European Journal of Education and Applied Psychology

2026, No 3

PREMIER Publishing

Vienna
2026

European Journal of Education and Applied Psychology

Scientific journal

2026, No 3

ISSN 2310-5704

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European Journal of Education and Applied Psychology is an international, English/Russian language, peer-reviewed journal. The journal is published in electronic form.

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Typeset in Berling by Ziegler Buchdruckerei, Linz, Austria.
Printed by Premier Publishing s.r.o., Vienna, Austria on acid-free paper.

European Journal of Education and Applied Psychology 2026, No 3
ISSN 2310-5704
PREMIER Publishing
ppublishing.org

Section 1. Education system

DOI:10.29013/EJEAP-26-3-3-11

CC BY

RAISING MOTIVATION OF UK PRIMARY SCHOOL CHILDREN THROUGH EFFECTIVE TEACHING

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Cite: *Siddika A., Nedir S.J. (2026). Raising motivation of UK primary school children through effective teaching. European Journal of Education and Applied Psychology 2026, No 3.* https://doi.org/10.29013/EJEAP-26-3-3-11

Abstract

This essay explores aspects of motivation and how best to motivate children through effective teaching; children may be highly motivated in some classes but lack a huge deal of motivation in others. Effective teaching can be used to raise achievement through raising motivation.

Keywords: *Educational Psychology; Motivational Psychology; UK Primary Education; UK Primary Educational Policy*

Introduction

In a mixed ability, mixed age class (Q14), a teacher may use various teaching styles and techniques aimed at motivating all the children – in contrast, a teacher may rely on a more fixed range of methods and display less enthusiasm for the profession; such an attitude may be reflected in the lack of motivation children display in class. There may be a number of children with behavioural problems, and behavioural problems may be caused due to the lack of motivation, as children may not be inspired by the teaching. Their lack of motivation and attitude may also be reflected in their class work and handwriting; the work will often be rushed, messy or incomplete if this is the case. This practice highlights the importance of motivating children through effective teaching and, by doing this, improving their learning.

What is motivation?

The concept of motivation was first noted by psychologist Fredrick Herzber in 1958. Motivation is a word derived from the Latin verb '*movere*' which means *'to move'*. It is used to refer to the reason or reasons behind an individual wanting to engage in a particular behaviour or having the will or desire to do something.

Applying the definition of motivation to learning, it is often described as a key aspect of effective learning in children, and it is also a source of important differences between each child (Leo and Galloway, 1996). However, increasing motivation in children depends on giving children more control over their learning, this can then foster greater self-confidence and increases the perceived relevance and interest of the academic work

undertaken by children. Furthermore, there is a considerable emphasis on the teacher being emotionally intelligent (Goleman, 1996) or skilled enough to identify the particular reason as to why a child is achieving (or not achieving).

Factors that contribute to low motivation

Kyriacou (1997) lists some of the factors that contribute to low levels of motivation in children as being: deficient levels of understanding in their thinking, poor self-confidence in a child, reluctance to apply the mental effort needed, or fear of failure. Many of the factors which Kyriacou has described may be apparent in classroom contexts.

According to Green (1994) motivation refers to the initiation, direction, intensity and persistence of human behaviour. He argues that individuals not only differ in their overall level of motivation, but individuals are motivated by different contexts in relation to them being either intrinsically or extrinsically motivated. Petri (1991) expanded on the notions of intrinsic and extrinsic motivation: he describes extrinsic motivation as a motivation connected to external factors; if applying this concept to children, it can refer to changing their behaviour by means of rewards – this is more commonly seen by the use of stickers etc for displaying good behaviour. Intrinsic motivation, on the other hand, is described as a motivation which is influenced by internal factors. Internal factors can be noted by children wanting to do something for fun; they enjoy doing an activity; or the children want to do it of their own volition. Deci and Ryan (1985) argue that intrinsic motivation is far stronger than extrinsic motivation; they attempt to justify reasons for intrinsic motivation being stronger by using the Cognitive Evaluation theory.

The Cognitive Evaluation theory places an emphasis on the individual evaluating a task in terms of how well the task meets their needs in order to feel competent and in control of their environment and circumstances. In terms of applying this to children, if they think they are able to complete a task they will be intrinsically motivated to complete the task requiring no external rewards. Furthermore, it is for this reason that any work, task or activity undertaken needs to be at the correct level of each child, building on their own prior knowledge (Q25b); thus, it is important not to alienate children initially when setting up activities, keeping every stage of the lesson clear and level-appropriate (Q25d).

Hargreaves (1967) argues that children in lower ability groups can develop anti-social culture and teachers tend to form negative attitudes towards the children as they begin to resist school rules, while the more able accept school rules. The low ability pupils feel alienated and it is up to the teacher to raise the self-esteem of the children in their class; the teacher needs to make these children feel valued by directly motivating them and looking into their interests, or give them responsibility for their own learning; believing in a child can help raise their self-esteem. However, on the other hand if higher ability children are not developed or engaged appropriately at their level they can also begin to be disruptive in class, but disruptive behaviour may also be evident among lower-ability children.

Motivation and its effects on behaviour in children

Moving the discussion forward and a contrast to what Deci and Ryan (1985) have said above, Bem (1972) argues that children decide upon their own behaviour whether positive or negative from their own attitudes and feelings from watching themselves behave in various situations and the responses they get; hence, children's own perception motivates them to act and behave accordingly, and in reality, extrinsic or intrinsic motivation does not matter to children. However, this point can be questioned, as when a child receives attention for misbehaving or by being naughty, they carry on with their behaviour, especially if they receive no attention for being good – they carry on because no one expects anything different, so the motivation to be naughty is internalised and they voluntarily choose to be naughty. Thus, the internal motivation increases as they achieve their goal of being disruptive and gaining negative attention. Other factors such as peer reaction to poor behaviour are also a driving force for children to carry on misbehaving, as they are known for their silliness in class and enjoy the reputation and attention that this can bring.

One strategy to motivate children who have poor behaviour is to encourage extrinsic motivation to begin with, i.e. by setting up a system where children receive a smiley face on their chart, or a top tomato award, leading up to a weekly dip in the well-done bag at the end of the week (Q2). Where both types of motivations are missing, promoting extrinsic motivation initially, may have a positive impact on the children's behaviour; if this strategy is successful then it may help to internalise this motivation by asking children about what they have learnt from doing that piece of work. Perhaps before setting them an activity or task, explain to them clearly why they are doing this and how it will eventually build up to another task; (Q4) creating interest or curiosity in a piece of work before setting a task, where children have to find out or carry out research in pairs or by providing stimuli initially to get children involved.

In contrast to what has been discussed above about providing means of external motivation first, Sternberg and Lepper (1976) argue that it is very important that when using extrinsic motivation such as rewards etc., that children know that they are not doing a task or activity just for the reward – they argue that once the reward is removed children will cease to do the activity. So, there is a fine line, in creating extrinsic motivation as a foremost; consistency is necessary in rewarding positive behaviour when children are seen to be trying. Whole activities should not be based just on rewards; rather, rewards may be given when someone is seen to be trying hard.

In relation to the use of extrinsic motivation in the classroom, Kyriacou (1991) points out that, although intrinsic and extrinsic motivation are contrasted with each other, it is important to note that most tasks involve a mix of the two. Moreover, pupils may be high in their level of both intrinsic and extrinsic motivation; this is perhaps where they find the task they are doing both interesting and, the success of writing about the topic will enable them to be rewarded for their efforts. He further discusses that problems affecting the less able children are often about them having experienced failure at school, this then builds up an emotional resistance to future effort to succeed, largely because it exposes them to further risk of failure. These attitudes can be addressed by raising self-esteem in class, encouraging self-confidence and putting a stop to giggling in class when a child gets an answer wrong; instead, the child should be praised for trying and attempting (Q31).

Effective teaching as a means to raising motivation

The essence of effective teaching lies in the ability of the teacher to set up a learning experience which brings about the desired educational outcome (Burner, 1966). Motivating children requires effective teaching that can increase motivation and raise achievement.

Looking to the DfES (2004) website for a definition, effective teaching and learning is described as being directly linked to personalised learning; personalised learning for each child demands that strategies are put in place to develop the competence and confidence of every learner (Q10) by actively engaging children and stretching them. Personalised learning requires a range of whole class, group and individual teaching, promoting equality and inclusion in all aspects of teaching (Q19). This can be achieved by the use of ICT and various strategies to transmit knowledge, to instil key learning skills and to accommodate different paces of learning (Q25a).

The clear message in the DfES website, is personalised learning as a factor which contributes to increased motivation, where every child feels that they are learning and making progress – this is done through using various methods of assessment and other means, whereby, enabling each child to stretch and extend their own learning capabilities (Q26b). Unfortunately, this does not always occur with younger primary children.

Effective teaching is the foundation to successful learning in accordance to the learning objectives that have been set; these learning objectives should accommodate the needs of all the children in the class: in practice, effective teaching involves differentiating work in line with the National Curriculum, so that each child has a fair attempt at working at their own ability and level, as this increases their motivation to work hard (Q15). Dean (2005) highlights several factors in effective teaching that enable effective learning, they are as follows: an effective teacher knows

their children and cares for them, they are confident and ambitious, they are enthusiastic, they are supportive, they are clear in their presentation and match the level of children, they have high expectations, they maximise their time with children, keep children on task, there is active involvement in class, there is a clear structure and objectives are clear so children can work towards achieving them, effective teachers use questioning well, they give frequent feedback to children, they keep track of children's progress, they use homework effectively and they use varied teaching styles and techniques. However, Mortimore (1993) argues that even though teaching is an overt activity, the models that have been constructed fail to do justice to the complexity of the components and factors involved.

The factors which are clearly linked to motivation and require immediate attention in classroom practice are:

1. To have high expectations as a teacher, to motivate and enthuse the children.
2. To allow children an interactive/active approach to learning in class, so they are engaged and motivated.
3. To Use differentiation as a means of having achievable learning objectives for children which are neither below their level of understanding or too difficult but to build on their learning progressively, and ultimately increase their motivation.

Impact of high expectation on raising motivation

Having high expectations has a large influence on pupils' motivation (Q1) – Kyriacou (1997) argues that teachers clearly need to have expectations that match the ability of each child; however, he argues that expectations of teachers usually match the children's previous attainment targets and do not reflect what the child may be capable of producing. Subsequently, for children with low attainment and low levels of motivation, it is easy for teachers to expect less from these children. This can be said for more able children as well as they may remain unchallenged in their work. Unfortunately, this may be evident in some classes, where children are intentionally suppressed and kept at the same level for the ease of the teacher.

Similarly, Pilling and Pringle (1978) argue that low expectations about performance can easily trigger a mechanism whereby the performance drops to the level of the low expectations – this then filters into the children's thinking and attitude. Thus, children who are taught by teachers with low expectations then experience demoralisation; which can then regrettably lead to underachievement.

This detrimental effect on children's perception can be seen in some classes: children may expect very little of themselves and at every opportunity protest about how hard things are without even attempting the task at hand. Constant demoralisation may lead to disruption in class and behavioural problems, and such an attitude reflects Merton's self-fulfilling prophecy (1968) which again goes hand in hand in contributing to destroying the childrens' self-esteem.

Conversely, Bliss et al (1996) argue that when children receive encouragement for their progress, even if only part way along the learning path, learners will believe they are doing well. This sort of encouragement is needed to motivate children, and the impact of this is that children respond to the teacher positively and actively engage in what s/he is teaching, therefore, creating a purposeful learning environment which stimulates and motivates them (Q30).

Interactive/active learning and use of ICT to increase motivation

Every teacher has their own unique style of teaching; this stems from a blend of personality, experience, philosophy, aims and the particular context in which the teacher works (Dean, 2001). A teacher demonstrates their styles in activities they choose to undertake and this should reflect on the various learning modes in the classroom, with all teaching styles needind to be active and engaging, as this promotes active learning.

According to the DES (1985), "Active learning, gives a sense of purpose and success that enhances pupil's enjoyment, interest, confidence and a sense of personal worth. Passive learning and inappropriate styles can lead to frustration and failure."

Similarly, Festinger and Carlsmith (1959) argued that to encourage someone to believe or feel something about themselves, they

should first be encouraged to do it. Within Piaget's approach (1972) he argued that learning is the inevitable consequence of the individual's interaction with the environment, resultantly, any educational experience which requires pupils to interact in some way with the learning task in hand will result in some learning – with both approaches indicate that giving children a first-hand and a hands-on approach to learning is greatly desirable.

Some of the major characteristics associated with active learning strategies include: children being fully involved rather than just passively listening, children being engaged in creative activities (e.g., reading, discussing, writing as a class), and less emphasis placed on information transmission and greater emphasis placed on developing children's skills; greater emphasis placed on the exploration of attitudes and values, this aspect increases motivation in children, where children can receive immediate feedback from the teacher, and lastly, children are involved in higher order thinking skill (analysis, synthesis and evaluation) (McKeachie 1994)

The Constructivism theory (Piaget, 1953) argues that humans construct meaning from current knowledge structures and that constructivism is a description of human cognition which is often associated with pedagogic approaches that promote active learning, whereby learning is by 'doing'. Similarly, Bonwell and Eison (1991) argue that active learning is an umbrella term which refers to several models of instruction that focus the responsibility of learning on learners; this method of teaching children to be active learners is considered more effective than giving them direct instruction. Constructivism also focuses on the teacher being the facilitator; Adler (1982) argued that it is the process of discovery in which the learner is the main agent and not the teacher.

In criticism of the earlier constructivist models, Mayer (2004) argues that the term 'active learning' was developed from an earlier group of theorists who promoted discovery learning, which is inquiry-based learning that was popular in the 1960's. It is suggested that in such learning children are actively engaged, and they are more likely to recall information (Burner, 1961).

However, Kirscher, Sweller and Clark (2006) argue that it is not about children being behaviourally active during learning but rather cognitively active. They continue to critically argue that practicing procedural skills is a necessity for learning to be automated, but while these activities may be motivating for learning; these unguided situations can leave learners less competent than when they began the activity.

However, a balance needs to be maintained in teaching, as too much instruction can potentially leave children unmotivated, uninterested and bored; they switch off completely from the task, and then find unproductive ways to spend their time in class.

The importance of interactive learning is further described by Baker (1994) as the necessary and fundamental mechanism for knowledge acquisition and the development of both cognitive and physical skills. The notion that both theory and practice need to be interlinked from the start is seen as the way forward in teaching today; similarly, Alevent et al (2003) discuss the positive and significant influences of interactive learning on both behaviour and understanding, as the learner is fully engaged. Hence, children may behave better when they are fully emerged in a task, where they have the opportunity to take an active part in the activity.

The use of interactive learning, through speaking and listening, group work, projects, drama etc., in class, can give children a more holistic learning experience. The interactive element allows children the opportunity to explore the concepts or themes by themselves, hence introducing the idea of children being in control of their own learning.

Further still, Malone and Lepper (1987) talk about games as providers of intrinsic learning, they argue that the challenge of a task and curiosity remain the main motives behind the actual learning. Children understand the concept of interactive learning through playing video games – these games tend to hold the user's attention by interactive features. The use of ICT in class gives access to children by bringing their ideas alive; the age of internet is the key factor in making this type of learning natural and accessible to children (Kafai, 1999). Children get both educational and recreational value from this

type of learning (Bobick et al, 1999); thus, interactivity in this way forms the foundation of informed learning.

Interactive learning also appeals to all different learning modes in children, which include: auditory, kinaesthetic and visual learners, since the interactive interface of using ICT allows impact on various senses. Leask and Pachler (2005) argue that interactive resources engage sight and sound which can increase pupil's attention and interest further, facilitating highly motivated learning.

Differentiated teaching as a means to raising motivation and raising self-esteem

The third factor of great importance is the idea of having clearly differentiated learning objectives and tasks to enable children to feel that they are achieving – this in turn has a direct impact on their levels of motivation and self-esteem. In order to meet the diverse learning needs of children, Webster (1995), argues that differentiation is about maximising learning for all children, by taking account of their individual differences in learning style, interest, motivation and aptitude, and reflecting these variations in the classroom.

Webster's argument highlights that differentiation is all about creating equal opportunities in learning for children, thus, effective differentiation promotes effective learning, which in turn builds confidence, which raises motivation, and, consequently, raises achievement. This is why it is extremely important that differentiation of work needs to be targeted to raise the motivation of children who see themselves as being less able; it is about helping them to develop their skills and motivating them to believe that they can achieve.

