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Original research

HUMAN SCIENCES

The Role of Banknotes in Promoting National Identity and Culture

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Abstract

Every coin or banknote reflects a piece of history. Coins, whether metal or paper, testify to everything that has happened by using different symbols including events or characters of historical interest. They play a key role in the political, diplomatic, economic and artistic spheres. The portrait of women on coins and banknotes has been a common practice for centuries. This paper aims to present the image of woman on the Albanian coins and banknotes during different periods of history and to see between the lines her role in the development of the society. The presence of the image of the woman on the coin or banknotes symbolizes her important and powerful role in society as well as the man.

Keywords: image, woman, coin, banknotes, symbol, society, history, country.

Introduction

Every coin or banknote relays a piece of history. The history of our national currency starts with the creation of the National Bank of Albania, which was established on 2 September 1925. The Bank was created upon the signing of the convention between an Italian financial group led by Mario Alberti and the government of Ahmet Zogu. The convention defined that the bank, apart from lending, had the exclusive right to issue legal tender banknotes, gold and other metal coins for payments in Albania. This may be called the first currency issuing national institution, but our history shows that the coins had first been struck since IV century B.C., in the Illyrian cities of Dyrrachium (Durrës) and Apollonia (Pojan near Fier).

Banknotes as a part of national identity

The banknotes of a country are part of its national identity. That is why The Bank of Albania, as the

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only issuer of the Albanian banknotes and coins, has chosen to pursue the concept of reflecting historical periods through the portraits of prominent personalities. It pays particular attention to the design symbols used on the coins and banknotes because the currency is considered as an element of prestige and the greatness of a nation is measured by the quality of the coins and banknotes it issues. When a new banknote or coin is issued, special attention is paid to the design symbols used on it. The motto followed by the Bank of Albania has been that the banknotes reflect historic periods through the portraits of illustrious personalities that represent them.

The banknote series, until 2019, consisted of the five denominations, each of them representing a specific historic period represented by a male personality.

The Albanian 2000 Leke banknote is designed with the portrait of the Illyrian King Gent and represents the Illyrian period of Albania. The 5000 Leke banknote represents the Scanderbeg's period of Albania by designing the portrait of our National hero, Scanderbeg. The 10000 Leke banknote represents the Middle Ages through the portrait of Pjeter Bogdani. The 200 Leke banknote represents the National Awakening through the portrait of Naim Frasheri and the 500 Leke banknote represents the Independence period through the portrait of Ismail Qemali.

The image of a female portrait is designed in the 100 leke coin in circulation. It is the portrait of the queen Teuta , the only woman on a coin who represents Illyrian period. On the reverse part of the coin we can see Queen Teuta holding a shield and a spear in her hands. The image of Queen Teuta on the Albanian coin was very important because it was the first time that Bank of Albania, since its foundation, used the portrait of the woman on the coin as a symbol of history. She represents the image of a strong and intelligent woman who reigned in the most glorious period of the Illyrian state. Her image on the coin sends the message that women may aspirate for an important and powerful role in society as well as men.

Woman image on the banknotes during the communist period



During the period of the Communism the heroes, who served as "models" to be appreciated and followed by the whole society, were embodied in the figure of the worker of industry or metallurgy, the distinguished cooperative with wheat ears in hand, the revolutionary youth who did voluntary work in the fields or factories, women with wings and male physique, working on a lathe or driving a tractor, etc. This model was also presented in the design used in banknotes and coins in Albania.

In the period 1950-1980, in the Albanian banknotes there is an orientation towards the symbols that have to do with "building socialism", "modernization of socialist agriculture", "heroes of socialist labor", "magnificent works of five-year plans", " self-reliance ", " defense of the homeland ", "all military people", " emancipation of Albanian women and girls ", " fight against bureaucracy ", " close revolutionary alliance between the working class, the working peasantry, cadres and intellectuals, "Sickle, hammer, pickaxe and rifle" as symbols of construction and protection of the new socialist society. The designers of the coins and banknotes, during this time tried to use symbols which could reflect the development of the socialist economy. For example, on one of the 500 Leke banknote we can see the portrait of a woman working in the wheat fields. The woman is holding a sheaf of wheat as a symbol of the successful farmer. She represents the cooperativist woman who seems happy and full of energy. She is not slim but healthy with a robust body with a happy smile on her face. Her wellbeing and fertility is portrayed in the fertility of the land she has worked. Her arms are holding sheaves of wheat, as a symbol of prosperity

