, 2021). A gender-equitable SEL approach therefore involves:

- Shared emotional vocabulary across the school
- Consistent behavioural expectations
- Inclusive school policies regarding emotional expression
- Regular professional dialogues on gender issues

This collective approach ensures that students encounter coherent messages about emotions, relationships, and identity.

### 5.3 Curriculum and Material Selection

Gendered biases are often embedded subtly within teaching materials. Schools must evaluate:

- Storybooks for gender stereotypes

- Visual materials that reproduce gendered norms

- Worksheets or textbooks that assign gendered roles

Replacing materials with inclusive, counter-stereotypical resources supports the aims of SEL by broadening students’ emotional and identity experiences.

#### 5.4 Family and Community Engagement

Families frequently transmit gender norms unconsciously. Schools should develop partnerships that include:

- Workshops for parents on emotional literacy

- Guidance on supporting emotional expression in boys and girls

- Awareness-raising discussions on media influence

Engaging families ensures continuity between school-based SEL practices and home environments.

#### 5.5 Assessment and Ethical Considerations

Assessing SEL in gender-equitable ways requires attention to ethical issues. Traditional assessment approaches often reproduce gender bias—for example, interpreting assertiveness differently in girls than in boys. Schools need frameworks that:

- Evaluate emotional growth, not conformity

- Distinguish between emotional expression and behavioural misconduct

- Avoid reinforcement of gendered expectations

An ethical SEL assessment acknowledges the individuality of emotional experience while upholding principles of fairness and respect.

## 6. Conclusion

This paper has examined the role of Social and Emotional Learning (SEL) as a transformative pedagogical framework for promoting gender equity within school environments. Drawing on contemporary research in educational psychology, gender studies, and relational pedagogy, it is evident that traditional gender norms continue to shape children’s emotional repertoires, behavioural possibilities, and self-perceptions. These norms are subtly reinforced within schools through expectations of emotional restraint, compliant behaviour, and gendered role performances.

However, the findings discussed throughout this paper demonstrate that structured, holistic SEL can interrupt these long-standing patterns. Through narrative pedagogy, reflective journaling, cooperative learning, and critical dialogue, children learn to expand their emotional vocabularies, challenge limiting stereotypes, and construct identities rooted in authenticity, empathy, and agency. SEL, when implemented critically, becomes not merely a mechanism for improving classroom climate or behaviour management, but a pathway for emotional democratization and social justice.

The pedagogical implications are significant. Educators must recognise their own role in reproducing or challenging gendered emotional norms and adopt teaching strategies that foster emotional safety and equitable participation. Schools, in turn, need whole-school SEL approaches that integrate emotional literacy into policies, curricula, and family engagement. Through deliberate and reflective practice, educational

institutions can shift from environments that unconsciously reinforce gender binaries to spaces that cultivate inclusivity, empowerment, and relational wellbeing.

Ultimately, the promise of SEL lies not in its capacity to regulate behaviour, but in its potential to reconfigure the emotional ecology of schooling. By enabling learners to express vulnerability, claim their voices, and recognise the emotional experiences of others, SEL supports the formation of equitable relationships and resilient identities. As such, it stands as a crucial pedagogical resource for shaping future generations who navigate emotion with intelligence, engage relationships with empathy, and challenge inequity with confidence.