The best way to meet pupils' different learning needs is to deliver the curriculum in a number of different ways: firstly, to understand that differentiation is seen as the vehicle by which skills, concepts and knowledge are presented to children in a way that is accessible to them, secondly, by presenting a range of varied and creative tasks at different levels. The reason for this is that it ensures the maximum amount of pupil involvement, i.e.; pupil planning, pupil involvement, pupil assessment and pupil decision making (Spillman, 1991). All these above factors can contribute to high levels of motivation, where children take ownership of their own learning.

Conclusion

Motivation is affected by many factors in a classroom; only a few of the factors related to motivation have been discussed here. However, the factors discussed can aid in motivating children in the classroom, and changing the culture of a classroom where children feel negative about learning, which requires the adoption of interactive/active learning approaches; this will empower children to get involved, allow them to engage fully and motivate them in their learning, and, in turn, raising achievement.

Instilling high expectations and expecting more from the children may be challenging to begin with, but developing classroom resources can give children a reason to try in their work; by giving them a positive incentive to behave and work hard. For example, glittery stars can be given to each child for sitting well during carpet time, leading to a reward at the end of the week; planning should ensure that work is differentiated in accordance to the abilities of the children; children should be encouraged to develop a 'try and have a go' attitude, where it is okay to make mistakes and all participants are learners; making a few changes during carpet time may dramatically change the behaviour of the children; mini exercise activities can also be introduced between sessions so that children understand the reward of making an effort and working hard, thus increasing their motivation.

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Appendix: Standards

Q1. Have high expectations of children and young people including a commitment to ensuring that they can achieve their full educational potential and to establishing fair, respectful, trusting, supportive and constructive relationships with them.
Q2. Demonstrate the positive values, attitudes and behaviour they expect from children and young people.
Q4. Communicate effectively with children, young people, colleagues, parents and carers.
Q10. Have a knowledge and understanding of a range of teaching, learning and behaviour management strategies and know how to use and adapt them, including how to personalise learning and provide opportunities for all learners to achieve their potential.
Q14. Have a secure knowledge and understanding of their subject/curriculum areas and related pedagogy to enable them to teach effectively across the age and ability range for which they have been trained.
Q15. Know and understand the relevant statutory curricula and frameworks, including those provided through the National Strategies, for their subjects/curriculum areas, and other relevant initiatives applicable to the age and ability range for which they are trained.

Q19. Know how to make effective personalised provision for those they teach, including those for whom English is an additional language or who have special educational needs or disabilities, and how to take practical account of diversity and promote equality and inclusion in their teaching.
Q25(a). Use a range of teaching strategies and resources, including e-learning, taking practical account of diversity and promoting equality and inclusion.
Q25(b). Build on prior knowledge, develop concepts and processes, enable learners to apply new knowledge, understanding and skills and meet learning objectives.
Q25(d). Demonstrate the ability to manage the learning of individuals, groups and whole classes, modifying their teaching to suit the stage of the lesson.
Q26(b). Assess the learning needs of those they reach in order to set challenging learning objectives.
Q30. Establish a purposeful and safe learning environment conductive to learning and identify opportunities for learners to learn in out-of-school contexts.
Q31. Establish a clear framework for classroom discipline to manage learner's behaviour constructively and promote their self-control and independence.

submitted 15.09.2026;
accepted for publication 29.09.2026;
published 30.09.2026
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European Journal of Education and Applied Psychology 2026, No 3
ISSN 2310-5704
PREMIER Publishing
ppublishing.org

Section 2. General pedagogy

DOI:10.29013/EJEAP-26-3-12-14

SCIENTIFIC AND THEORETICAL ANALYSIS OF FOREIGN RESEARCH ON THE DEVELOPMENT OF CRITICAL THINKING OF STUDENTS IN THE ERA OF ARTIFICIAL INTELLIGENCE

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Cite: *Akhmadjonova D. D. (2026). Scientific and Theoretical Analysis of Foreign Research on the Development of Critical Thinking of Students in the Era of Artificial Intelligence. European Journal of Education and Applied Psychology 2026, No 3.* https://doi.org/10.29013/EJEAP-26-3-12-14

Abstract

The article presents a scientific and theoretical analysis of modern foreign studies devoted to the development of critical thinking of students in the context of rapid digitalization and the introduction of generative artificial intelligence (AI). Based on systematic reviews, metaanalyses and bibliometric studies, key trends, methodological approaches, cognitive effects and risks of using AI in educational practices are revealed. Special attention is paid to pedagogical strategies that ensure the development of critical thinking when students work with AI systems.

Keywords: *critical thinking, artificial intelligence, generative AI, higher education, cognitive skills, foreign studies*

The development of students' critical thinking in the era of the rapid spread of artificial intelligence (AI) technologies is becoming one of the key tasks of modern higher education, since it is critical thinking that ensures students' ability to analyze information, evaluate evidence, form arguments and make informed decisions in conditions of uncertainty. In foreign scientific literature, critical thinking is considered as a metacompetence of the 21st century, which determines the intellectual autonomy of a person and his ability to withstand cognitive automation caused by the widespread introduction of digital technologies (Facione P., 2015).

The emergence of generative AI models such as ChatGPT, Claude, Gemini, and LLaMA radically transforms students' cognitive processes, changing the structure of learning activities and creating new conditions for the formation of analytical, reflective and argumentative skills. Foreign studies emphasize that critical thinking in the context of AI should be considered not only as the ability to analyze information, but also as a complex cognitive process, including the ability to assess the reliability of data, identify logical errors, recognize algorithmic bias and form one's own reasoned position (Ennis R.,

2018). In the classical works of Facione, Ennis, and Halpern, critical thinking is defined as conscious, reflective thinking aimed at making informed decisions (Halpern D., 2014). However, in the age of AI, this definition is expanding: now students must be able to critically interact not only with texts and facts, but also with digital systems that offer readymade solutions.

This requires a higher level of metacognitive control, the ability to selfregulate, and the ability to analyze one's own cognitive strategies (Zimmerman B., 2008). A systematic review by Balart, Diaz, and Shryock (2026) analyzes 63 empirical studies on the impact of generative AI on students' critical thinking (Balart T., Díaz B., Shryock K., 2026). The authors conclude that AI promotes the development of reflective thinking when used in structured tasks involving analysis, comparison, argumentation, and evaluation of alternative points of view. Conversational AI models encourage students to form arguments, as they allow them to model discussions, ask clarifying questions, and receive critical feedback.

However, in the absence of pedagogical control, AI can reduce the intellectual autonomy of students, since students tend to accept AI responses without verification, which leads to cognitive "offloading" – the transfer of mental operations to a digital system. A metaanalysis of Springer Nature (2025–2026) confirms that about half of the studies record a statistically significant improvement in critical thinking when using AI (*Educational Psychology Review)*. The greatest effect is observed when AI is used for argument analysis, reflection, peer review, and evaluation of reasoning. For example, AI is able to identify logical errors, unproven statements, and weak arguments, which helps students improve their own texts. However, the authors emphasize that the effectiveness of AI depends on the level of students' independence: if a student uses AI as a verification and analysis tool, critical thinking develops; if AI becomes a source of ready answers, cognitive activity decreases.

Bibliometric research in the *Journal of Computers in Education* (2025–2026) demonstrates the rapid growth of publications on critical thinking and AI (*Journal of Computers in Education)*. The most common topics are "AIsupported critical thinking", "GenAI in higher education", and "AIdriven assessment", which indicates the global interest of the scientific community in the problem of student interaction with AI. Researchers note that after 2023, there has been a sharp increase in the number of papers devoted to the ethical aspects of using AI, including issues of data reliability, algorithmic bias, and intellectual honesty of students.

The theoretical models used in foreign research are also undergoing changes. Bloom's Revised Taxonomy is used to assess levels of cognitive complexity, allowing researchers to determine which levels of thinking are activated when working with AI (Anderson L., Krathwohl D.). Cognitive Load Theory helps to analyze the redistribution of cognitive resources: AI reduces the load on memory and basic operations, but increases the requirements for analytical and reflective thinking (Sweller J., 2016). SelfRegulated Learning Theory explains why students with a high level of selfregulation benefit more from AI than students who are prone to automatic decisionmaking (Zimmerman B., 2008). Argumentation Theory is used to analyze the quality of arguments formed by students when interacting with AI.

Foreign studies pay special attention to pedagogical strategies that have proven their effectiveness. Among them are: the use of AI to generate feedback that requires analysis and reflection; modeling discussions with AI and subsequent reflection; the use of AI as a peerreview tool; critical evaluation of AI responses aimed at identifying errors, biases and logical inconsistencies. These strategies allow students not only to receive information, but also to analyze it, compare it with their own knowledge, form arguments and develop cognitive flexibility.

At the same time, foreign studies reveal a number of risks. Among them are a decrease in independent thinking, uncritical acceptance of AI responses, the formation of false confidence in the correctness of information, and dependence on automated solutions. Excessive use of AI can lead to cognitive degeneration – a gradual decrease in students' ability to perform complex mental operations without the help of digital systems. In

addition, the problem of valid assessment of critical thinking in the context of AI remains unresolved: traditional tools do not take into account the impact of digital technologies on cognitive processes.

Another important dimension in the analysis of foreign research is the study of communicative practices that shape students' cognitive behavior when interacting with AI. In structured academic environments, students demonstrate higher levels of reflection and argumentation, while in informal digital communication they tend to rely on automated responses. This difference highlights the need for pedagogical design that integrates AI into learning activities in a way that stimulates analytical thinking rather than replacing it.

Foreign researchers also emphasize the importance of ethical literacy as part of critical thinking. Students must be able to recognize algorithmic bias, evaluate the transparency of AI systems, and understand the limitations of automated tools. Ethical awareness becomes an integral component of critical thinking in the age of AI, ensuring responsible and informed use of digital technologies.

Despite the contradictions, foreign studies agree on one thing: AI can become a powerful tool for developing critical thinking if its use is integrated into pedagogical design aimed at analysis, reflection and argumentation. In the age of AI, critical thinking is becoming not just an educational goal, but a necessary condition for the student's intellectual autonomy. Therefore, the development of critical thinking requires the introduction of structured pedagogical strategies, teaching students critical interaction with AI, the development of new methods for assessing cognitive skills and the formation of an ethical culture of using digital technologies.

In general, the results of the analysis suggest that artificial intelligence is becoming a powerful factor in the transformation of the educational environment, creating both unique opportunities and significant challenges for the development of students' critical thinking. Effective use of AI in higher education is possible only if students develop critical interaction skills with digital systems, develop reflexive and argumentative abilities, and receive pedagogical support aimed at maintaining intellectual autonomy. Thus, critical thinking in the age of AI should be considered as a strategic competence that determines the quality of training of future specialists and their ability to be productive in a technologically saturated environment.

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submitted 09.06.2025;
accepted for publication 23.06.2026;
published 30.09.2026
© Akhmadjonova D. D.
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European Journal of Education and Applied Psychology 2026, No 3
ISSN 2310-5704

PREMIER Publishing
ppublishing.org

DOI:10.29013/EJEAP-26-3-15-18

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ENHANCING FAMILISTIC COMPETENCE OF FUTURE TEACHERS IN THE CONTEXT OF GLOBAL EDUCATIONAL AND SOCIOCULTURAL TRANSFORMATIONS

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Cite: *Sadikov T.O. (2026). Enhancing Familistic Competence of Future Teachers in the Context of Global Educational and Sociocultural Transformations. European Journal of Education and Applied Psychology 2026, No 3.* https://doi.org/10.29013/EJEAP-26-3-15-18

Abstract

This article examines the significance of developing familistic competence among future teachers as a key factor in strengthening the institution of the family through educational means. Familistic competence is understood as a complex personal and professional formation that integrates value orientations, knowledge, skills, and pedagogical methods aimed at preparing young people for responsible family life. The article highlights the role of education in preventing the crisis of family values, analyzes global sociocultural transformations affecting family stability, and emphasizes the need for systematic preparation of teachers for work with families in the context of modern educational reforms. Special attention is given to emotional and ethical preparedness, digital influences, intercultural challenges, and human-centered educational priorities.

Keywords: *familistics; family institution; teacher education; familistic competence; family values; marriage and family relations; pedagogical familistics; interdisciplinary approach; educational reforms; teacher professionalism; family upbringing; sociocultural transformation; digitalization; global trends*

Introduction

In contemporary society, the institution of the family is undergoing profound transformations. Declining prestige of family life, increasing divorce rates, decreasing birth rates, and weakening motivation for parenthood reflect a complex sociocultural crisis. These tendencies require targeted measures aimed at strengthening the family, particularly through the formation of value-based attitudes toward marriage and family among young people. The education system plays a decisive role in this process, as schools and universities shape the worldview, moral orientations, and social behavior of the younger generation (Lavrinenko, 2015, p.213). In this context, the development of familistic competence among future teachers becomes a strategic priority for modern education.

The Concept of Familistic Competence

Familistic competence emerged in pedagogical science in the early 2000s as a response to the need to integrate

family-related knowledge into teacher training. It is defined as a systemic personal formation that unites the teacher's value orientations, theoretical knowledge, and practical skills in the field of family studies. According to N.Yu. Shleikova, familistic competence includes knowledge of the foundations of familistics, the ability to apply this knowledge in pedagogical practice, readiness to prepare students for family life, and the aspiration for self-improvement as both a professional and a family member (Shleikova, 2005, p. 17).

Researchers identify several structural components of familistic competence: motivational-value, cognitive-intellectual, emotional-moral, and activity-practical (Salikhova, 2010, p. 54). Together, these components ensure that the teacher is capable of addressing family-related issues, guiding students in interpersonal development, and fostering responsible attitudes toward marriage and parenthood.

Interdisciplinary Foundations of Familistics

Familistics has developed as a comprehensive interdisciplinary science integrating knowledge from sociology, psychology, pedagogy, law, economics, demography, and cultural studies. Its emergence reflects the need to systematize diverse information about the family and create a unified theoretical framework (Mamanazarov, 2012, p. 8). Pedagogical familistics focuses on preparing youth for family life and cultivating respect for the family as a fundamental social value. It synthesizes pedagogical theory, family psychology, and social work, providing teachers with methodological tools for family upbringing.

The interdisciplinary nature of familistics requires teachers to possess broad knowledge and flexible pedagogical strategies, enabling them to address diverse family-related issues in educational practice. This includes understanding sociocultural dynamics, psychological development, communication patterns, and ethical norms within family systems.

Global Sociocultural Transformations and Their Impact on Familistic Competence

In the 21st century, global sociocultural transformations have significantly reshaped the structure, functions, and perceived value of the family institution. Processes such as globalization, migration, digitalization, and the expansion of individualistic cultural models have altered traditional family roles and weakened intergenerational continuity. These changes directly influence the formation of young people's attitudes toward marriage, parenthood, and interpersonal responsibility.

Digitalization is one of the most influential factors. Social networks and virtual environments increasingly replace direct interpersonal interaction, affecting emotional development and social behavior. Young people often construct their understanding of relationships through online content, which may distort perceptions of family roles, conflict resolution, and long-term commitment. Teachers must therefore possess the ability to guide students in critically evaluating digital influences and forming healthy interpersonal patterns both online and offline.

Migration processes also contribute to the transformation of family structures. Multicultural environments, mixed families, and diverse value systems create new challenges for teachers working with students from heterogeneous sociocultural backgrounds. Familistic competence must therefore include intercultural sensitivity, the ability to understand different family models, and the skills necessary for building inclusive educational environments.

Economic transformations further influence family stability. Increased labor mobility, economic uncertainty, and changing employment patterns affect family cohesion and parental involvement. Teachers must be prepared to support families experiencing economic stress and create conditions for constructive school–family partnership.

International organizations such as UNESCO, OECD, and the Council of Europe emphasize the importance of strengthening social responsibility, interpersonal competence, and family-related values within modern education. Familistic competence aligns with these global priorities, making it a key component of human-centered education.

The Role of Emotional and Ethical Preparedness in Familistic Competence

An important dimension of familistic competence that has gained increasing attention in recent pedagogical research is the emotional and ethical preparedness of future teachers. Emotional preparedness includes the ability to establish trusting relationships, demonstrate compassion, and support students experiencing difficulties in their family environment. Teachers often serve as the first adults outside the family who notice changes in a child's emotional state, such as anxiety, withdrawal, or behavioral challenges.

Ethical preparedness requires adherence to professional norms, confidentiality, respect for family diversity, and avoidance of bias when interacting with students and parents. Modern educational reforms increasingly emphasize the importance of ethical decision-making in teacher training. Future teachers must be capable of navigating complex moral dilemmas related to family upbringing, including issues of parental involvement, cultural differences, and conflicting value systems.