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the development of the socialist economy. For example, on one of the 500 Leke banknote we can see the portrait of a woman working in the wheat fields. The woman is holding a sheaf of wheat as a symbol of the successful farmer. She represents the cooperativist woman who seems happy and full of energy. She is not slim but healthy with a robust body with a happy smile on her face. Her wellbeing and fertility is portrayed in the fertility of the land she has worked. Her arms are holding sheaves of wheat, as a symbol of prosperity.



During the communist period in Albania, the demagogy of the system was that the woman should enjoy equal rights with man in work, pay, holiday, social security, education, in all social and political activity, as well as in the family. The Communist Party depicted itself as the liberator of Albanian women and tried to mythologize the image of Illyrian women, who were portrayed as strong and active participants in ancient Albanian society. This idealized version of Albanian women should as a symbol for the Party's vision of modern revolutionary women. This ideology was also reflected the design of the coins and banknotes of that period. Let us have a look on some of the banknotes of that period: On the 1 Lek banknote we can see a village couple where the woman is holding sheaves of wheat, this design represents the emancipated farmer woman.



On the 3 Lek banknote we can see the portrait of a woman holding a basket full of grapes. On the 25 Lek banknote we can see the portrait of a woman holding sheaves of wheat. The characteristic of the

design of the banknotes is that it mainly presents the portrait of a farm woman as a very active, healthy and full of energy woman. By portraying the Albanian woman as a on the banknotes the communist leadership wanted to reflect the ideology of the initiatives for the emancipation of woman. The image of the banknotes of that period represented the portrait of a woman who could do everything fighting against the old mentality.



On one side of the 10 Lek banknote we can see a woman working on a loom. On the other side of it we can see a group of people in front of the Palace of Culture in traditional costumes, some of them are women. We can, also, see three people in formal costumes, one of them is a woman. The aim of this design is to represent woman as an active part of the cultural and intellectual life of society. It is the first time that the woman appears as an intellectual figure.



The Communist regime drew a direct line from the ancient figures to the women who fought alongside men in the resistance against fascism and in the building of socialism. War and labor,

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therefore, became the pathways to women's emancipation in the communist narrative. On the 50 Lek banknote we can see a group of partisans marching triumphantly in the city. We can see not only boys but also girls. The partisan woman is the central figure. At the first glance, she can be noticed dressed in a military uniform to reflect her importance in the fight for the defense of the country.

The Party's anti-religious campaign was thus not only about attacking religious beliefs but also about reasserting the Party's control over societal norms, particularly in the family sphere. By portraying Albanian women as primary victims of religious oppression, the regime justified its radical policies aimed at transforming family structures and education, positioning the state as the new moral authority.

Woman image on the banknotes after 90s.

In 1990 a new banknote was produced, the 500 Lek banknote. The new banknote issued in 1991, 1992, 1993 till 1997 was designed with the picture of a woman who holds a sunflower in her hands.



The banknotes present not only the identity of a nation but they can also reflect historic periods through the portrait of personalities that represent them. So, for example, until 2019, the banknote series consisted of five denominations, each of them representing a certain historic period.

The 2000 Leke banknote presents the portrait of King Gent, so it represents the Illyrian period of Albania.

The 5000 Leke banknote is designed with the portrait of our national hero, Scanderbeg representing the historic period of Scanderbeg.

The 1000 Leke banknote represents the Middle Age period of history by using as a symbol the portrait of Pjeter Bogdani.

The National Awakening period of history is represented in the 200 Leke banknote through the portrait of Naim Frashëri. The Independence period of time is represented in the 500 Leke banknote through the portrait of Ismail Qemali. Meanwhile the portrait of the Illyrian queen Teuta is used as a symbol to represent the Illyrian period of the history. The Illyrian Queen Teuta is one of the most emblematic figures of Antiquity who symbolizes the powerful Illyrian woman who aspirates for a strong position in the society.