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## GENDERED PERSPECTIVES AND DIGITAL EQUITY

### THE RELATION OF SELF-CONTROL, SELF-RESPECT AND SELF-ESTEEM IN FEMALE SCHOOL LEADERS

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#### ABSTRACT

Effective educational leadership rests upon the intrapersonal capacities that enable school administrators to act with integrity, emotional stability, and moral clarity in complex contexts. This article argues that the interdependent development of self-control, self-respect, and self-esteem constitutes the psychological foundation of ethical and effective school leadership. Drawing from psychological theories of self-regulation, moral philosophy on integrity and self-respect, and educational leadership literature, this paper explores how these three constructs form a sequential pathway of professional growth: self-control fosters self-respect, which in turn generates self-esteem. The article pays special attention to the gendered experiences of female school leaders, who face distinct cultural and institutional challenges that test these capacities. Integrating theoretical perspectives with practical implications, the discussion highlights how cultivating self-control enables ethical decision-making and emotional regulation, self-respect anchors moral consistency and personal integrity, and self-esteem empowers confidence and resilience in leadership. The study explains that cultivating self-control enhances self-respect and self-esteem, empowering women to navigate leadership challenges with resilience, fairness, and authenticity. The paper concludes by proposing a framework for leadership development programs that emphasizes intrapersonal mastery as a core competency for transformative educational leadership.

**Key Words:** self-control; self-respect; self-esteem; female leadership; educational leadership; integrity; emotional regulation

#### 1. Introduction

School leadership today involves navigating a multidimensional environment characterized by social complexity, emotional strain, and ethical ambiguity. Administrators are expected to ensure academic excellence, foster inclusive learning communities, and uphold moral standards, often under high pressure and public scrutiny (Fullan, 2014; Harris, 2019). For female school leaders, these traits are particularly critical due to gender stereotypes, elevated expectations, and cultural challenges that often influence their professional trajectories (Eagly & Carli, 2018). In such circumstances, effective leadership depends not only on strategic or managerial skills but also on deep personal capacities related to self-regulation, integrity, and self-worth (Day & Leithwood, 2007).

This paper proposes that the core tenets of effective leadership—particularly within educational contexts—are self-control, self-respect, and self-esteem. These constructs form a developmental continuum: self-control enables consistent and ethical action; self-respect emerges from acting in alignment with one’s values; and self-esteem reflects a stable sense of worth derived from such integrity. While all leaders benefit from these qualities, female school administrators face particular challenges. Research has shown that gender stereotypes, societal expectations, and institutional biases impose unique emotional and ethical pressures on women in leadership positions (Eagly & Carli, 2007; Shakeshaft, 2010). Thus, for female leaders, the cultivation of self-control, self-respect, and self-esteem becomes both a personal and professional imperative.

The aim of this article is threefold:

To analyze the theoretical underpinnings of self-control, self-respect, and self-esteem within psychological and moral frameworks;

To examine how these constructs interact to shape ethical and effective school leadership; and

To explore how these dynamics are particularly relevant to the lived experiences of female educational leaders.

## 2. Literature Review

### 2.1 Self-Control and Leadership Regulation

Self-control is commonly defined as the capacity to regulate one’s thoughts, emotions, and behaviors in pursuit of long-term goals despite short-term temptations or stressors (Baumeister et al., 2007). It enables leaders to remain composed in conflict, resist impulsive reactions, and uphold professional standards (Duckworth & Seligman, 2005). Research indicates that leaders with high self-control exhibit greater empathy, patience, and fairness in managing teams (Tangney, Baumeister, & Boone, 2004). In educational settings, where administrators encounter emotional provocations and ethical dilemmas daily, this regulatory capacity is indispensable (Gross, 2015; Leithwood & Beatty, 2008).

According to Gross (2015), emotion regulation—the broader category under which self-control falls—is critical to social functioning and decision-making. Leaders with high self-control demonstrate patience, empathy, and fairness, characteristics that foster trust among teachers, students, and parents. Conversely, lapses in self-control can result in inconsistent or reactive decision-making that undermines authority and morale (Leithwood & Beatty, 2008).

Self-control is also tied to moral behavior. Bandura’s (1997) concept of self-efficacy highlights that belief in one’s ability to regulate behavior strengthens

perseverance and ethical consistency. Without self-control, even well-intentioned leaders may succumb to external pressures or emotional fatigue, leading to burnout or ethical compromise (Schwartz & Sharpe, 2010). On the other hand, studies show that female leaders with higher self-esteem report greater job satisfaction and resilience in the face of organizational challenges (Hoyt & Simon, 2016).