Integrating emotional and ethical components into familistic competence ensures that teachers are not only knowledgeable but also capable of applying their understanding in real-life contexts with sensitivity and professionalism. This expanded perspective aligns with global trends in human-centered education and reinforces the relevance of familistic competence in contemporary pedagogical practice.

Familistic Competence in the Context of Modern Educational Reforms

The development of familistic competence must be considered within the broader framework of contemporary educational reforms. Modern education emphasizes holistic competencies that integrate knowledge, skills, and personal qualities necessary for successful social functioning. Strengthening cooperation between schools and families is a priority in many countries, requiring teachers to act as mediators between educational institutions and families (Lavrinenko, 2015, p. 220).

Digitalization introduces new challenges for family upbringing. The influence of digital media affects students' perceptions of family roles and values. Teachers must guide students in developing critical thinking, emotional resilience, and responsible digital behavior within the context of family life.

Thus, familistic competence is not merely an additional pedagogical skill but a vital element of human-centered education aimed at supporting students' psychological well-being, preventing social fragmentation, and strengthening the family as a foundational institution of society.

The formation of familistic competence requires the creation of specific pedagogical conditions that ensure the integration of value-based, cognitive, emotional, and practical components into teacher education. Contemporary research emphasizes that familistic competence does not emerge spontaneously; it must be purposefully cultivated through structured educational environments, reflective practice, and systematic interaction with real family contexts. As noted in the article, "the development of familistic competence among future teachers becomes a strategic priority for modern education" (Lavrinenko, 2015, p. 213).

One of the key pedagogical conditions is the **value-oriented orientation of educational programs**, which should promote respect for the family as a fundamental social institution. This includes the incorporation of ethical discussions, analysis of family-related dilemmas, and reflection on personal attitudes toward marriage and parenthood. Such value formation strengthens the motivational component of familistic competence and aligns with global human-centered educational priorities.

A second important condition is the **integration of interdisciplinary knowledge**. Familistics synthesizes sociology, psychology, pedagogy, law, and cultural studies, forming a holistic understanding of family dynamics. Teacher education programs must therefore include interdisciplinary modules that help future teachers analyze family issues from multiple perspectives. This requirement corresponds to the interdisciplinary nature of familistics described in the article: "Familistics has developed as a comprehensive interdisciplinary science integrating knowledge from sociology, psychology, pedagogy, law,

economics, demography, and cultural studies" (Mamanazarov, 2012, p. 8).

A third pedagogical condition is the **development of practical skills through interactive methods**. Case studies, role-playing, situational analysis, and supervised practice in schools allow future teachers to apply theoretical knowledge to real-life situations. These methods strengthen emotional and ethical preparedness, which the article identifies as a crucial dimension of familistic competence: "Emotional preparedness includes the ability to establish trusting relationships, demonstrate compassion, and support students experiencing difficulties in their family environment."

Finally, the formation of familistic competence requires **continuous reflection and self-development**. Teachers must regularly evaluate their own beliefs, communication styles, and professional behavior in relation to family issues. Reflective practice enhances self-awareness and supports the aspiration for personal and professional growth, which is an integral part of familistic competence according to Shleikova (Shleikova, 2005, p. 17).

Thus, pedagogical conditions for developing familistic competence include value-based orientation, interdisciplinary integration, practical training, and reflective self-development. These conditions ensure that future teachers acquire not only theoretical knowledge but also the emotional, ethical, and practical readiness necessary for effective cooperation with families in the context of global sociocultural transformations.

Conclusion

Familistic competence represents an essential dimension of modern teacher professionalism. It enables educators to collaborate effectively with parents, cultivate value-based attitudes toward the family among students, and promote responsible family behavior. Integrating familistic training into teacher education programs is necessary for strengthening the family institution and ensuring the moral and social well-being of future generations [Shleikova, 2005, p. 198). In the context of global sociocultural transformations, the development of familistic competence becomes a strategic priority for modern education systems.

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submitted 06.08.2026;
accepted for publication 20.08.2026;
published 30.09.2026
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Contact: science_7777@mail.ru

European Journal of Education and Applied Psychology 2026, No 3
ISSN 2310-5704

PREMIER Publishing
ppublishing.org

DOI:10.29013/EJEAP-26-3-19-22

COMPENSATORY COMPETENCE ACROSS LINGUODIDACTIC TRADITIONS: IMPLICATIONS FOR ENGLISH TEACHER EDUCATION IN UZBEKISTAN

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Cite: *Tojieva G.Y. (2026). Compensatory Competence Across Linguodidactic Traditions: Implications For English Teacher Education in Uzbekistan. European Journal of Education and Applied Psychology 2026, No 3.* https://doi.org/10.29013/EJEAP-26-3-19-22

Abstract

The intensification of multilingual and intercultural communication has increased the relevance of compensatory competence as a core component of foreign language education. This expanded article provides a deeper comparative analysis of Western, postSoviet, and East Asian linguodidactic traditions, highlighting how each conceptualizes compensation, strategic behaviour, and the learner's role. The study further examines Uzbek and CIS scholarship to establish a local theoretical foundation. A revised fourcomponent framework is proposed, integrating strategic activity, sensitivity and reflection, strategic diversity, and pragmatic adequacy. The expanded analysis clarifies pedagogical implications for English teacher education in Uzbekistan, where future teachers must manage classroom interaction, mediate meaning, and respond flexibly to communicative difficulties.

Keywords: *compensatory competence; communication strategies; strategic competence; linguodidactics; EFL teacher education; Uzbekistan*

Introduction

The global spread of English has transformed the aims of foreign language education. Communicative success today depends not only on linguistic accuracy or lexical range but also on the ability to manage gaps, misunderstandings, and intercultural differences. In multilingual environments, speakers frequently interact with interlocutors who differ in linguistic background, proficiency, and communicative norms. Under such conditions, compensatory competence becomes essential for maintaining interaction and achieving communicative goals.

Compensatory competence is broadly defined as the ability to identify a communicative difficulty, select an appropriate strategy, and restore or maintain interaction despite insufficient linguistic or sociocultural resources. It includes circumlocution, approximation, paraphrase, simplification, clarification requests, selfrepair, nonverbal support, and adaptation of speech to the interlocutor's needs. Importantly, compensation is not a sign of linguistic weakness; it

reflects communicative flexibility and strategic awareness.

For Uzbekistan, the issue is particularly relevant. Future English teachers must manage classroom discourse, explain complex concepts, adapt speech to learners of different proficiency levels, and mediate meaning. These tasks require more than linguistic knowledge – they demand strategic behaviour, pragmatic sensitivity, and the ability to respond to unexpected communicative challenges.

This expanded article deepens the comparative analysis of linguodidactic traditions and strengthens the theoretical justification for an integrative framework tailored to Uzbek teacher education.

Methodology

The study employs a comparative conceptual review enriched with integrative synthesis. Sources were selected based on conceptual relevance and influence within their respective traditions. Western, postSoviet, and East Asian perspectives were analyzed through five dimensions: definition of compensation, communicative objectives, learner role, emphasized strategies, and pedagogical implications. Uzbek and CIS scholarship was incorporated to contextualize the proposed model.

The expanded version includes additional theoretical connections, more detailed interpretation of traditions, and extended pedagogical implications.

Western Perspectives: Compensation as Strategic Management

Western applied linguistics conceptualizes compensation through the evolution of strategic competence. Canale and Swain (1980) emphasized strategies used to overcome breakdowns, shifting focus from linguistic mastery to communicative effectiveness. Bachman (1990) described strategic competence as a regulatory mechanism linking goals with available resources.

Dörnyei and Scott (1997) systematized communication strategies, distinguishing direct, interactional, and indirect strategies. Western scholarship highlights learner autonomy, negotiation of meaning, and realtime problem solving. This tradition's strength lies in its dynamic view of communication and its recognition of learner agency.

However, the expanded analysis notes a limitation: strategic behaviour does not always develop spontaneously. Learners may rely on narrow repertoires or avoid complex content. For teacher education, explicit modelling and reflective practice are essential.

PostSoviet Perspectives: Compensation as a Systematic Competence

The postSoviet tradition treats compensatory competence as a deliberately formed component of communicative competence. Bim (2011), Safonova (1996), and Solovova (2002) emphasize structured development, staged formation of skills, and explicit instruction.

This tradition distinguishes linguistic, extralinguistic, and sociocultural compensation. Strategies include synonymic substitution, descriptive definition, contextual inference, gesture, and culturally accessible explanation.

The expanded analysis highlights the methodological strength of this tradition: systematization, sequencing, and assessability. For teacher education, this provides a clear pedagogical foundation. The risk lies in excessive regulation; therefore, flexibility must be preserved.

Local and CIS Foundations

Uzbek linguodidactics provides important conceptual resources. Jalolov (2012) discusses language experience, inference, and sensitivity – key elements of compensation. Sattarov (2003) connects compensatory competence with methodological preparation of teachers. Safarov (2008) contributes pragmatic interpretation, emphasizing communicative intention and speech acts.

Makhkamova's work on intercultural competence and pedagogical discourse (2010; 2019) supports the view that compensation involves adapting language to context and overcoming sociocultural interference.

CIS scholarship (Papikyan, 2011; Goranskaya, 2011) further examines compensatory competence as a structured ability relevant to professional communication. The

expanded section integrates these perspectives into a unified theoretical basis for Uzbekistan.

East Asian Perspectives: Context, Agency, and Affect

East Asian EFL research emphasizes contextual and affective factors. Oxford (1990) influenced early strategy research, while Gao (2010) demonstrated that strategy use is mediated by identity, institutional conditions, and examinations.

Nakatani (2006) developed the Oral Communication Strategy Inventory, highlighting socialaffective strategies, negotiation, and message reduction. Takeuchi (2003) showed that strategy preferences depend on learning context.

The expanded analysis stresses that strategic behaviour is socially situated. Anxiety, face concerns, and classroom hierarchy influence whether learners activate strategies. For teacher education, psychological safety is essential.

Comparative Analysis

The traditions converge in recognizing the need for compensatory resources but differ in emphasis: autonomy (Western), systematicity (postSoviet), and context sensitivity (East Asian). The expanded comparison clarifies that compensation is cognitive, linguistic, interactional, sociocultural, and affective.

An integrative approach is necessary for Uzbekistan, where teacher education requires both systematic instruction and flexible, contextaware strategy use.

Compensatory Competence in ELF, Mediation, and Digital Contexts

English as a lingua franca (ELF) foregrounds negotiation, accommodation, and collaborative meaningmaking (Seidlhofer, 2011). The CEFR Companion Volume (2020) expands descriptors for mediation and plurilingual competence, aligning with compensatory behaviour.

Digital tools support language users but cannot replace strategic thinking. Teachers must balance technological assistance with unaided compensatory practice. The expanded section adds examples of classroom mediation and digitalage challenges.

Integrative Framework for Uzbekistan

The revised framework conceptualizes compensatory competence through four components:

1. **Strategic Activity.** Ability to recognize a difficulty and initiate an appropriate response.
2. **Sensitivity and Reflection.** Awareness of interlocutor needs, cultural cues, and pragmatic appropriateness.
3. **Strategic Diversity.** Use of varied verbal, nonverbal, linguistic, and sociocultural strategies.
4. **Pragmatic Adequacy.** Ensuring that compensation preserves meaning, intention, and interpersonal harmony. The expanded version includes detailed pedagogical recommendations for teacher education programs.

Conclusion

Compensatory competence is essential for future English teachers in Uzbekistan. The expanded comparative analysis demonstrates that Western, postSoviet, and East Asian traditions offer complementary insights. The proposed framework integrates these perspectives and provides a foundation for systematic, contextsensitive development of compensatory competence in teacher education.

For English teacher education in Uzbekistan, these insights can be integrated into a four-component framework consisting of strategic activity, sensitivity and reflection, strategic diversity, and pragmatic adequacy. Such a framework can inform curriculum design, classroom tasks, and assessment. Its central principle is that successful communication should be evaluated not only by the absence of errors but also by the learner's ability to overcome difficulties appropriately and achieve a communicative purpose. The next stage of research should move from conceptual synthesis to empirical validation. Intervention studies can examine how explicit strategy instruction influences speaking performance, mediation, language anxiety, and classroom communication among first- and second-year pre-service English teachers.

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submitted 23.08.2026;
accepted for publication 07.09.2026;
published 30.09.2026
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Contact: science_7777@mail.ru

European Journal of Education and Applied Psychology 2026, No 3
ISSN 2310-5704
PREMIER Publishing
ppublishing.org

Section 3. General psychology

DOI:10.29013/EJEAP-26-3-23-28

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PSYCHOLOGICAL RESILIENCE DURING MAJOR LIFE TRANSITIONS: ADAPTATION MECHANISMS AND THE CEAM METHOD

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Cite: *Chaika S. (2026). Psychological Resilience During Major Life Transitions: Adaptation Mechanisms and the Ceam Method. European Journal of Education and Applied Psychology 2026, No 3.* https://doi.org/10.29013/EJEAP-26-3-23-28

Abstract

Major life transitions such as immigration, motherhood, divorce, professional change, relocation, and changes in social roles may significantly affect emotional stability, identity, and psychological well-being. Adaptation to such transitions requires not only coping with stress but also the reorganization of emotional responses, personal meanings, and established patterns of behavior.

This article examines key mechanisms of psychological resilience during significant life transitions, including emotional regulation, cognitive appraisal, social support, and identity transformation. Particular attention is given to the Chaika Emotional Adaptation Method (CEAM), previously introduced by the author as a structured approach to emotional adaptation during crisis-related life changes. CEAM conceptualizes adaptation through four interconnected processes: conscious recognition of emotional experience, emotional processing, adaptive reconstruction, and meaning integration.

The article considers CEAM in relation to established theories of stress, resilience, and identity development and discusses its potential application in psychological consulting. CEAM is presented as a practice-oriented conceptual method. Further empirical research is required to evaluate its components and effectiveness.

Keywords: *psychological resilience, emotional adaptation, life transitions, identity transformation, emotional regulation, psychological adaptation, CEAM, Chaika Emotional Adaptation Method*

Introduction

Major life transitions represent periods in which familiar psychological and social structures are disrupted and an individual must adapt to new circumstances. Immigration, motherhood, divorce, professional transformation, relocation, and changes in family or social roles can simultaneously affect emotional stability, identity, relationships, and everyday functioning.

Life changes requiring substantial readjustment have long been associated with psychological stress. Holmes and Rahe (Holmes, T. H., & Rahe, R. H., 1967) demonstrated that major life events may create significant adaptive demands. However, the psychological impact of an event cannot be explained exclusively by the event itself. According to Lazarus and Folkman's transactional model of stress (Lazarus, R. S., & Folkman, S., 1984), individual responses depend substantially on cognitive appraisal: how a person interprets a situation and evaluates available resources for coping with it.

Major transitions may therefore produce different psychological responses. The same event may be experienced as loss, threat, opportunity, or a combination of these meanings.

Identity is also an important component of adaptation. Erikson (Erikson, E. H., 1968) described identity as a developing psychological structure connected with an individual's understanding of self and social roles. When significant circumstances and social roles change, previously stable aspects of identity may also require reconsideration.

In previous research, Chaika (Chaika, S., 2026) examined emotional adaptation and identity transformation among women during immigration, describing migration as a process that may involve psychological reorganization extending beyond geographical relocation. Disruption of familiar cultural, professional, and social structures may require an individual to reconsider established roles and rebuild a sense of stability within a new environment. artile.pdf

The purpose of the present article is to examine the mechanisms supporting psychological resilience during major life transitions and to further develop the theoretical interpretation of the Chaika Emotional Adaptation Method (CEAM) previously described by the author in the context of crisis-related life changes (Chaika, S. A., 2026).

Psychological Resilience During Life Transitions

Psychological resilience can be understood as the capacity to maintain or restore adaptive functioning under conditions of significant stress or adversity. Resilience does not necessarily imply the absence of negative emotions. Anxiety, sadness, uncertainty, anger, or temporary emotional instability may represent understandable responses to substantial life changes.

Bonanno (Bonanno, G. A., 2004) emphasized that individuals may demonstrate different psychological trajectories following highly adverse experiences and distinguished resilience from a prolonged process of recovery. This perspective suggests that resilience should not be viewed simply as an absence of distress but as a dynamic pattern of adaptation.

Several psychological mechanisms appear particularly relevant during major life transitions.

Emotional Regulation

Emotional regulation allows an individual to recognize and manage emotional reactions without simply suppressing them.

Major transitions frequently involve contradictory emotions. Immigration, for example, may simultaneously produce hope and loneliness. Motherhood may combine attachment and fulfillment with exhaustion and uncertainty. Professional transformation may create both new opportunities and fear of instability.

Recognition and regulation of these experiences can support adaptation by allowing the individual to respond to changing circumstances without being completely governed by immediate emotional reactions.

Cognitive Appraisal

The meaning assigned to a life event substantially influences the psychological response to it.

Lazarus and Folkman (Lazarus, R. S., & Folkman, S., 1984) proposed that stress depends partly on an individual's appraisal of environmental demands and available coping resources. Consequently, psychological adaptation may involve a gradual reinterpretation of the transition and development of new strategies corresponding to changed circumstances.

An experience initially perceived primarily as loss may eventually acquire additional meanings connected with autonomy, personal development, new roles, or changes in life priorities.

Social Support

Social support represents another important resource during periods of significant change. Research has associated supportive interpersonal relationships with resilience under conditions of stress (Ozbay, F., Johnson, D. C., Dimoulas, E., Morgan, C. A. III, Charney, D., & Southwick, S., 2007).

However, life transitions may themselves disrupt established support systems. Immigration may physically separate individuals from relatives and friends. Divorce can change social networks. Motherhood can alter patterns of social interaction, while professional change may remove familiar colleagues and sources of recognition.

Adaptation may therefore require not only receiving support but also rebuilding a social environment appropriate to new circumstances.

Identity Transformation

Major transitions can also influence the individual's understanding of self.

Professional status, family structure, cultural environment, relationships, and social roles often form important elements of personal identity. When these structures change, a discrepancy may emerge between the person's previous understanding of self and current circumstances.

Adaptation therefore may involve not simply restoration of previous functioning but the integration of new experiences and roles into an evolving identity.

The Chaika Emotional Adaptation Method (CEAM)

The Chaika Emotional Adaptation Method (CEAM) was previously presented by Chaika (Chaika, S. A., 2026) as a practical method of emotional adaptation intended for work with significant life changes and identity crises.

The published description of CEAM conceptualizes adaptation through four interconnected processes:

– conscious recognition → emotional processing → adaptive reconstruction → → meaning integration.

The method is based on the premise that adaptation after a major life transition does not necessarily mean returning to the psychological state that existed before the transition.

Some life experiences substantially alter external circumstances and social roles. Immigration changes a person's social and cultural environment. Motherhood introduces a new role and responsibilities. Divorce may reorganize family relationships and expectations. Professional crisis may require reconsideration of established professional identity.

In such circumstances, adaptation involves integration of change rather than simple restoration of the past.

Conscious Recognition

The first component of CEAM involves conscious recognition of emotional experience.

During significant life changes, individuals may experience anxiety, grief, anger, guilt, uncertainty, emotional exhaustion, or loss of stability. Within the CEAM framework, the initial task is not necessarily to eliminate these reactions but to recognize them and identify their relationship to the life transition.

Conscious recognition allows emotional experience to become an object of reflection rather than remaining an undifferentiated reaction to stress.

Emotional Processing

The second component involves emotional processing.

After emotional reactions have been identified, attention can shift toward understanding the psychological meaning associated with them. This may include recognition of perceived losses, fears, unmet expectations, conflicts, or changes in personal needs.

Emotional processing is therefore connected with the development of a more organized relationship with difficult experiences. Instead of relying primarily on avoidance or suppression, the individual begins to interpret emotional responses within the broader context of the transition.

Adaptive Reconstruction

The third component is adaptive reconstruction.

Significant transitions may make previous strategies, routines, or social roles less effective. Adaptation consequently requires

the development of patterns of behavior that correspond to current circumstances.

Adaptive reconstruction may include establishing new routines, reconsidering personal boundaries, rebuilding social support, changing coping strategies, redefining professional goals, or integrating new family and social roles.

The central question shifts from "How can I return to the way things were?" toward "How can I function effectively within the circumstances that exist now?"

Meaning Integration

The fourth component of CEAM is meaning integration.

Major life changes frequently influence the way individuals interpret their personal history, current identity, and future direction. Experiences initially perceived primarily as disruption may gradually become integrated into a broader life narrative.

Meaning integration does not require assigning a positive meaning to every difficult experience. Instead, it involves developing a coherent understanding of how the transition relates to personal values, identity, decisions, and future goals.

In this way, the experience becomes integrated into the individual's psychological narrative rather than remaining an isolated period of disruption.

CEAM can therefore be represented as:

Life Transition → Conscious Recognition → Emotional Processing → Adaptive Reconstruction → Meaning Integration

These components should not necessarily be understood as a rigid linear sequence. Individuals may move between them repeatedly as circumstances, emotional reactions, and personal interpretations change.

CEAM and Psychological Resilience

CEAM approaches psychological resilience as a dynamic process of adaptation rather than exclusively as a stable personal characteristic.

This perspective is consistent with research demonstrating substantial variation in individual responses to adversity (Bonanno, G.A., 2004). Adaptation may depend on interactions among emotional regulation, cognitive appraisal, social resources, coping strategies, and changing environmental conditions.

CEAM places particular emphasis on the relationship between emotional adaptation and identity transformation.

An individual may achieve partial emotional stabilization while continuing to experience uncertainty because a previous understanding of self no longer corresponds to current circumstances. Emotional regulation alone may therefore be insufficient when a transition has substantially altered the individual's social roles or personal identity.

For this reason, the CEAM framework extends from recognition and processing of emotional experience toward adaptive reconstruction and meaning integration.

This principle is also consistent with the author's previous work on women's experiences of immigration, in which emotional adaptation was considered together with changes in identity and social belonging (Chaika, S., 2026) artile.pdf

CEAM may therefore be particularly relevant to transitions involving substantial changes in identity and social roles, including immigration, motherhood, divorce, relocation, and professional transformation.

Practical Application of CEAM

In psychological consulting, the CEAM framework may provide a structured way to organize work with individuals experiencing major nonclinical life transitions.

At the stage of conscious recognition, attention is directed toward identifying what has changed and which emotional reactions are associated with those changes.

During emotional processing, the individual explores the psychological meaning of these reactions and their relationship to losses, expectations, needs, or perceived threats.

During adaptive reconstruction, the focus moves toward the present circumstances: which previous strategies remain effective, which need to change, and which new resources, relationships, routines, or behaviors may be required.

Finally, meaning integration involves connecting the transition with the individual's evolving understanding of identity, personal values, and future direction.

The framework therefore combines immediate emotional adaptation with longer-term reconstruction of functioning and identity.

At its current stage of development, CEAM should be considered a conceptual and practice-oriented method rather than an empirically validated clinical intervention. It is not intended to replace clinical assessment or evidence-based treatment when severe or persistent mental-health symptoms are present.

Discussion

The theoretical analysis presented in this article suggests that psychological adaptation to major life transitions extends beyond reduction of immediate stress.

Significant changes may simultaneously affect emotional regulation, perceived control, interpersonal relationships, established behavioral strategies, personal meaning, and identity. Psychological resilience therefore emerges from the interaction of several adaptive mechanisms rather than from a single characteristic.

CEAM organizes this process through four interconnected components: conscious recognition, emotional processing, adaptive reconstruction, and meaning integration.

An important feature of the method is its emphasis on the idea that psychological adaptation does not always require restoration of a previous state. When life circumstances have changed substantially, effective adaptation may instead require the development of new psychological and behavioral structures corresponding to the individual's current reality.

The present article further develops the conceptual interpretation of CEAM while maintaining continuity with its previously published description (Chaika, S. A., 2026).

However, the theoretical coherence of a method does not itself establish its empirical effectiveness. Further research is required to operationalize the four CEAM components and examine their relationships with established measures of resilience, perceived stress, emotional regulation, psychological well-being, and identity functioning.

Future studies could also evaluate CEAM in specific populations experiencing major life transitions, including immigrant women, mothers undergoing role transitions, individuals experiencing divorce, and people undergoing significant professional change.

Conclusion

Major life transitions can affect emotional stability, social relationships, established behavioral patterns, personal meaning, and identity. Psychological adaptation to these experiences therefore involves more than simply reducing stress.

Existing psychological research emphasizes the importance of cognitive appraisal, emotional regulation, social support, resilience, and identity processes in adaptation to significant change.

The Chaika Emotional Adaptation Method (CEAM) integrates these processes within a structured framework consisting of conscious recognition, emotional processing, adaptive reconstruction, and meaning integration.

The central principle of CEAM is that adaptation does not necessarily mean returning to a previous psychological state. When circumstances and social roles have substantially changed, adaptation may require integrating those changes into a coherent and sustainable understanding of self.

CEAM therefore provides a conceptual and practice-oriented framework for examining emotional adaptation during major life transitions. Further empirical research is needed to evaluate its components, effectiveness, and potential applications within psychological consulting.

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submitted 15.09.2026;
accepted for publication 29.09.2026;
published 30.09.2026
© Chaika S.
Contact: tomalana14@gmail.com

European Journal of Education and Applied Psychology 2026, No 3
ISSN 2310-5704
PREMIER Publishing
ppublishing.org

Section 4. Psychological aspects of historical events

DOI:10.29013/EJEAP-26-3-29-31

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ENERGY SECURITY AS A CATALYST FOR GEOPOLITICAL, EDUCATIONAL, AND PSYCHOLOGICAL COOPERATION: THE EU–AZERBAIJAN STRATEGIC PARTNERSHIP IN THE SOUTH CAUCASUS

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Cite: *Hajiyeva Kh.Z. (2026). Energy Security as a Catalyst for Geopolitical, Educational, and Psychological Cooperation: The EU–Azerbaijan Strategic Partnership in the South Caucasus. European Journal of Education and Applied Psychology 2026, No 3.* https://doi.org/10.29013/EJEAP-26-3-29-31

Abstract

This article examines the European Union's (EU) energy security policy with a focus on its strategic partnership with Azerbaijan in the South Caucasus. The EU's limited internal energy reserves (2% of global gas, 4% of oil) necessitate supply diversification, making the Caspian region a priority. Azerbaijan, with its substantial hydrocarbon resources and geographical position, has emerged as a key producer and transit hub. The study traces the evolution of EU-Azerbaijan energy cooperation from the early 2000 s through initiatives like the Energy Charter Treaty, European Neighborhood Policy, Baku Initiative, and Black Sea Synergy. regional stability, and broader educational and strategic partnerships in the Eurasian corridor.

Keywords: *Energy security, European Union, Azerbaijan, South Caucasus, Southern Gas Corridor, geopolitical cooperation, educational partnership, psychological stability*

Introduction

In the contemporary global order, energy security has emerged as a critical dimension of national security, closely interlinked with economic, political, environmental, and military considerations. From a psychological perspective, energy security also influences collective identity, social trust, and public perception of state stability, as populations tend to correlate access to reliable energy with national resilience and personal well-being. Defined broadly, energy security involves the uninterrupted availability of energy sources at an affordable price and the capacity of states to withstand disruptions in energy supply due to internal or external factors. As

energy demand increases worldwide, securing stable and diversified energy supplies has become a cornerstone for sustainable development and geopolitical stability.

Materials and Methods

This research is based on a qualitative methodology that combines content analysis of official documents, policy papers, academic literature, and energy cooperation agreements between the European Union and South Caucasus states, particularly Azerbaijan. The study adopts an interdisciplinary approach that encompasses political science, international relations, energy economics, psychology, and educational studies to evaluate the strategic role of Azerbaijan in the EU's energy security framework.

Results and Discussion

The findings of this study underscore the critical role Azerbaijan plays in the European Union's pursuit of energy diversification and geopolitical balance. Unlike many of its regional neighbors, Azerbaijan has adopted a proactive approach to integrating into Western energy frameworks, as demonstrated by its participation in initiatives such as the Energy Charter Treaty, the Southern Gas Corridor, and the Baku Initiative. These efforts reflect the country's strategic vision of leveraging its energy resources not only for economic development but also for political positioning on the international stage.

Following the "Baku initiative", the European Commission proposed a new regional cooperation initiative called "Black Sea Synergy" in April 2007, which included Bulgaria, Greece, Turkey, Moldova, Romania, Russia, Ukraine, Azerbaijan, Georgia and Armenia. Within the framework of "Black Sea Synergy", cooperation in energy was a key priority – an energy security dialogue aimed at adapting to the legal framework of the Black Sea countries, focused on production, transport, and transit of energy resources on the basis of EU rights. The presence of various initiatives in the Black Sea and Caspian region shows how important energy security is for European countries. As the South Caucasus analyst Tarkhan Murave showed: "Caspian oil and the transit routes of the region are attractive. The Caucasus creates a Euro-Asian energy corridor between the Black Sea and the Caspian Sea" (Tarkan Mouravi, 2007).

European Commission Projects

In February 2002, the European Commission proposed the "Nabucco" project to strengthen Europe's energy security, envisaging Iraq, Iran and Middle Eastern countries as the main gas suppliers. However, the tense military-political situation in Iraq and strained relations with the United States due to Iran's nuclear program hindered those countries from acting as gas suppliers. Financial and technical problems delayed the realization of the project. The Russia-Ukraine "gas crisis" that began in 2009 stopped Russian gas exports to Europe, increasing the relevance of the "Nabucco" project. However, the project was not received unambiguously, and the presence of alternatives ("South Stream" and "North Stream") prevented its realization.

Rejecting Nabucco, Europe proposed a new gas pipeline option in May 2012 called Nabucco West. On January 13, 2011, President Ilham Aliyev and European Commission Chairman Jose Manuel Barroso signed the "Joint Declaration on the Southern Gas Corridor" in Baku (Mardanov, 2006). On June 26, 2012, an important final agreement was signed between Turkey and Azerbaijan on energy security in Istanbul, according to which 6 billion cubic meters of gas from "Shah Deniz-2" bought by Turkey was given the right to sell (re-export) to third countries, while 10 billion cubic meters would be exported to Europe (Masimov, 2018).

Transport relations are another factor determining cooperation between Azerbaijan and Georgia. The "Baku – Tbilisi – Kars" railway project, founded on February 7, 2007, enables direct access of cargo and passengers to Europe through Azerbaijan, Georgia and Turkey. President Ilham Aliyev stated at its opening on October 30, 2017: "Baku – Tbilisi – Kars means the restoration of a part of the historical silk road, and it will be used by China, Kazakhstan, Central Asia, Azerbaijan, Georgia, Turkey, and European countries. Azerbaijan is an active participant in both projects and reveals its financial resources".

Psychological and Educational Dimensions

Beyond geopolitical and economic dimensions, the EU-Azerbaijan energy partnership has significant psychological and educational implications. The perception of being part of a major international project like the Southern Gas Corridor enhances national self-esteem and collective identity among Azerbaijani citizens. Energy diplomacy has become a source of pride and a symbol of the country's sovereignty and international recognition. This psychological effect is particularly important for a post-Soviet state seeking to establish its place in the global community.

Conclusion

The analysis demonstrates that Azerbaijan has become a key player in the European Union's strategy for achieving energy diversification and ensuring long-term energy security. Through its vast hydrocarbon resources, geostrategic location, and political willingness to cooperate with European institutions, Azerbaijan has successfully positioned itself as a reliable energy partner. Its role as both a producer and a critical transit hub for Caspian energy resources contributes directly to the EU's efforts to reduce dependency on Russian gas and stabilize energy flows across the continent.