## 2.2 Self-Respect and Integrity

Self-respect refers to the recognition and honoring of one’s own moral worth involving acknowledging and maintaining personal values and ethical principles, fostering a sense of integrity and dignity (Dillon, 2013). Cohen (2017) argues that self-respect is inseparable from integrity—the alignment between one’s values and actions. Leaders who act consistently with their principles develop a stable moral identity, which in turn commands the respect of others (Avolio & Gardner, 2005).

Philosophically, self-respect serves as the moral compass of leadership (Rawls, 1971; Hill, 1991). Slote (2013) suggests that self-respect involves both the acknowledgment of one’s dignity and the commitment to preserve it through ethical action. In schools, where administrators must balance competing interests, self-respect ensures decisions reflect fairness and compassion rather than expedience (Shapiro & Stefkovich, 2016).

For female leaders, self-respect takes on heightened significance due to persistent gender biases and double standards (Eagly & Carli, 2007). Acting with moral consistency despite external scrutiny affirms not only personal integrity but also challenges systemic inequities (Grogan & Shakeshaft, 2011).

## 2.3 Self-Esteem and Professional Confidence

Self-esteem encompasses the evaluative dimension of self-concept—how individuals appraise their own worth and competence (Mruk, 2013). Leaders with high self-esteem exhibit confidence, resilience, and optimism, (Orth & Robins, 2014), which are essential for motivating others and sustaining performance under stress.

However, self-esteem should not be confused with ego or self-aggrandizement. True self-esteem arises from earned self-respect and authentic self-control (Slote, 2013). For school administrators, this form of esteem enables a stable sense of agency, empowering them to face criticism constructively and lead with assurance (Avolio & Gardner, 2005).

Hoyt and Simon (2011) found that female leaders with strong self-esteem serve as inspiring role models for other women (Northouse, 2019), promoting empowerment and positive identity formation within educational environments. Studies show that female leaders with strong self-esteem report greater job satisfaction, effective conflict resolution skills, and improved interpersonal relations within school communities (Hoyt & Simon, 2016).

## 3. Theoretical Framework

This article conceptualizes leadership development as a sequential intrapersonal process moving from self-control to self-respect and culminating in self-esteem. This framework integrates three theoretical domains:

The Strength Model of Self-Control (Baumeister et al., 2007) – proposing that self-control functions like a muscle that can be strengthened through practice;

Moral Integrity Theory (Cohen, 2017) – suggesting that self-respect is both a precondition and consequence of moral consistency; and

Self-Determination Theory (Bandura, 1997) – emphasizing autonomy and competence as pillars of self-esteem.

### 3.1 Sequential Development Model

The model posits that:

Self-control is the foundational capacity that allows individuals to regulate impulses and act intentionally.

Self-respect emerges when self-control is exercised in alignment with one’s moral values.

Self-esteem develops as the internalized confidence and self-worth that result from sustained integrity and ethical agency.

This progression mirrors psychological growth from regulation to integration to affirmation—a transformation that underpins effective leadership behavior (Ryan & Deci, 2017).

### 3.2 Ethical and Emotional Dimensions

The emotional discipline fostered by self-control enables ethical consistency (Gross, 2015). Ethical consistency, in turn, nurtures self-respect by confirming one’s integrity. Over time, this internal congruence produces self-esteem rooted not in external validation but in moral authenticity.

Thus, ethical leadership is not merely about policy adherence or compliance with standards—it is an inner journey toward congruence between thought, emotion, and action (Avolio & Gardner, 2005).

## 4. Self-Control, Self-Respect, and Self-Esteem in Educational Leadership

### 4.1 Self-Control as the Foundation of Ethical Action

For school leaders, self-control manifests in composure during conflict, fairness under pressure, and the ability to make deliberate rather than reactive decisions (Tschannen-Moran, 2014). Leaders with strong self-control can manage criticism without defensiveness, remain impartial in disputes, and model emotional intelligence for their staff (Humphrey, 2013).