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submitted 06.07.2026;
accepted for publication 20.07.2026;
published 30.09.2026
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European Journal of Education and Applied Psychology 2026, No 3
ISSN 2310-5704

PREMIER Publishing
ppublishing.org

Section 5. Public education and pedagogy in selected countries

DOI:10.29013/EJEAP-26-3-32-35

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TOURISM AS A DRIVER OF SOCIO-ECONOMIC WELFARE IN AZERBAIJAN: MACROECONOMIC AND EMPLOYMENT CHANNELS WITH EDUCATIONAL AND PSYCHOSOCIAL DIMENSIONS

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Cite: *Farmayilov A.H. (2026). Tourism as a Driver of Socio-Economic Welfare in Azerbaijan: Macroeconomic and Employment Channels With Educational and Psychosocial Dimensions. European Journal of Education and Applied Psychology 2026, No 3.* https://doi.org/10.29013/EJEAP-26-3-32-35

Abstract

This study examines the strategic role of tourism as a catalyst for economic diversification and socio-economic welfare enhancement in the Republic of Azerbaijan, with a particular focus on its educational and psychosocial implications. Historically dependent on fossil fuels, Azerbaijan has increasingly prioritised the non-oil sector, within which tourism has emerged as a key driver of regional development, employment generation, and poverty alleviation. Drawing on empirical data from the State Statistical Committee of the Republic of Azerbaijan and international organisations, this paper analyses the macroeconomic transmission channels through which tourism expenditures translate into improved household welfare. The research demonstrates that tourism possesses a high employment multiplier, directly benefiting vulnerable labour groups, including rural youth and women. Beyond economic indicators, the study explores how tourism-related employment and entrepreneurship foster skill development, lifelong learning, community cohesion, and psychological well-being. By integrating educational and psychosocial perspectives, this paper contributes to a more holistic understanding of tourism's role in sustainable development.
Keywords: *tourism development, social welfare, non-oil sector, economic diversification, employment multiplier, education, psychosocial well-being, Azerbaijan*

Introduction

Social welfare is a multidimensional construct that extends beyond material prosperity to include access to quality education, meaningful employment, social inclusion, and psychological security. For transition economies heavily dependent on volatile commodity markets, achieving sustainable

welfare requires structural diversification. In Azerbaijan, oil and natural gas have traditionally dominated GDP and state revenues. However, global energy price volatility and environmental concerns have accelerated the government's strategic shift towards non-oil sectors. Among these, tourism has gained prominence as a labour-intensive, geographically dispersed industry capable of generating inclusive growth. Its unique characteristic lies in its capacity to channel revenues from urban and international centres into remote rural areas, thereby reducing regional disparities and fostering local entrepreneurship. Importantly, tourism development also creates opportunities for vocational training, adult education, and community-based learning, which in turn enhance human capital and psychosocial resilience. This paper argues that tourism's contribution to welfare is not merely economic but also deeply educational and social, making it an indispensable tool for holistic national development.

Literature Review and Theoretical Framework

The theoretical foundation of this study rests on the Tourism-Led Growth Hypothesis (TLGH), which posits that tourism serves as a significant engine of economic expansion through foreign exchange earnings, investment attraction, infrastructure development, and positive spillovers to other sectors (Khalafova & Ismayilov, 2024). In developing and transition economies, scholars emphasise that tourism's benefits extend beyond macroeconomic aggregates to directly influence household welfare via income redistribution and poverty reduction. The United Nations World Tourism Organization (UNWTO) highlights the multiplier effect, whereby tourist expenditures generate successive rounds of income across local supply chains (Klimov, 2024).

Recent literature on the Azerbaijani economy underscores the need for sectors that can absorb surplus rural labour, where agriculture remains the primary but often low-yield source of income. Studies also point to the potential of ecotourism, cultural tourism, and health tourism in regions such as Guba, Gabala, Shaki, and Naftalan to promote balanced regional development (Almasov & Orujov, 2025). However, a notable gap exists in the integration of educational and psychosocial dimensions into tourism-welfare analysis. This paper addresses this gap by examining how tourism-related activities contribute to skill acquisition, informal learning, social capital formation, and psychological empowerment, particularly among marginalised groups.

Research Methodology

This study employs an integrated analytical framework combining quantitative data analysis with qualitative policy assessment. The quantitative component uses secondary macroeconomic indicators from the State Statistical Committee of Azerbaijan, the Ministry of Economy, the World Bank, and the World Travel and Tourism Council (WTTC). Key variables include tourism's share in non-oil GDP, inbound tourist arrivals and expenditure patterns, employment figures in hospitality and related sectors, and regional socio-economic indicators. To contextualise these trends, a qualitative policy analysis is conducted on the "Strategic Roadmap for the Development of Specialised Tourism Industry in Azerbaijan" and the "State Programmes on Socio-Economic Development of Regions." Additionally, the study reviews educational and community development programmes linked to tourism initiatives, drawing on reports from local NGOs and international development agencies.

Prior to the 2020 global disruptions, Azerbaijan's tourism sector exhibited strong growth, driven by visa liberalisation, national branding, and major international events. Data through the mid-2020s indicate a robust recovery and renewed expansion. Tourism has regained its position as a critical pillar of non-oil GDP, contributing to foreign exchange diversification, currency stabilisation, and inflation mitigation. The multiplier effect is particularly pronounced in regional economies: each dollar spent by international tourists in regional hotels generates substantial income for local food suppliers, transport operators, agricultural cooperatives, and artisans. Regional household income data reveal that areas with developed tourism clusters experienced significantly higher disposable income growth compared to non-tourist regions over comparable periods.

Employment Multiplier and Inclusive Labour Participation

Tourism exhibits a high employment multiplier relative to capital-intensive industries. In Azerbaijan, this translates into job creation across a wide spectrum of skill levels, from unskilled hospitality staff to specialised tour guides and cultural interpreters. Critically, the sector has proven effective in integrating rural youth and women into formal employment. In rural areas where female labour force participation has traditionally been confined to low-paid agricultural work, the growth of hotels, guesthouses, and handicraft enterprises has provided sustainable income sources. This economic empowerment improves family welfare, increases investment in children's education, and elevates women's social status within their communities.

Tourism development inherently stimulates vocational training and lifelong learning. The sector demands competencies in foreign languages, customer service, digital marketing, cultural heritage management, and sustainable practices. In response, public and private stakeholders have initiated training programmes targeting local populations in tourist regions. These initiatives not only enhance employability but also foster entrepreneurial skills, enabling residents to establish family-run businesses such as bed-and-breakfasts, artisan workshops, and guided tour services. Moreover, tourism promotes intercultural exchange and informal education, broadening the worldview of local communities and strengthening social cohesion.

Psychosocial and Community Well-being

Beyond material benefits, tourism contributes to psychosocial welfare through several mechanisms. Employment in tourism often enhances self-esteem, personal agency, and social recognition, particularly among previously marginalised groups. Community-based tourism projects encourage collective action, shared decision-making, and pride in local cultural heritage, which strengthen social capital and resilience. Additionally, improved infrastructure – such as roads, communication networks, and public spaces – associated with tourism development enhances quality of life and reduces feelings of isolation in remote areas. However, it is important to acknowledge potential negative psychosocial effects, including seasonal employment insecurity and cultural commodification, which require careful policy management.

Conclusion

This study demonstrates that tourism is a powerful catalyst for enhancing the socio-economic welfare of Azerbaijani society, with effects that extend well beyond macroeconomic indicators. By generating employment, stimulating local entrepreneurship, and channelling resources into regions, tourism directly improves household incomes and living standards. Critically, its contributions to vocational education, skill development, and psychosocial well-being reinforce the sector's role in holistic national development. Through sustained investment in human capital, local enterprise support, and sustainable practices, Azerbaijan can fully realise tourism's potential as a driver of prosperity, social inclusion, and community well-being for all its citizens.

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submitted 30.06.2026;
accepted for publication 14.07.2026;
published 30.09.2026
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European Journal of Education and Applied Psychology 2026, No 3
ISSN 2310-5704
PREMIER Publishing
ppublishing.org

Section 6. Secondary school. Pedagogy of a comprehensive school

DOI:10.29013/EJEAP-26-3-36-43

PHYSICAL EDUCATION AND SPORT IN ALBANIAN UPPER-SECONDARY SCHOOLS: STUDENTS' PERCEPTIONS AND IMPLICATIONS FOR SCHOOL CURRICULUM 2030

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Cite: *Alpin Galo, Nada Kallciu. (2026). Physical Education and Sport in Albanian Upper-Secondary Schools: Students' Perceptions and Implications for School Curriculum 2030. European Journal of Education and Applied Psychology 2026, No 3.* https://doi.org/10.29013/EJEAP-26-3-36-43

Abstract

Physical education and sport are essential components of holistic education, supporting adolescents' physical, psychological, social, and cognitive development. This study examined upper-secondary students' perceptions of physical education and sport, their participation in physical activity, the influence of personal and family factors, and their expectations regarding school-based activities within the framework of School Curriculum 2030. A descriptive cross-sectional study was conducted among 206 students aged 15–18 years from three upper-secondary schools in Tirana, Albania. Data were collected through a structured questionnaire and analyzed using descriptive statistics and percentage distributions. More than 98% of students recognized sport as important for a healthy lifestyle, while approximately 50% considered the current amount of physical education sufficient for their well-being. However, approximately 80% reported that their physical activity was largely limited to school physical education lessons. Personal preferences were an important factor in participation (46.32%), while approximately 24% reported little or no family influence. Furthermore, 30.65% preferred different games and activities according to their interests. The findings reveal a gap between students' positive perceptions of physical activity and their actual participation outside school, highlighting the strategic role of schools in promoting accessible and inclusive physical activity. Strengthening physical education through student-centered activities, interdisciplinary learning, and school sport programs may contribute to a healthier, more active, and inclusive school environment within School Curriculum 2030.

Keywords: *physical education; sport; adolescents; physical activity; School Curriculum 2030; upper-secondary education; student well-being; Albania*

1. Introduction

Education is one of the principal mechanisms through which societies respond to social, cultural, technological, and economic change. The school system reflects the development of society while simultaneously contributing to the development of future generations. Consequently, curricula must continuously respond to changing educational, social, psychological, and health-related needs.

The Albanian pre-university education system has undergone substantial curricular transformation in recent decades. The development of School Curriculum 2030 provides an opportunity to reconsider not only what students learn, but also how learning is organized and how different curricular areas can contribute to students' holistic development.

Within this context, physical education and sport deserve particular attention. Physical activity contributes to several dimensions of child and adolescent development, including physical health, motor competence, psychological well-being, cognitive functioning, and social interaction. Evidence suggests that physical activity and physical fitness are associated with aspects of cognitive functioning and academic performance, although these relationships are complex and influenced by the type, duration, intensity, and context of activity (World Health Organization; Kantomaa M., Syväoja H., Sneck S., Jaakkola T., Pyhältö K., Tammelin T., 2018).

The school is one of the most important settings for promoting physical activity because it reaches almost all children and adolescents, including those who may have limited opportunities to participate in organized sport outside school. The World Health Organization recommends that children and adolescents engage in an average of at least 60 minutes of moderate-to-vigorous physical activity per day across the week, while emphasizing that physical activity may be accumulated through different forms of movement throughout daily life (World Health Organization) (World Health Organization).

International experiences provide important examples. The Finnish Schools on the Move approach demonstrates how physical activity can become part of the broader school culture rather than remaining restricted to formal physical education lessons (Kantomaa M., Syväoja H., Sneck S., Jaakkola T., Pyhältö K., Tammelin T., 2018). Such approaches emphasize movement during the school day, active breaks, and cooperation among members of the school community. The Finnish National Agency for Education has highlighted evidence concerning links between school-day physical activity, cognitive activity, classroom behavior, and factors supporting learning (Kantomaa M., Syväoja H., Sneck S., Jaakkola T., Pyhältö K., Tammelin T., 2018) (Opetushallitus).

Research has also investigated the integration of short physical activity sessions into academic lessons. Drollette et al. reported that acute moderate-intensity aerobic exercise could facilitate aspects of cognitive control, with particularly relevant effects among children with lower initial inhibitory-control capacity (Drollette E. S., Scudder M. R., Raine L. B., Moore R. D., Saliba B. J., Pontifex M. B., Hillman C. H., 2014). (PubMed) Similarly, Goh reported that active academic lessons increased physical activity and improved on-task classroom behavior (Goh T. L., 2017) (Taylor & Francis Online)

These findings do not suggest that physical activity should replace academic learning. Rather, they indicate that movement and academic learning may be complementary components of an effective educational environment. A systematic review and meta-analysis also found that classroom-based physical activity interventions can increase physical activity and may support academic-related outcomes (Watson A., Timperio A., Brown H., Best K., Hesketh K. D. 2017) (SpringerLink).

This perspective is particularly relevant to the development of School Curriculum 2030 in Albania. A competence-oriented curriculum can provide opportunities for students to apply theoretical knowledge through practical experiences and interdisciplinary activities.

Physical activity can be incorporated into subjects such as biology, physics, chemistry, psychology, mathematics, health education, and environmental studies. For example, heart rate can be measured before and after physical activity in biology; speed, distance, acceleration, and force can be examined through movement in physics; energy expenditure and metabolism can be discussed in chemistry; and stress, emotional regulation,

and social interaction can be explored through physical activity in psychology.

Adolescence is also a particularly important developmental period. Young people experience substantial physical, psychological, and social changes and increasingly seek autonomy and personal choice. Their attitudes toward physical activity may be influenced by family, peers, school, socioeconomic circumstances, and the availability of appropriate opportunities.

Therefore, students' own perceptions should be considered when designing educational policies and curricular reforms. The present study investigates the perceptions of Albanian upper-secondary students regarding physical education and sport and explores how these perceptions can inform the development of School Curriculum 2030.

2. Materials and Methods

A descriptive cross-sectional study was conducted to examine upper-secondary students' perceptions of physical education and sport, their participation in physical activity, factors influencing participation, and their expectations regarding school-based physical activity.The study included **206 students aged 15–18 years** attending three general upper-secondary schools in Tirana, Albania: **"Ismail Qemali," "Petro Nini Luarasi," and "Qemal Stafa."** The sample included both female and male students from different age groups.

Data were collected using a structured questionnaire developed to address the main objectives of the study. The questionnaire focused on students' perceptions of the importance of sport and physical activity, participation inside and outside school, personal and family influences on participation, perceptions of physical education provision, and preferences regarding activities undertaken during physical education lessons. Complementary information was also obtained through discussions with physical education teachers concerning students' preferences, communication during lessons, group organization, self-assessment, and opportunities for interdisciplinary integration of physical activity.

3. Results

A total of **206 upper-secondary students aged 15–18 years** participated in the study. Female students represented **57.77%** of the sample, while male students represented **42.23%**. Regarding age, **25.73%** of participants were 15 years old, **30.58%** were 16, **35.92%** were 17, and **7.77%** were 18 years old.

Table 1. *Demographic characteristics of the participants*

Characteristic	Percentage (%)
Female	57.77
Male	42.23
15 years	25.73
16 years	30.58
17 years	35.92
18 years	7.77
Total	**100**

The results showed a very high level of awareness of the importance of sport for a healthy lifestyle. More than **98%** of students recognized sport and physical activity as important for maintaining a healthy lifestyle.

Table 2. *Students' perception of the importance of sport for a healthy lifestyle*

Response	%
Sport is important for a healthy lifestyle	>98
Other responses	<2
Total	**100**

Regarding the amount of physical education provided at school, approximately **50%** of respondents considered the current provision sufficient for their well-being and stress reduction. The remaining students indicated a need or preference for additional opportunities for physical activity.

Table 3. *Students' perception of the adequacy of physical education provision*

Response	%
Current amount is considered sufficient	≈50
Other responses	≈50
Total	**100**

One of the most important findings concerned students' participation in physical activity outside formal physical education lessons. Approximately **80%** of respondents reported that their participation in sport was mainly or only during school physical education lessons, while approximately **20%** reported participation in other physical activities or organized sport.

Table 4. *Participation in physical activity outside school physical education lessons*

Participation pattern	%
Participation mainly/only during school physical education	≈80
Participation in other physical activities or organized sport	≈20
Total	**100**

The analysis further demonstrated the importance of personal preferences in students' decisions regarding participation in sport. Specifically, **46.32%** of respondents indicated that their own interests and personal preferences were an important basis for their involvement in physical activity. Approximately **24%** reported little or no significant family influence on their choice of physical activities.

Table 5. *Personal and family factors associated with participation in sport*

Factor/response	%
Personal interests and preferences	46.32
Little or no family influence	≈24
Other responses	Not available
Total	**Not applicable**

The findings also indicated that family and socioeconomic circumstances may influence students' access to organized sport. Costs associated with sports clubs, equipment, transportation, and participation may represent barriers for some students. Consequently, school-based physical activity represents an important opportunity to provide more equitable access to sport and physical activity. Students were also asked about the types of activities they would prefer to undertake during physical education lessons. **30.65%** expressed a preference for different games and activities according to their interests.

Table 6. *Students' preferred activities during physical education lessons*

Preferred activity	%
Different games and activities according to students' interests	30.65
Other activities/responses	69.35*
Total	**100**

Complementary discussions with physical education teachers indicated that more than **60%** considered physical education to be among students' preferred subjects or activities. Teachers also emphasized the importance of communication and interaction during physical education lessons and identified smaller working groups and continuous self-assessment as potentially beneficial approaches.

Table 7. *Teachers' perceptions of students' preference for physical education*

Teachers' perception	%
Physical education considered a preferred subject/activity among students	>60
Other responses	<40
Total	**100**

The study also identified several areas in which physical activity could be integrated with other curricular subjects. Teachers proposed practical activities connecting movement with concepts in biology, physics, chemistry, and psychology.

Overall, the results demonstrate a strong positive perception of physical education and sport among Albanian upper-secondary students. More than 98% recognized their importance for a healthy lifestyle, whereas approximately 80% reported that their participation in sport was mainly or only during school physical education lessons. Personal interests emerged as an important factor

in sports engagement, while students also expressed a preference for more varied and enjoyable activities. The findings further indicate considerable potential for schools to expand opportunities for physical activity and to integrate movement-based learning across different curricular areas within the framework of School Curriculum 2030.

Table 8. *Examples of interdisciplinary integration of physical activity*

Subject	Curriculum topic	Example of integrated physical activity
Biology	Skeletal and muscular systems	Yoga, dance, movement-based exercises
Biology	Cardiovascular and respiratory systems	Measuring heart rate before and after exercise
Physics	Movement and force	Running, jumping, throwing, football
Physics	Speed and distance	Measuring speed and distance through movement
Chemistry	Metabolism	Exploring metabolic processes during exercise
Chemistry	Energy expenditure	Exploring energy expenditure during physical activity
Chemistry/ Health	Electrolytes and hydration	Monitoring hydration before and after exercise
Psychology	Stress and healthy behavior	Walking, exercise, yoga
Psychology	Well-being and social interaction	Group activities and outdoor activities

4. Discussion

The present study provides important insights into upper-secondary students' perceptions of physical education and sport in the Albanian school context. The most notable finding was the very high level of awareness regarding the importance of sport for a healthy lifestyle, with more than 98% of students expressing a positive perception. This finding is consistent with established evidence concerning the contribution of physical activity to physical health, mental well-being, cognitive functioning, and overall quality of life during childhood and adolescence (World Health Organization). The WHO recommends that children and adolescents engage in an average of at least 60 minutes of moderate-to-vigorous physical activity per day across the week, emphasizing that physical activity should form part of everyday life rather than remain limited to formal exercise sessions (World Health Organization) (World Health Organization).

Despite this highly positive perception, the present study identified an important gap between students' awareness of the value of physical activity and their actual participation. Approximately 80% of respondents reported that their participation in sport was mainly or only during school physical education lessons. This finding is important because participation in formal physical education lessons alone does not necessarily provide sufficient physical activity to meet international recommendations. The WHO emphasizes that all forms of movement contribute to overall physical activity and that greater amounts of physical activity provide additional health benefits (World Health Organization) (World Health Organization).

The finding that approximately 50% of students considered the current amount of physical education sufficient for their well-being and stress reduction is also relevant. Students appear to recognize the contribution of physical education to their well-being, while their responses concerning actual participation indicate that opportunities for physical activity outside formal lessons remain limited. This distinction is important for future curricular development: increasing awareness alone may not be sufficient; schools

should also create practical opportunities for students to be physically active on a regular basis.

Evidence from other educational systems supports this approach. The Finnish experience, particularly the Schools on the Move approach, demonstrates how physical activity can become part of the broader school culture through movement during the school day, active breaks, physical education, and cooperation among members of the school community (Kantomaa M., Syväoja H., Sneck S., Jaakkola T., Pyhältö K., Tammelin T., 2018). The Finnish National Agency for Education has summarized evidence linking school-day physical activity with cognitive activity, classroom behavior, concentration, and other factors that support learning (Kantomaa M., Syväoja H., Sneck S., Jaakkola T., Pyhältö K., Tammelin T., 2018). (Opetushallitus) Such approaches are particularly relevant to School Curriculum 2030 in Albania, where physical activity could be understood as a broader educational resource rather than only as a separate curricular subject.

The present findings also support the importance of student-centered physical education. Approximately 30.65% of respondents expressed a preference for different games and activities according to their interests. Furthermore, 46.32% indicated that personal interests and preferences were important in their participation in sport. These findings suggest that adolescents value autonomy, choice, enjoyment, and opportunities for social interaction. Providing students with greater opportunities to influence the selection of activities may contribute to increased engagement and motivation.

The importance of enjoyable and varied activities is particularly relevant during adolescence, when participation in physical activity may decline and sedentary behavior may increase. Consequently, physical education should not be limited to the development of technical sporting skills but should also help students develop positive attitudes toward lifelong physical activity. The findings of the present study suggest that games and recreational activities may provide useful mechanisms for increasing participation, particularly among students who are not involved in organized sport outside school.

The role of the family should also be considered. Approximately 24% of respondents reported little or no significant family influence on their choice of physical activities. At the same time, the broader information obtained during the study suggests that family circumstances and economic resources may influence access to organized sport. Participation in sports clubs may involve costs related to membership, equipment, transportation, and other expenses. In this context, school-based physical activity can contribute to greater equity and inclusion by providing opportunities for participation regardless of students' socioeconomic circumstances.

Another important implication concerns the potential relationship between physical activity and learning. The present study did not directly measure academic achievement or cognitive performance and therefore cannot establish a causal relationship between physical activity and academic outcomes. Nevertheless, previous research provides evidence that physical activity may be associated with cognitive processes and factors related to learning. Syväoja et al. reported associations between physical activity, sedentary behavior, and academic performance among Finnish children, while emphasizing the complexity of these relationships (Syväoja H. J., Kantomaa M. T., Ahonen T., Hakonen H., Kankaanpää A., Tammelin T. H., 2013). (PubMed) This is an important consideration for the Albanian context: physical activity should complement academic learning rather than be presented as a substitute for it.

Research on short physical activity sessions integrated into academic lessons provides additional support for the interdisciplinary approach proposed in this study. Drollette et al. demonstrated that a single session of moderate-intensity aerobic exercise could facilitate aspects of cognitive control, with particularly notable effects among children with lower initial inhibitory-control capacity (Drollette E. S., Scudder M. R., Raine L. B., Moore R. D., Saliba B. J., Pontifex M. B., Hillman C. H., 2014). (PubMed) Similarly, Goh reported that active academic lessons increased physical activity and improved on-task classroom behavior (Goh T. L., 2017). (Taylor & Francis Online) A systematic review and meta-analysis

by Watson et al. further identified positive effects of classroom-based physical activity interventions on physical activity and academic-related outcomes (Watson A., Timperio A., Brown H., Best K., Hesketh K. D., 2017) (SpringerLink)

These findings provide a theoretical basis for the interdisciplinary opportunities identified by teachers in the present study. Physical activity can be used to demonstrate cardiovascular and respiratory processes in biology, movement and force in physics, metabolism and energy expenditure in chemistry, and stress regulation and social interaction in psychology. Such activities may help students connect theoretical knowledge with practical experience. Importantly, however, interdisciplinary integration should be carefully planned so that it supports, rather than reduces, the educational objectives of both physical education and the academic subject involved.

The findings concerning teachers are also noteworthy. More than 60% of the teachers consulted considered physical education to be among students' preferred subjects or activities. Teachers also emphasized communication, smaller working groups, and continuous self-assessment. These observations reinforce the importance of creating a supportive and participatory learning environment in physical education. Smaller groups may provide greater opportunities for active participation, communication, peer interaction, and individualized feedback, while self-assessment may contribute to students' awareness of their own progress and personal responsibility for physical activity.

The potential role of physical activity is also relevant in the post-pandemic educational context. The COVID-19 pandemic disrupted school attendance, physical activity, social interaction, and established routines for children and adolescents. Although the present study was not designed to measure the direct effects of COVID-19 and therefore cannot establish causal relationships, the issues identified during the study, including passivity, reduced social interaction, withdrawal, conflicts, and decreased engagement with school, underline the importance of rebuilding active and socially supportive school environments.

From the perspective of School Curriculum 2030, the findings therefore support a broader conceptualization of physical education and sport. Physical education should not be viewed exclusively as a subject concerned with motor performance. It can contribute to health literacy, social competence, emotional well-being, self-regulation, cooperation, and the development of lifelong active lifestyles. The WHO guidelines similarly recognize physical activity as beneficial for mental and cognitive health in addition to physical health (World Health Organization). (World Health Organization)

4.1 Limitations

The present study has several limitations. First, the sample consisted of 206 students from only three upper-secondary schools in Tirana; therefore, the findings cannot automatically be generalized to all Albanian adolescents. Second, the study relied primarily on self-reported responses, which may be affected by recall and social-desirability bias. Third, the cross-sectional design does not permit causal conclusions regarding the relationships between physical activity, well-being, school engagement, or academic performance. Finally, the information obtained from teachers was complementary and was not analyzed using a separate qualitative methodology.

Future studies should include larger and more geographically diverse samples, objective measures of physical activity, and longitudinal or intervention-based designs. Further research should also examine differences according to sex, age, socioeconomic circumstances, and participation in organized sport.

5. Conclusion

The present study demonstrates that Albanian upper-secondary students have a very positive perception of the importance of physical education and sport, with more than 98% recognizing their contribution to a healthy lifestyle. However, the finding that approximately 80% of students participate mainly or only during school physical education lessons reveals a substantial gap between positive attitudes and actual participation in physical activity outside school.

Students' personal interests and preferences appear to play an important role in participation, while their preference for varied games and activities indicates the impor-

tance of enjoyment, autonomy, social interaction, and student-centered approaches in physical education.

The findings further demonstrate the potential of schools to provide accessible and inclusive opportunities for physical activity and to reduce barriers associated with participation outside school. Within School Curriculum 2030, physical education and sport should therefore be considered not as isolated curricular components, but as important contributors to students' physical, psychological, social, and educational development.

A stronger interdisciplinary approach, involving physical education alongside biology, physics, chemistry, psychology, health education, and other curricular areas, may create meaningful opportunities for students to connect theoretical knowledge with practical experience. Strengthening school sport programmes, student choice, active learning, and cooperation among teachers, families, and educational institutions may contribute to a healthier, more active, inclusive, and development-oriented school environment.

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submitted 08.08.2026;
accepted for publication 22.08.2026;
published 30.09.2026
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European Journal of Education and Applied Psychology 2026, No 3
ISSN 2310-5704

PREMIER Publishing
ppublishing.org

DOI:10.29013/EJEAP-26-3-44-49

DOUBLE COGNITIVE LOAD: HOW ENGLISH LANGUAGE PROFICIENCY SHAPES STUDENTS' ENGAGEMENT WITH 3D DYNAMIC GEOMETRY SOFTWARE

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Cite: *Sadigli F. (2026). Double Cognitive Load: How English Language Proficiency Shapes Students' Engagement with 3D Dynamic Geometry Software. European Journal of Education and Applied Psychology 2026, No 3.* https://doi.org/10.29013/EJEAP-26-3-44-49

Abstract

Three-dimensional (3D) dynamic geometry environments, such as GeoGebra 3D, are increasingly used to build spatial reasoning in secondary mathematics classrooms, yet these tools typically operate in English regardless of students' first language. This conceptual article examines how English proficiency, described through CEFR levels A2, B1, and B2, interacts with the cognitive demands of manipulating three-dimensional objects in ICT-based geometry environments. Drawing on Cognitive Load Theory, the conversational/academic language distinction, and research on the trainability of spatial skills, it develops the double cognitive load hypothesis: learners with lower English proficiency must simultaneously decode linguistic input and perform spatial reasoning, drawing on the same limited working-memory resources. No new data are reported; the article synthesizes the relevant literature, proposes scaffolding strategies, and closes with a design for the empirical study the hypothesis requires.

Keywords: cognitive load theory, CEFR, English language proficiency, 3D dynamic geometry software, spatial reasoning, instructional scaffolding

Introduction

Dynamic geometry environments (DGEs) that let students construct, rotate, and manipulate three-dimensional figures are now standard in technology-enhanced mathematics instruction. Software such as GeoGebra links algebraic and geometric representations so learners can watch a figure change as its defining relationships change (Hohenwarter & Jones, 2007), and accumulated research connects such manipulation to gains in conceptual understanding of geometry (Yohannes & Chen, 2023). Spatial reasoning is itself a trainable skill that responds to sustained visuospatial practice (National Research Council, 2006; Uttal et al., 2013), part of why manipulable software is considered pedagogically valuable rather than a mere visual aid.

These environments are almost always mediated by language, and that language is very often English, regardless of learners' first language: menus, prompts, and instructions are typically written in English even

where every student in the room is an English learner. Research on English-medium STEM instruction documents the resulting strain, with unfamiliar STEM-specific English hindering engagement even when the underlying content is within a learner's reach (Rafiq, Hashim, Yunus, & Pazilah, 2025). For a student whose English is still developing, a 3D geometry task is rarely purely spatial; it is also a reading and listening task.

Cognitive Load Theory and research on academic language proficiency are each mature literatures, but their intersection is underexamined: few studies ask what happens when finite working memory must be divided between decoding English instructional language and constructing a three-dimensional geometric schema. This article addresses that intersection through three questions: (1) how does English proficiency affect usability and navigation performance in 3D ICT geometry environments; (2) to what extent does language proficiency mediate the development of spatial reasoning during 3D dynamic geometry tasks; and (3) what scaffolding strategies can mitigate the cognitive load caused by language barriers in technology-enhanced geometry classrooms. Rather than reporting new data, the article builds a theoretical framework around these questions and proposes scaffolding strategies together with a design for the study they require.

Research Method

This article is a conceptual synthesis, not an empirical study: it reports no new data and integrates three literatures rarely read together. Sources were identified through targeted searches of education, psychology, and applied-linguistics databases using terms such as cognitive load theory, CEFR, dynamic geometry software, spatial reasoning, and instructional scaffolding, supplemented by citation tracking from key sources in each area, and prioritizing peer-reviewed work bearing directly on working memory, second-language academic proficiency, or three-dimensional spatial cognition. The literature is organized around the three research questions: working-memory and language sources build the theoretical framework, dynamic-geometry and English-medium STEM sources address the first two questions, and scaffolding and second-language pedagogy sources address the third. Because the aim is to justify a testable framework rather than to test it, the article closes with a Limitations section and a concrete design for the study the framework still requires.

Theoretical Framework

Cognitive Load Theory and the Double Cognitive Load Hypothesis

Cognitive Load Theory distinguishes three demands on working memory (Sweller, 1988; Sweller, Ayres, & Kalyuga, 2011): intrinsic load, from the material's inherent complexity and the interacting elements a learner must hold in mind; extraneous load, from how material is presented, which does nothing to advance learning; and germane load, the capacity left to build durable schemas. Because working memory is limited, the three compete for the same finite pool, and instructional design succeeds or fails largely on how well it manages that competition (Paas & van Merriënboer, 1994).

In a 3D dynamic geometry task, intrinsic load is set by the geometric relationships being manipulated. In an English-medium interface, a second, largely avoidable demand is layered on top: extraneous load from decoding menu labels and instructions not yet automatic for the learner. Sweller, Roussel, and Tricot (2022) make this case directly for second-language contexts: non-automatized language processing behaves like any other source of extraneous load. This is the mechanism behind the double cognitive load hypothesis proposed here – a student with lower English proficiency has less capacity left for the spatial reasoning the task was designed to teach, and less still for germane, schema-building processing (Mayer, 2009).

Language Proficiency as a Mediating Variable: CEFR and Academic Language Demands

CEFR levels A2, B1, and B2 offer a common way of describing what a learner can do with a language, from simple everyday exchanges toward independent, fluent use (Council of Europe, 2001, 2020), but the descriptors capture general communicative competence, not the specific register of geometry instruction. Cummins' (1979, 2000)

distinction between basic interpersonal communication and cognitive academic language proficiency is directly relevant: conversational fluency develops well before the ability to process dense academic language, and geometry instruction relies heavily on the latter. Phrases such as construct the locus of points equidistant from or reflect the solid across the given plane are syntactically dense and rarely met outside a mathematics classroom, so a learner comfortable in everyday English may still sit below the threshold needed to process this register without strain. Krashen's (1985) comprehensible input principle adds a constraint: input is processed most easily just above a learner's current level, yet a fixed English interface cannot adapt to where that level actually is.

Spatial Reasoning and Three-Dimensional Dynamic Geometry Environments

Spatial reasoning responds to training across ages and task types (National Research Council, 2006; Uttal et al., 2013), and dynamic geometry software is well placed to provide it: a learner manipulates an object directly and sees the geometric consequences in real time, rather than reasoning about a static picture (Hohenwarter & Jones, 2007), which is why DGEs are treated as more than illustrative aids (Yohannes & Chen, 2023). Yet this manipulation is rarely purely nonverbal – understanding what a task asks, which tool to select, and what a command will do to the object all depend on comprehending English instructional language first. Spatial reasoning and language comprehension are, in this sense, coupled at the point of interaction with the software, even though the two draw on partly distinguishable working-memory resources (Baddeley, 2003). How tightly they are actually bound together is the concern of the next section.