Leithwood and Beatty (2008) note that leaders who regulate emotions effectively are better positioned to cultivate trust and motivation within their schools. Furthermore, self-control supports resilience, allowing leaders to recover from setbacks and maintain focus on long-term goals.

### 4.2 Self-Respect as the Anchor of Integrity

When leaders act consistently with their ethical beliefs, they build a reputation of moral reliability. Self-respect provides this stability. It reinforces professional boundaries, preventing leaders from compromising values for popularity or expedience (Begley, 2006).

In educational contexts, self-respect also entails respecting others—teachers, students, and the community. Leaders who respect themselves are less likely to tolerate unethical practices, bullying, or discrimination within their institutions (Avolio & Gardner, 2005). This form of respect is reciprocal and foundational to healthy school cultures.

### 4.3 Self-Esteem as the Driver of Confidence and Influence

Self-esteem allows leaders to act with assurance and authenticity. High self-esteem strengthens one’s ability to delegate, make difficult decisions, and advocate for institutional change. When grounded in self-respect, such confidence is humble rather than arrogant—it is the assurance that one’s leadership is anchored in values (Cristofaro & Giardino, 2020).

In times of uncertainty, self-esteem acts as psychological armor. It prevents self-doubt from eroding moral clarity and supports persistence in achieving equitable educational outcomes.

## 5. Female School Leaders and the Transformational Path of Self-Development

Female school leaders often encounter systemic barriers, including gender bias, underrepresentation in senior positions, and conflicting expectations regarding assertiveness and empathy (Eagly & Carli, 2007; Shakeshaft, 2010). These pressures intensify the need for self-control, self-respect, and self-esteem (Grogan & Shakeshaft, 2011; Coleman, 2012).

### 5.1 Self-Control under Gendered Expectations

Women leaders must often navigate emotionally charged environments where their authority is questioned. Self-control enables them to respond with composure rather than reaction, preserving credibility and focus. It also allows them to set professional boundaries and manage emotional labor, which research shows disproportionately affects women in leadership (Leithwood & Beatty, 2008).

### 5.2 Self-Respect and Resistance to Bias

Maintaining self-respect means refusing to internalize stereotypes or compromise one’s values under institutional pressure. It requires moral courage to challenge inequities while preserving professionalism. Female leaders who demonstrate such integrity serve as catalysts for organizational culture change, modeling ethical resilience for others (Bartlett, 2024).

### 5.3 Self-Esteem and Empowered Leadership

Self-esteem empowers female leaders to view themselves as capable and deserving of authority. Hoyt and Simon (2011) suggest that confident women leaders inspire similar confidence in their peers and subordinates, creating a ripple effect of empowerment.

By internalizing their value through self-respect, female administrators cultivate self-esteem that is resistant to external judgment (Crocker & Wolfe, 2001), allowing them to lead with conviction and authenticity.

## 6. Discussion and Implications for Practice

This theoretical synthesis underscores that leadership development must address not only cognitive and managerial competencies but also intrapersonal mastery. The triadic model of self-control, self-respect, and self-esteem offers both a diagnostic and developmental framework for leadership training.

Understanding the dynamics of self-control, self-respect, and self-esteem has significant implications for educational policy and leadership development. Professional development programs for female school leaders should incorporate training in emotional regulation, ethical decision-making, and self-awareness (Fullan, 2014; Harris, 2019; Coleman, 2012). Mentorship initiatives can reinforce self-respect and self-esteem by providing role models and supportive networks (Madsen &

Scribner, 2017). Organizations should foster cultures that value ethical leadership, diversity, and inclusion to enhance both personal and institutional outcomes.

### 6.1 Implications for Leadership Preparation

Leadership programs should include modules on emotional regulation, ethical reflection, and self-efficacy. Practices such as mindfulness, reflective journaling, and peer mentoring can strengthen self-control and foster integrity (Carmichael & Lee, 2020). Moreover, leadership coaching should encourage the alignment of personal and institutional values, reinforcing self-respect.

### 6.2 Organizational Support for Female Leaders

Institutions must create supportive environments that affirm the value of women’s leadership. Mentorship networks, equity policies, and professional recognition all contribute to sustaining self-esteem. Without such structural support, even the most self-regulated leaders may face burnout or marginalization (Blake-Beard, Shapiro & Ingols, 2021).

### 6.3 Toward a Model of Transformative Integrity

The proposed sequence—from self-control to self-respect to self-esteem—constitutes what may be termed transformative integrity: a process by which leaders cultivate inner alignment that radiates outward as ethical influence. This integrity-driven leadership not only enhances individual performance but also promotes organizational well-being and moral culture.

## 7. Conclusion

Effective educational leadership demands far more than administrative competence; it requires deep psychological and moral strength. This article has argued that self-control, self-respect, and self-esteem form the essential triad underpinning ethical and effective school leadership.

For all leaders—and especially for female school administrators navigating gendered expectations—these traits are mutually reinforcing: self-control nurtures self-respect; self-respect stabilizes self-esteem; and self-esteem sustains resilient, value-driven leadership.

Future research might empirically test this model, exploring how interventions targeting self-regulation and moral reflection impact leadership effectiveness and well-being. Ultimately, schools benefit most when their leaders possess the intrapersonal integrity to act ethically, the emotional discipline to stay grounded, and the confidence to inspire transformation.

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## WOMEN AND NEW TECHNOLOGIES: BRIDGING THE DIGITAL SKILLS GAP

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### ABSTRACT

In today’s digital world, where technology is of paramount significance, there is an increasing demand for people skilled in information and communication technologies (ICT) (European Commission, 2025). Accordingly, UNESCO defined the term “digital skills” “...as a range of abilities to use digital devices, communication applications, and networks to access and manage information. They (digital skills) enable people to create and share digital content, communicate and collaborate, and solve problems for effective and creative self-fulfillment in life, learning, work, and social activities at large.”(2023). In essence, digital skills entail two components: i. “the entry-level” digital skills, indicating basic functional skills required to employ and practice on digital devices and online applications, are generally regarded as a critical component of a new set of literacy skills in the digital era, including traditional reading, writing and numeracy skills; ii. “the advanced spectrum” of digital skills are the higher-level abilities that allow users to apply technologies such as cybersecurity, cloud computing, AI and Machine Learning, big data analytics, web development, digital marketing and e-commerce (UNESCO, 2023). The paper draws on existing literature research and applies a systematic document analysis/a systematic review. Electronic databases such as Web of Science (WoS), Scopus and Google Scholar, as well as documents by the European Commission (EC), UNESCO etc. will be extensively examined based on the search strategy pertaining to the purpose of this paper.

However, there are still significant gender gaps, between men and women, in digital access, leadership, and participation, exacerbated by the i. limited access to decision-making positions, ii. societal stereotypes, iii. lack of education and iv. workplace discrimination. In particular, there are major inequalities focused on digital skills in both developing and developed countries, namely socio-economic status, race, gender, geography, age and educational background. Gender divides in digital skills are discouraging: women are 1.6 times more likely than men to report lack of digital skills as a factor impeding their use of digital technologies (UNESCO, 2023). It is noteworthy that acquiring new digital skills provides new potentials for i. women’s economic empowerment and financial independence; ii. diverse perspectives from women in technology bringing about more creative and innovative solutions; iii. bridging the digital gender divides (European Commission, 2025a & b; UNESCO, 2023).

To this end, strategies to promote digital skills for women entail the following key aspects: i. systematic collection of sex - disaggregated data for planning, designing, deploying implementing and evaluating public policies, including digital policies and tools; ii. designing and employing digital tools mindful of gender equality, bias and gender stereotypes; iii. motivating women and girls to acquire digital skills and

competences; iv. building a solid and safe digital environment (including online platforms) for women and girls, in all their diversity, having isolated violence, sexism, hate speech, harassment, online bullying (European Commission, 2025; von der Leyen, 2024).