The Intersection of Language and Spatial Cognition in Technology-Enhanced Geometry

Language Proficiency, Usability, and Navigation Performance

Interface-language mismatches are known to slow task completion and increase errors, and STEM-specific findings point the same way: unfamiliar English task language reduces engagement with technology-based STEM modules independently of learners' grasp of the underlying content (Rafiq et al., 2025). In a 3D DGE, usability is not just about vocabulary; navigating the software also requires processing short, imperative, procedural language – drag, select, rotate an object about a given axis – a distinct but still acquired register. A usability gradient across CEFR levels is therefore a reasonable expectation: A2 learners would show longer completion times, more trial-and-error, and more help-seeking than B2 learners on an identical task. What the literature does not yet offer is direct evidence from studies that calibrate learners by CEFR level and measure usability specifically within 3D geometry software – the gap the first research question targets.

Does Language Proficiency Mediate Spatial Reasoning Development?

Two only partly compatible accounts link language proficiency to spatial reasoning gains from DGE use. On one, language comprehension acts as a gatekeeper: because tasks are introduced through verbal prompts, a learner who misreads an instruction – mistaking a reflection for a rotation – manipulates the wrong feature of the object, so what looks like a spatial reasoning error may really be a comprehension error, and measured spatial gains would then be confounded with language proficiency. On a second account, spatial and verbal processing draw on at least partly separate working-memory resources (Baddeley, 2003), and the dual-channel assumption behind multimedia learning holds that visual, dynamic representations can carry meaning with reduced reliance on text (Mayer, 2009); a well-designed DGE with deliberately low verbal load could then function as a comparatively language-light medium through which spatial schemas develop with only modest dependence on English proficiency. The evidence here does not resolve which account dominates, and the balance most plausibly depends on how verbally dense a given task or interface is – why the second research question asks to what extent language proficiency mediates spatial reasoning development, rather than posing a yes-or-no question.

Instructional Scaffolding Strategies

This section addresses the third research question directly. Scaffolding, in Wood, Bruner, and Ross's (1976) original sense, is temporary instructional support that lets a learner accomplish a task beyond current independent capacity, withdrawn as competence grows – the concept maps directly onto Vygotsky's (1978) zone of proximal development. Applied here, the goal is narrow: reduce language-driven extraneous load while leaving the intrinsic geometric challenge, and the germane processing it should produce, intact. The Sheltered Instruction Observation Protocol offers an established set of techniques for exactly this purpose (Echevarria, Vogt, & Short, 2017), and Gibbons' (2015) continuum from spoken-like, context-supported language toward denser written registers offers a principle for sequencing that support as proficiency grows. Table 1 maps sources of load in a 3D DGE task to corresponding strategies.

Table 1. *Scaffolding Strategies by Source of Cognitive Load*

Load source	Scaffolding strategy	Rationale
Extraneous: vocabulary	Pre-teach key terms with visual and bilingual glossaries	Reduces decoding cost before the task starts (Echevarria et al., 2017)
Extraneous: interface/ commands	Icon-supported menus, teacher modeling of each tool	Lowers procedural burden, keeps the task authentic (Gibbons, 2015)
Intrinsic: 3D complexity	Fade from partial constructions toward independent work	Manages rather than removes complexity (Sweller et al., 2011)
Germane: schema-building	Structured first-language reflection or paired discussion	Builds understanding without extra real-time load (Vygotsky, 1978)

These strategies are deliberately selective rather than maximal. Liu, Li, Yu, and Zhang (2022) found that multimodal input combining text, audio, images, and video did not outperform simpler input on a delayed vocabulary test – consistent with the redundancy caution in multimedia learning research, where too many simultaneous channels can itself become a source of extraneous load rather than removing one (Mayer, 2009). Scaffolds should match the specific load they address and fade as proficiency and software familiarity grow, rather than layer indiscriminately onto every task.

Implications and a Proposed Research Agenda

The framework above points to a specific empirical design: group learners by CEFR level, matching prior mathematics achievement so geometry background does not masquerade as a language effect, then have them complete equivalent 3D construction tasks in a DGE such as GeoGebra 3D. Usability (question 1) could be measured through task-completion time, error and help-request counts, and interaction logs; spatial reasoning gains (question 2) through the Mental Rotations Test (Vandenberg & Kuse, 1978), given before and after instruction with CEFR level as a moderator; and the effect of scaffolding (question 3) through a scaffolded condition built from Table 1 against an unscaffolded control, with subjective load measured via the NASA Task Load Index (Hart & Staveland, 1988). Such a study would require informed consent, institutional ethics approval, and care in reporting not to frame lower-proficiency learners in deficit terms.

Limitations

This article has methodological limits worth stating plainly. The double cognitive load hypothesis is a theoretical synthesis, not a tested finding, and no new data are reported here. It draws on evidence from adjacent populations, tasks, and software rather than from studies that combine CEFR-calibrated learner groups with 3D dynamic geometry environments specifically, since such studies remain rare; the discussion of questions 1 and 2 is accordingly a set of literature-grounded expectations, not established results, and the tension between the two accounts under question

2 is left unresolved by design. The scaffolding strategies in Table 1 follow from established theory but have not been evaluated together as a package. The research agenda above is intended to close these gaps directly.

Conclusion

This article has argued that English proficiency and three-dimensional spatial reasoning are not independent concerns in technology-enhanced geometry instruction but compete for the same limited working-memory capacity, a relationship termed here the double cognitive load hypothesis. Connecting Cognitive Load Theory, the CEFR and academic language literature, and dynamic geometry research explains why lower-proficiency learners may be disadvantaged in ICT-based geometry classrooms, and translates that argument into load-specific scaffolding strategies and a testable research design. As dynamic geometry software becomes routine in multilingual, English-as-a-foreign-language settings, treating language proficiency as a variable that shapes technology-enhanced spatial learning has direct consequences for how equitably these tools serve their students.

Funding. This research received no external funding.

Conflict of Interest. The author declares no conflict of interest.

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submitted 12.08.2026;
accepted for publication 26.08.2026;
published 30.09.2026
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European Journal of Education and Applied Psychology 2026, No 3
ISSN 2310-5704
PREMIER Publishing
ppublishing.org

Section 7. Specialized branches of pedagogy

DOI:10.29013/EJEAP-26-3-50-60

WOMEN'S LEADERSHIP IN MALE-CENTRIC ACADEMIC ENVIRONMENTS: AN ANALYSIS OF THE "MISMATCH MODEL" AND THE "QUEEN BEE" PHENOMENON

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Cite: *Allahverdiyeva U. Y. (2026). Women's Leadership in Male-Centric Academic Environments: An Analysis of the "Mismatch Model" and the "Queen Bee" Phenomenon. European Journal of Education and Applied Psychology 2026, No 3.* https://doi.org/10.29013/EJEAP-26-3-50-60

Abstract

This study examines women's leadership in male-centred academic environments through the mismatch model and the Queen Bee phenomenon. It investigates how gendered expectations of leadership, care responsibilities, appointment practices, and relationships among women shape perceptions of women's access to leadership positions in higher education. A mixed-methods design was employed, combining an anonymous online survey of 21 higher-education employees with descriptive analysis of eight five-point Likert items and thematic analysis of open-ended responses. The findings show that 71.4% of respondents perceived assertiveness, competitiveness, and dominance as important for advancement to leadership positions, while 57.1% identified family and care responsibilities as an informal barrier to women's progression. Gender-stratified exploratory analysis indicated that women, compared with men, reported significantly greater doubt toward formally qualified female candidates and a stronger perceived need to distance themselves from women's solidarity in order to succeed in male-centred academic hierarchies. Qualitative evidence further highlighted care responsibilities, gender stereotypes, unequal selection practices, and informal networks as relevant mechanisms. Importantly, reports of competition, distance, and gatekeeping among women leaders coexisted with reports of mentoring and active career support. The findings therefore do not support a deterministic interpretation of the Queen Bee phenomenon; rather, they suggest that women-to-women leadership relations are heterogeneous and shaped by organisational conditions. The study underscores the need for transparent appointment criteria, formal mentoring and sponsorship structures, and institutional policies that reduce the career penalties associated with care responsibilities. Given the small, non-probability sample, the results should be interpreted as exploratory and warrant replication in larger, institutionally diverse studies.

Keywords: *women's leadership; higher education; male-centred organisational culture; mismatch model; Queen Bee phenomenon; gendered career barriers; mentoring*

Women's Leadership in Male-Centric Academic Environments: An Analysis of the "Mismatch Model" and the "Queen Bee" Phenomenon

The representation of women in leadership positions within higher education institutions remains at a low level globally, constituting only one-fourth of the senior academic staff (Money, 2016). The artificial barriers hindering women's career progression are conceptualized in academic literature using the term "glass ceiling". This phenomenon is described as an invisible barrier preventing women from ascending to upper-level managerial roles (Abbas et al., 2021). Due to long-standing male dominance, the management culture in higher education is built upon "male-centric" norms, and this environment restricts women's leadership aspirations (Dunn et al., 2014). Male dominance creates a "hidden background identity" in the workplace, leading to the formation of an organizational culture based on hegemonic masculine values and the emergence of biased attitudes toward women.

In this context, the administration of educational institutions on a democratic basis aligned with the modern era necessitates a new critical approach toward existing managerial stereotypes (Mollayeva, 2024, p. 11). The humanization of management requires that developmental opportunities be equally accessible to every individual and that authority be distributed democratically among team members (Mollayeva, 2024, p. 14). Such a democratization process establishes the necessary theoretical foundation for softening the rigid, male-centric management norms within the academic environment.

Literature Review

At the macro level, the explanation of gender differences is provided through the socio-cultural theory proposed by Eagly and Johannesen-Schmidt (2001). According to this theory, gender differences stem from the historical gender-based division of labor in society. Biological factors – specifically women's childbearing capacity and men's larger physical size and strength – have catalyzed a functional division of labor in society. For instance, women's reproductive role led them to adopt more nurturing behaviors, while men's physical strength led to their participation in warfare or heavy labor. Consequently, this historically established division has led men to acquire higher status and power, while women have developed skills more oriented toward relationship management (Hyde, 2013).

How this historical division of labor is integrated into individuals' daily lives is explained by the cognitive social learning theory developed by Bush (2021). According to this theory, individuals' behavioral models are formed through the imitation of powerful or admired figures in their environment, as well as through mechanisms of reinforcement or punishment of specific behaviors. For example, children who observe the mother taking care of the children and household chores, while the father works to earn money and provide for the family, begin to imitate these roles. These differences are further reinforced by the social environment: when girls are praised for nurturing behaviors and boys are rewarded for being assertive rather than displaying emotion, these gender-based behaviors become entrenched in the individual's psychology.

The impact of these two factors on individuals' choices is reflected in the expectancy-value theory (Black, 2015). This approach demonstrates that two main factors play a crucial role in an individual's decision-making process: expectations regarding a specific task (the probability of success) and the value assigned to that activity (interest or importance). Social and cultural factors shape these expectations. For instance, outdated societal stereotypes regarding mathematical abilities can lower women's expectations of success in this field and their perceptions of their own capabilities, even in the absence of any real difference in ability (Hyde et al., 2019).

It is precisely due to these stereotypical societal expectations that women's confidence regarding competitive environments or senior management positions is artificially diminished. A profound analysis of gender differences and similarities is impossible without considering these contextual factors. To more clearly illustrate how sociological and psychological factors affect individual development and the formation of gender roles in society, the primary theoretical approaches are summarized in the table below:

Table 1. *Main Theories Regarding Contextual Factors Shaping Gender Differences*

Cognitive Social Learning Theory (Bush, 2021)	**Based on this theory, reinforcement and punishment shape both children's and adult's behavior, and people often imitate or model powerful or admirable people in their environment**
Sociocultural Theory (Eagly & Johannesen-Schmidt, 2001)	This theory proposes that gender differences arise from the historical division of labor by gender in a society.
Expectancy-Value Theory (Black, 2015)	According to this theory, expectancies and values are the two contributing factors to an individual's decision-making process

The "Mismatch Model" in Management

As a logical continuation of the aforementioned theoretical traditions, one of the most important concepts explaining the phenomenon of the limited representation of women in senior leadership positions, particularly in academic administration, is the "mismatch model" (Heilman, 2012).

According to the core postulate of the model, there is a profound contradiction between the characteristics traditionally attributed to women by society (kindness, sensitivity, nurturing, and communal orientation) and the traits required for leadership positions that are specifically attributed to men (dominance, assertiveness, and goal-orientation). In an organizational environment, this perceived mismatch causes female candidates to be deemed inadequate for leadership roles, regardless of their objective skills and experiences.

However, the modern pedagogical management paradigm prioritizes the transition from an administrative management system to a personality-oriented professional collaboration that considers the individual's inner potential, which is evaluated as a shift from vertical-hierarchical management to horizontal management (Mollayeva, 2024, P. 12–13). This new model requires the manager to act as a 'human-centered leader', supporting employees and considering their advice in the decision-making process (Mollayeva, 2024, p. 15). Such an approach proves that the 'communal' characteristics (nurturing, communication-oriented) attributed to women are not actually shortcomings for modern management; on the contrary, they serve as factors of efficiency.

The "Queen Bee" Phenomenon

Another problem women face in male-centric academic environments is the "Queen Bee" phenomenon. This phenomenon emerges as a reaction against gender stereotypes and inequality in male-dominated environments (Harvey, 2018). In this situation, some female leaders distance themselves from their female colleagues, assimilate into the existing male-centric leadership culture, and adopt masculine traits. They fail to support the career advancement of other women, thereby legitimizing the male-centric status quo (Faniko et al., 2017).

The Queen Bee Phenomenon was introduced by Staines et al. (1974). Queen Bee Phenomenon represents behavioural pattern which is characterized by a woman leader in male-dominated environments exhibit prevention for advancing of another woman.

The most obvious way in which women aspiring to achieve leader positions may try to fit in male-dominated organizations is by emphasizing what they see as masculine characteristics and leadership styles. Because stereotypes about the characteristics of successful leaders (i.e., agentic qualities) and the gender roles of women (i.e., communal qualities) are incongruent, women are at a disadvantage to achieve leadership positions (Wuertele, 2017). Although the initial definition of queen bee syndrome often refers to its occurrence in male dominated environments, it is important to note that today, female-dominated settings also exhibit patterns of queen bee phenomenon, particularly in fields such as healthcare and nursing (Wuertele, 2017). In the United States, the term "Eating the Young" is frequently used to describe a phenomenon in which older

nurses display aggressive behaviour toward younger nurses. There are three main explanations for this behaviour:

1. Fear of being replaced
2. Jealousy, driven by the need to outperform others
3. Resentment stemming from personal dissatisfaction, including the stress and challenges associated with nursing, such as long working hours, unfair pay, and heavy workloads.

Additionally, one of the reasons that female in top position distance themselves from other subordinate they are afraid of being replaced, characterized by withholding knowledge, and sabotage the advancement for other subordinates (Harvey, 2018). These combined factors can contribute to increased stress, which may manifest as aggressive behaviour.

The influence of identity-related dangers in senior women's unwillingness to assist other women in achieving success has also been measured more precisely in other studies. The study found that the less women are in the male dominated workplace settings, they were less likely to choose a female candidate. From this we can understand that there two kinds of threats: competition threat and collective threat from the competition threat it refers that women would not choose female subordinate. On the other hand, collective threat appears when a female assumes that with choosing female subordinate it directly threatens own performance (Baykal et al., 2020).

Derks et al. (2011) conducted two research studies and the results highlighted that queen bee phenomenon is not inevitable reaction of woman from high hierarchy. Rather, it is especially stimulated in workplaces where unfavourable stereotypes and gender discrimination pose a danger to women'ssocial identities. Ellemers et al. (2012) identified an additional factor contributing to women distancing themselves from other women. The study found that women exhibiting queen bee behaviour often distance themselves from those who have not yet made, or do not share, the significant personal sacrifices deemed necessary to succeed in male-dominated environments.

The role of the manager as a "cultural leader" is crucial in preventing the queen bee phenomenon; such a leadership type acts as a unifying factor within the team as the bearer of the institution's cultural values, ensuring healthy collaboration among individuals based on a "subject-subject" approach (Mollayeva, 2024, P. 13, 15–16). Unless the contradiction between existing formalism in management and the creative individual is eliminated, it remains inevitable for some female leaders to distance themselves from their colleagues by adapting to the rigid rules of the male-centric system (Mollayeva, 2024, p. 17).