**Key Words:** Digital skills, Digital gender gap, Digital skills gap, New technologies, Women

### 1. Introduction

In today’s digital world, where technology is of paramount significance, there is an increasing demand for people skilled in information and communication technologies (ICT) (European Commission, 2025). Accordingly, UNESCO defined the term “digital skills” “...as a range of abilities to use digital devices, communication applications, and networks to access and manage information. They (digital skills) enable people to create and share digital content, communicate and collaborate, and solve problems for effective and creative self-fulfillment in life, learning, work, and social activities at large.”(2023). Women are increasingly engaging with new technologies, which provides new opportunities for education, financial independence, and economic resilience through digital skills like AI, cloud computing, cybersecurity, digital marketing and e-commerce. However, significant gender gaps persist in digital access, leadership, and participation, exacerbated by stereotypes, a lack of role models, and online harassment, highlighting the need for initiatives that promote education, mentorship, and supportive environments to achieve gender equality in the digital future.

### 2. Methodology

The paper draws on existing literature research and applies a systematic document analysis/a systematic review. Electronic databases such as Web of Science (WoS), Scopus and Google Scholar, as well as documents by the European Commission (EC), UNESCO etc. will be extensively examined based on the search strategy pertaining to the purpose of this paper.

### 3. The Scope of Digital Skills

Digital skills are defined as a range of abilities to use digital devices, communication applications, and networks to access and manage information. They enable people to create and share digital content, communicate and collaborate, and solve problems for effective and creative self-fulfillment in life, learning, work, and social activities at large. In essence, digital skills entail two components: i. “the entry-level” digital skills, indicating basic functional skills required to employ and practice on digital devices and online applications, are generally regarded as a critical component of a new set of literacy skills in the digital era, including traditional reading, writing and numeracy skills; ii. “the advanced spectrum” of digital skills are the higher-level abilities that allow users to apply technologies such as cybersecurity, cloud computing, AI and Machine Learning, big data analytics, web development, digital marketing and e-commerce. At the advanced spectrum of digital skills are the higher-level abilities that allow users to employ digital technologies in empowering and transformative ways such as professions in ICT. Major digital transformations such as Artificial Intelligence(AI), machine learning, big data analytics, change skills requirements and, in turn, impact capacity building and skills development for the 21st

century digital economy. To thrive in today’s hyper connected economy and society, digital skills should also act in accordance with other abilities such as strong literacy and numeracy skills, critical and innovative thinking, complex problem solving, an ability to collaborate, and socio-emotional skills. In this regard, digital skills have shifted from “optional” to “critical” and need to be enhanced with transversal “soft skills”, namely the ability to communicate effectively in both online and offline mediums (UNESCO, 2023).

Furthermore, the key aspects of digital skills pertain to the following qualities: i. Information Management: Accessing, managing, and organizing information using digital tools; ii. Creation and Sharing: Producing and distributing digital content; iii. Communication and Collaboration: Using digital platforms to communicate and work with others; iv. Problem-Solving: Applying digital tools to address challenges and find creative solutions; v. Critical and Responsible Use: Confidently and critically engaging with digital technologies for various purposes; vi. Self-Fulfillment: Using digital skills for effective and creative self-fulfillment in life, learning, and work (UNESCO, 2023).

#### 4. Challenges and barriers faced by women in the digital space

In today’s world, where technology is increasingly important, there is a growing need for people skilled in information and communication technologies (ICT). Most notably, The State of the Digital Decade 2024 report highlights that only 55.6% of EU’s population has at least basic digital skills (compared to the target of 80%) and at the current pace, the number of ICT specialists will reach just 12 million by 2030, well below the 20 million target (European Commission, 2025b). However, women are currently under-represented in this important sector, as in other areas of science, technology, engineering and mathematics (STEM). Even though women make up 51% of the EU population, only 1 in 3 STEM graduates and 1 in 5 ICT specialists are women. Since 2015, the percentage of women working in ICT has not changed much (European Commission, 2025a).