Methodology

To deeply analyze gender stereotypes and management paradigms in higher education institutions, a mixed-methods approach was utilized in this study. Because the research topic encompasses complex social and psychological phenomena (the "Mismatch Model" and the "Queen Bee" phenomenon), it became necessary to measure both the statistical scale of the problem and the characteristics of individual perception. This approach serves to support the obtained quantitative indicators with qualitative individual experiences and to increase the reliability of the research.

Data Collection Instrument

A structured online questionnaire survey was applied to collect empirical data. The survey instrument consists of three main conceptual blocks:

Demographic and Professional Profile: Parameters determining the respondents' position status and experience.

Quantitative Measurements: To evaluate institutional stereotypes regarding leadership characteristics in management, a 5-point Likert scale was utilized. The response options were structured as follows: 1 – "Strongly disagree", 2 – "Disagree", 3 – "Neutral", 4 – "Agree", and 5 – "Strongly agree".

Qualitative Analysis: Open-ended questions were used to obtain respondents' personal observations regarding the internal dynamics in a male-centric academic environment.

Object of the Research. The target population of the research consists of the academic (faculty) and administrative management staff operating within the higher education system.

Because sensitive internal conflict topics such as the "Queen Bee" were addressed during the research process, the survey was conducted in a completely anonymous format to ensure the sincerity and psychological safety of the respondents. The quantitative data obtained from the Likert scale were converted into percentage and frequency indicators using descriptive statistics, while the texts obtained from the open-ended questions were synthesized with existing theories (Socio-Cultural and Expectancy-Value theories) and subjected to thematic analysis.

Empirical Findings, Discussion, Conclusion, and Survey Instrument

Women's Leadership in Male-Centric Academic Environments

Prepared from the anonymous higher-education survey dataset (N = 21).

Empirical Findings

The study draws on 21 valid questionnaire responses from personnel in higher education. The sample comprised 15 women (71.4%) and 6 men (28.6%). Sixteen respondents were teaching staff (76.2%), three were doctoral students (14.3%), one was a research-group assistant (4.8%), and one was a department head (4.8%). Eleven respondents had 1–5 years of higher-education experience (52.4%), four had 6–10 years (19.0%), and six had 11–20 years (28.6%). The data should therefore be interpreted as an exploratory account of perceptions in the participating group, not as population estimates for all higher-education institutions.

Table 2. *Participant Profile*

Characteristic	Category	n	%
Gender	Women	15	71.4
	Men	6	28.6
Professional status	Teaching staff	16	76.2
	Doctoral student	3	14.3
	Research-group assistant	1	4.8
	Department head	1	4.8
Higher-education experience	1–5 years	11	52.4
	6–10 years	4	19.0
	11–20 years	6	28.6

Note. Source: Author's anonymous survey

All eight Likert-type items were completed by all respondents. Scores range from 1 (strongly disagree) to 5 (strongly agree), and agreement denotes the combined share of response categories 4 and 5. The strongest consensus concerned the perception that advancement to leadership positions requires agentic traits – assertiveness, competitiveness, and dominance. Fifteen respondents (71.4%) agreed with this statement (M = 3.52, SD = 1.03). A majority also identified family and care responsibilities as an informal impediment to women's advancement (57.1%; M = 3.05, SD = 1.53).

Table 3. *Descriptive Statistics for Likert Items (N = 21)*

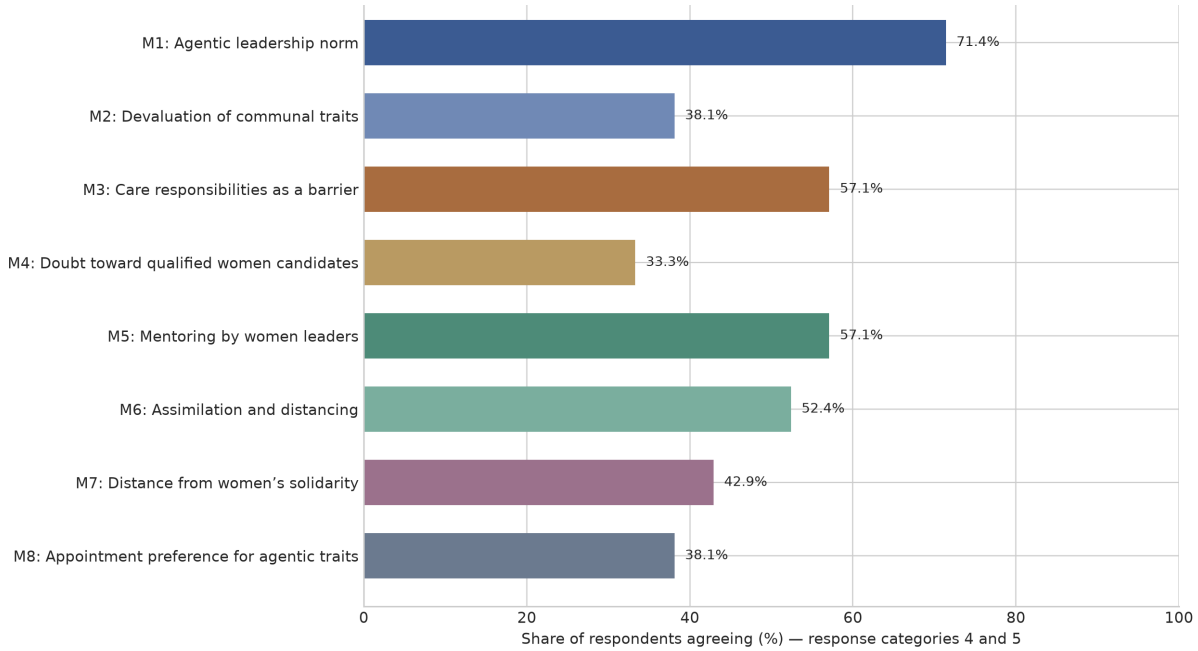
Item	Condensed wording	Mean	SD	Agree, n (%)	Neutral, n (%)	Disagree, n (%)
M1	Leadership advancement requires dominance	3.52	1.03	15 (71.4)	3 (14.3)	3 (14.3)
M2	Empathy is treated as weakness/inefficiency	2.95	1.12	8 (38.1)	5 (23.8)	8 (38.1)

Item	Condensed wording	Mean	SD	Agree, n (%)	Neutral, n (%)	Disagree, n (%)
M3	Care responsibilities are an informal barrier	3.05	1.53	12 (57.1)	1 (4.8)	8 (38.1)
M4	Qualified women candidates face greater doubt	2.90	1.34	7 (33.3)	6 (28.6)	8 (38.1)
M5	Women leaders actively mentor younger women	3.43	0.93	12 (57.1)	6 (28.6)	3 (14.3)
M6	Some women leaders are more distant/demanding	3.38	0.97	11 (52.4)	5 (23.8)	5 (23.8)
M7	Success requires distancing from women's solidarity	3.19	0.93	9 (42.9)	6 (28.6)	6 (28.6)
M8	Appointments prioritise dominance over teamwork	3.14	0.79	8 (38.1)	8 (38.1)	5 (23.8)

Note. Agreement = response categories 4–5; disagreement = categories 1–2. Source: Author's anonymous survey

The findings on women's leadership relations are deliberately mixed rather than unidirectional. While 57.1% of respondents agreed that women leaders actively mentor younger women (M = 3.43, SD = 0.93), 52.4% also agreed that some women leaders can become more distant or demanding toward other women (M = 3.38, SD = 0.97). Thus, both mentoring and distancing appear as context-sensitive experiences within the surveyed workplaces.

Figure 1. *Agreement Levels Across Likert Items (N = 21)*



Gender-Stratified Exploratory Analysis

Because the number of male respondents was small (n = 6), gender comparisons were treated as exploratory. Exact two-sided permutation tests were used to avoid a normal-distribution assumption, and Benjamini–Hochberg false-discovery-rate adjustment was applied across the eight item-level comparisons. Women rated two items substantially higher than men after this correction. Women were more likely to report that female

candidates face doubt despite satisfying formal requirements (women: M = 3.40, SD = 1.18; men: M = 1.67, SD = 0.82; mean difference = 1.73; Hedges' g = 1.51; p = .0079; q = .0316). Women also more strongly endorsed the view that success in a male-centred hierarchy may require distancing oneself from women's solidarity (women: M = 3.53, SD = 0.83; men: M = 2.33, SD = 0.52; mean difference = 1.20; Hedges' g = 1.51; p = .0067; q = .0316).

A further difference was observed for care responsibilities (women: M = 3.40; men: M = 2.17; Hedges' g = 0.81), but it was not retained after the multiple-testing adjustment (q = .2679). Its magnitude warrants substantive attention but requires replication in a larger and more balanced sample. No other item-level comparison survived the adjustment.

Table 4. *Exploratory Comparison by Gender*

Item	Women, M (SD)	Men, M (SD)	Diff. W–M	g	Exact p	BH q
M1	3.67 (0.98)	3.17 (1.17)	0.50	0.47	.3642	.3643
M2	2.73 (1.22)	3.50 (0.55)	–0.77	–0.68	.1997	.2679
M3	3.40 (1.55)	2.17 (1.17)	1.23	0.81	.1168	.2679
M4	3.40 (1.18)	1.67 (0.82)	1.73	1.51	.0079	.0316
M5	3.60 (0.83)	3.00 (1.10)	0.60	0.64	.2009	.2679
M6	3.60 (0.91)	2.83 (0.98)	0.77	0.79	.1380	.2679
M7	3.53 (0.83)	2.33 (0.52)	1.20	1.51	.0067	.0316
M8	3.27 (0.80)	2.83 (0.75)	0.43	0.53	.3643	.3643

Note. p = exact two-sided permutation probability; q = Benjamini–Hochberg adjusted value across eight tests. Higher values indicate stronger agreement

Scale Diagnostics and Qualitative Findings

Three conceptually grouped item sets were inspected as descriptive composites. Internal consistency was low for all three sets (Cronbach's α = .07–.48). Therefore, they should not be interpreted as validated scales and no composite-level hypothesis tests were used. Item-level results remain the primary quantitative evidence. Descriptively, the male-centred management-norm set was moderately associated with the gendered-career-barrier set (Spearman's ρ = .375), while the latter was moderately associated with the women's leadership-dynamics set (ρ = .499). Given N = 21 and weak internal consistency, these associations are descriptive signals only.

Table 5. *Descriptive Composite Diagnostics*

Conceptual item set	Items	Mean	SD	Cronbach's α	Interpretation
Male-centred management norms	M1, M2, M8	3.21	0.67	.41	Low reliability; descriptive only
Gendered career barriers	M3, M4	2.98	1.17	.48	Low reliability; descriptive only
Women's leadership dynamics	M5, M6, M7	3.33	0.56	.07	Heterogeneous content; descriptive only

The open-ended responses contextualised the statistical pattern. Thematic coding was conducted at the level of meaning units; more than one code could be assigned to a response on underrepresentation. Care and family responsibilities constituted the most frequent explanatory theme (7 coded responses, 33.3%). Explicit references to

stereotypical expectations, unequal selection practices, male preference, and academic-capital disadvantage were also recurrent. Four respondents (19.0%) framed women's underrepresentation primarily in individualising terms, while three (14.3%) disputed the premise that women are underrepresented in academic leadership.

The comments on women leaders' relationships with women colleagues were similarly heterogeneous. Seven participants (33.3%) described competition, conflict, gatekeeping, distance, or heightened demands; four (19.0%) described mentoring and tangible career support; six (28.6%) reported no direct observation; and three (14.3%) explicitly attributed the pattern to individual character or local context rather than gender. This supports a contextual interpretation: negative experiences occur, but they coexist with mentoring and cannot be treated as a fixed or universal feature of women's leadership.

Table 6. *Thematic Coding of Open-Ended Responses*

Open-ended question	Theme	n	%
Reasons for limited representation	Family and care responsibilities	7	33.3
	Individualising explanations	4	19.0
	Underrepresentation not accepted	3	14.3
	Gender stereotypes/glass-ceiling references	3	14.3
	Other low-frequency structural themes	5*	23.8*
Relations with women colleagues	Competition, conflict, gatekeeping, or distance	7	33.3
	Mentoring and active support	4	19.0
	No observation/no substantive response	6	28.6
	Character- or context-centred explanation	3	14.3
	No direct observation; comparative comment	1	4.8

Note. Multiple codes were permitted for the first question; its category frequencies therefore do not total 100%

Discussion

The findings provide partial empirical support for the article's mismatch-model argument. The strongest aggregate result was the perception that leadership advancement relies on assertiveness, competitiveness, and dominance. Yet the lack of majority agreement that empathy is treated as weakness, or that dominance is formally prioritised in appointment decisions, indicates that the proposed norm is neither total nor institutionally uniform. The evidence is more consistent with a contested cultural pattern than with a single, fully shared managerial rule.

The gender-stratified results are particularly important. Women participants reported substantially more doubt directed at formally qualified female candidates and a stronger perceived need to distance themselves from women's solidarity in order to progress. These differences are compatible with the socio-cultural account that gender roles and organisational expectations influence the appraisal of leadership and access to authority (Eagly & Johannesen-Schmidt, 2001). They also show how aggregate statistics can obscure unequal experiences: the pooled score for M4 was modest, whereas the gender-specific analysis revealed a large difference.

The evidence does not justify characterising women leaders as uniformly unsupportive or treating the Queen Bee phenomenon as an inherent gender trait. Mentoring and support were reported alongside distance, competition, and gatekeeping. The pattern instead accords with scholarship that situates distancing behaviour in organisational

identity threat, discriminatory climates, and competitive structures (Faniko et al., 2017; Ellemers et al., 2012).

Conclusion

This mixed-methods exploratory study reveals a differentiated picture of women's leadership in male-centred academic environments. Participants widely perceived that advancement requires traditionally agentic characteristics, while family and care responsibilities emerged as the most frequent barrier in both the quantitative and qualitative evidence. Women respondents, more than men, perceived additional doubt toward formally qualified women candidates and greater pressure to distance themselves from women's solidarity in order to progress. These two gender differences remained statistically detectable after false-discovery-rate adjustment, although the small sample requires cautious interpretation.

The data do not support a deterministic account of the Queen Bee phenomenon. Mentoring and support from women leaders were reported alongside distance, competition, and gatekeeping. The most defensible conclusion is that women-to-women leadership relations are heterogeneous and shaped by organisational conditions. Future research should use a larger, stratified sample, validated multi-item measures, and systematic qualitative coding by more than one researcher. Such a design would enable stronger inference about how institutional culture, gendered career barriers, and leadership relations interact in higher education.

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Appendix A

English Translation of the Survey Instrument

The following English translation documents the wording of the Azerbaijani questionnaire used for this study. The translation preserves the substantive meaning of the original items. For statements M1–M8, respondents selected one of five response categories: 1 = Strongly disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly agree.

Q1. Gender: What is your gender?

Q2. Current role/status: What is your current role/status in the higher education institution?

Q3. Higher-education experience: What is your total work experience in the higher education sector?

M1. Agentic leadership norm: At the institution where I work, it is believed that traits such as assertiveness, competitiveness, and dominance are more necessary to advance to leadership positions.

M2. Devaluation of communal traits: In management positions, empathy, care, and community orientation are perceived as "weakness" or as ineffective.

M3. Care responsibilities as a barrier: Women's family and care responsibilities constitute an informal barrier to their nomination for leadership positions in higher education.

M4. Doubt toward qualified women candidates: Female professionals, even when they meet the formal requirements of the leadership post for which they are candidates, are more often criticised or doubted because they are considered not to fit the "management character."

M5. Mentoring by women leaders: At the institution where I work, women in leadership positions actively support (mentor) the career development of younger women staff.

M6. Assimilation and distancing: Some women who advance to leadership positions assimilate into the existing management system and become more demanding or distant toward the concerns of other women colleagues.

M7. Distance from women's solidarity: Women seeking success in a male-centred academic hierarchy often feel compelled to distance themselves from traditional women's solidarity.

M8. Appointment preference for agentic traits: Based on my observations, appointments to leadership positions in my institution place greater value on assertiveness, competitiveness, and dominance than on empathy and teamwork.

Q12. Reason for limited representation: Based on your experience, what is the main reason why women are insufficiently represented in leadership positions (e.g., dean, department head)?

Q13. Observation of women leaders' relations: Can you share a memorable observation about how women leaders treat other women staff in your workplace – for example, whether they support career development, remain neutral, or compete?

submitted 04.09.2026;
accepted for publication 18.09.2026;
published 30.09.2026
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