In this regard, the European Union launched in 2023 the “European Declaration on Digital Rights and Principles for the Digital Decade” building on the EU Charter of Fundamental Rights, recalling most relevant rights in the digital transformation, namely the freedom of expression and information, data protection and privacy, as well as committing Europe to seek a fair and inclusive digital transformation that leaves no one behind. Specifically, in the preamble of the Declaration it is explicitly stated that the Declaration should act as a guardrail for policy makers when reflecting on their vision of the digital transformation, namely putting people at the centre of the digital transformation; supporting solidarity and inclusion, through connectivity, digital education, training and skills, fair and just working conditions as well as access to digital public services online; restating the importance of freedom of choice in interactions with algorithms and artificial intelligence systems and in a fair digital environment; fostering participation in the digital public space; reinforcing safety, security and empowerment in the digital environment, in particular for children and young people, while ensuring privacy and individual control over data; promoting sustainability (EU-Declaration, 2023: para.7 – preamble). In particular, the principles of the Declaration are formulated with regard to six key areas of interest: i. putting people and their rights at the center of the digital transformation: Technology should serve and benefit all people living in the EU and empower them to pursue their aspirations. It should not infringe upon their security or fundamental rights. The EU

and its Member States commit to making sure that the digital transformation benefits everyone and improves the lives of all people living in the EU. They take measures to ensure our rights are respected online as well as offline and promote this approach both at home and on the international stage; ii. solidarity and inclusion: Universal access to inclusive technology that upholds EU rights is essential. Everyone should: have access to affordable and high-speed digital connectivity, be able to acquire the education and skills necessary to enjoy the benefits of digital technology, have fair and just working conditions, have access to key digital public services. The EU and its Member States have made committed to leaving no one behind, supporting efforts to equip all education and training institutions, ensuring the right to disconnect from work, and providing a digital identity that gives access to a broad range of online services; iii. freedom of choice: Everyone should be empowered to make their own, informed choices online. This includes when interacting with artificial intelligence systems, which should serve as a tool for people, with the ultimate aim to increase human well-being. The EU and Member States notably commit to promote human-centric, trustworthy and ethical artificial intelligence systems, which are used in a transparent way and in line with EU values. Freedom of choice also includes being free to choose which online services we use, based on objective, transparent and reliable information. This in turn involves making sure businesses are empowered to compete and innovate in the digital world; iv. participation in the digital public space: Everyone should have access to a trustworthy, diverse and multilingual online environment and should know who owns or controls the services they are using. This encourages pluralistic public debate and participation in democracy. The Declaration also highlights the need to create a digital environment that protects people from disinformation, information manipulation and other forms of harmful content including harassment and gender-based violence. It recognizes the role of very large online platforms in this context and asks them to mitigate the risks stemming from the functioning and use of their services. The EU and Member States notably commit to support effective access to digital content that reflects cultural and linguistic diversity in the EU; v. safety, security and empowerment: Everyone should have access to safe, secure and privacy-protective digital technologies, products and services. The EU and Member States notably commit to protect the interests of people, businesses and public services against cybercrime, and to ensure that everyone has effective control over their personal and non-personal data in line with EU law. Children and young people should be empowered to make safe and informed choices and express their creativity in the digital environment. The EU and Member States also commits to promote positive experiences for children and young people in an age-appropriate and safe digital environment, and to protect them against harmful and illegal content, exploitation, manipulation and abuse online; and vi. sustainability: The digital and green transitions are closely linked. While digital technologies offer many solutions for climate change, we must ensure they do not contribute to the problem themselves. Digital products and services should be designed, produced, and disposed of in a sustainable way. The EU and Member States commit to supporting digital technologies with minimal negative environmental and social effects. The aim is to promote digital technologies that have a positive impact on the environment and climate, contributing to the green transition. They also commit to promote sustainability standards and labels for digital products and services, to provide

people with more information regarding their environmental impact (European Commission, 2025c).

However, there are still significant gender gaps, between men and women, in digital access, leadership, and participation, exacerbated by the i. limited access to decision-making positions; ii. limited access to the internet and digital tools in some regions restricts opportunities for women to develop necessary digital skills; iii. deep-rooted gender stereotypes often portray tech professionals as men, leading to a lack of role models and discouraging girls and women from pursuing STEM careers; iv. limited access to affordable, inclusive education, along with mentorship and role models; and v. workplace discrimination, unsupportive work environments, gender pay gaps, and limited access to decision-making positions further hinder women's progress in the technology sector. In particular, there are major inequalities focused on digital skills in both developing and developed countries, namely socio-economic status, race, gender, geography, age and educational background. Gender divides in digital skills are discouraging: women are 1.6 times more likely than men to report lack of digital skills as a factor impeding their use of digital technologies (UNESCO, 2023).

It is noteworthy that acquiring new digital skills provides new potentials for i. women's economic empowerment and financial independence; ii. diverse perspectives from women in technology bringing about more creative and innovative solutions; iii. bridging the digital gender divides (European Commission, 2025a & b; UNESCO, 2023). At this point the question arising is: Why are women's digital skills important? i. Economic Empowerment: Digital skills provide access to new job markets, fostering financial independence and economic resilience, especially in low- and middle-income countries; ii. Innovation and Growth: Diverse perspectives from women in tech lead to more creative and innovative solutions, ensuring technology is developed ethically and inclusively; iii. Bridging the Digital Divide: Addressing the gender gap in digital skills is essential to combating a broader digital divide that limits access to vital resources and services for many women (European Commission, 2025a & b; UNESCO, 2023).

#### 5. Promoting digital skills for women: Policies and Practices

A potential policy framework could entail the following key aspects:

- i. systematic collection of sex – disaggregated data for planning, designing, implementing and evaluating public policies, including digital policies and tools;
- ii. designing and employing digital tools mindful of gender equality, bias and gender stereotypes;
- iii. motivating women and girls to acquire digital skills and competences;
- iv. building a solid and safe digital environment (including online platforms) for women and girls, in all their diversity, having isolated violence, sexism, hate speech, harassment, online bullying;
- v. inclusive education and training: providing affordable and equitable education and training programs that are accessible to women and girls;
- vi. mentorship and role models: Connecting women with inspirational figures and mentors in tech helps build confidence and provides guidance;
- vii. community building: creating supportive communities and networks where women can share experiences, learn from each other, and find professional opportunities;
- viii. targeted training programs: developing specific initiatives, that provide tailored

resources and mentorship to women entrepreneurs and professionals in the digital economy;

ix. addressing systematic bias: changing institutional practices and cultural norms that perpetuate gender inequality in technology;

x. engendering technology: incorporating a gender dimension into technology development and education to create more inclusive pathways.

(European Commission, 2025a; von der Leyen, 2024).

## 6. Conclusion: Looking ahead

Conclusively, digital skills are considered a critical component of overall literacy in the digital era, analogous to traditional reading and writing; the definition and the skills themselves are constantly changing and evolving due to continuous technological advancements, requiring ongoing development and refinement over time; developing these competencies is crucial for ensuring full participation and inclusion in a technology-saturated society and is linked to better job opportunities and entrepreneurship; digital skills unlock better jobs, promote entrepreneurship, increase income, providing pathways to financial independence; technology facilitates access to education, health services, political activism, helping women become empowered digital citizens; a diverse tech workforce with women’s participation leads to more inclusive, ethical and user-friendly technologies, fostering economic growth and innovation. Major technology breakthroughs in the next ten years will impact forms of work and the structure of labour markets as well as other aspects of life such as education, health, and agriculture. From a skills development perspective, the implications of technological change are expected profound, both for the re- and up-skilling of adults and for the education of youth and children. In this context, developing capacities for anticipating the changing needs for digital skills for work and life is crucial for all countries. Policy-makers and other actors need to predict future technological advancements in order to orient and prioritize policy actions (UNESCO, 2023).

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