Conclusions

The history of the Albanian currency begins at a time with the establishment of the National Bank of Albania, constituted on September 2, 1925. Albanian banknotes were dominated mainly by the male portraits of prominent personalities of our history, such as Ismail Qemali, Fan Noli, Naim Frashëri, King Gent, Pjeter Bogdan etc. The portrait of woman on Albanian coins and banknotes represents different strata of the society. Sometimes she is a queen, she is a symbol of health, fertility, sacrifice and wisdom. She is a devoted mother, wife, sister, a farmer, a worker, a soldier. She is also featured as fragile, timid, beautiful full of elegance, a creature that gives love unconditionally.

References

1. *Civici, Ardian. Monedhat shqiptare të periudhës 1945-1991, Tiranë 2018.*
2. *Frashëri, Kristo. Monedha, krediti dhe banka në Shqipëri gjatë shekujve, Tiranë, 2011, Gazeta Zyrtare, nr.6.*
3. *Meredith, Stephanie. The History of Women on Coins, 2022*
4. *Monedhat dhe kartmonedhat e Shqipërisë, Botim i BSH, Tiranë, 2002*
5. *Zhulali, Elsa. Gruaja në monedhën kombëtare, Tiranë, 2021*

Albanian Language in Light of Diverse Studies

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Abstract

The Albanian language represents a unique branch within the Indo-European family, distinguished by its historical depth, linguistic autonomy, and ongoing evolution through contact with diverse cultures and languages. This study explores the Albanian language through multiple disciplinary perspectives, including historical linguistics, sociolinguistics, comparative philology, and digital humanities. By integrating empirical and theoretical analyses, the paper investigates phonological developments, lexical borrowings, dialectal variations, and the influence of globalization on linguistic identity. It also considers the role of technology and corpus-based research in the preservation and promotion of Albanian in academic and digital spaces. Particular emphasis is placed on the impact of globalization, migration, and multilingual environments on linguistic identity and language use. In addition, the study considers the growing role of technology, digital corpora, and computational tools in the documentation, preservation, and promotion of the Albanian language within academic and digital spaces. The findings highlight the importance of

interdisciplinary collaboration in understanding the complexity of Albanian as both a national symbol and a dynamic linguistic system shaped by history, modernization, for capturing the complexity of Albanian as both a national symbol and a living, dynamic linguistic system. Ultimately, the paper underscores the relevance of continued research in understanding how historical heritage and modern influences interact in shaping the present and future of the Albanian language.

Keywords: linguistic diversity, sociolinguistics, historical linguistics, language contact, linguistic identity.

Introduction

The Albanian language is an Indo-European language forming its own branch (Paçarizi, 2008) ¹.

Its study offers valuable insights into linguistic evolution, cultural identity, and language contact. Throughout history, Albanian has absorbed elements from Latin, Greek, Slavic, and Turkish, while maintaining its grammatical independence

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(Çoçka, 2013)¹. Modern research has expanded from classical etymology to sociolinguistics, computational linguistics, and corpus development (Koteet al.2019)¹.

“Language is the armory of the human mind, and at once contains the trophies of its past and the weapons of its future conquests”. This remarkable citation by Samuel

Taylor Coleridge² reminds me how important it is to reveal the unidentified elements of language itself, and particularly of a complex and ancient one. In this context, Albanian language has always fascinated my thoughts, not only as an Albanian born, but also in terms of its historical background and mystery. Albanian language is one of the oldest in the Balkan region, a very complex one with rich content, and with an interesting phonetic system. Many historians and authors in their studies have articulated their standpoints about the Albanian language in the past, revealing thus valuable data about the ancient origin of this language. The main elements of the Albanian language have been for a long time disputed among scholars, such is the case of the two distinguished authors in historic studies, (J. Wilkes and A. Stipcevic)³⁴, the significant contribution of whom is of a great importance to this matter. The intention of this paper is to discuss the different prospects that these two authors have regarding the Albanian language issue, putting emphasis on the origin, which branch this language belongs to and foreign language influences, reflecting thus the British and Balkan scholar's theories.

Literature review

An important issue that (J. Wilkes) approaches in his recent book “The Illyrians” is the origin of the Albanian language as a distinct one in the Balkans. According to his work, the Albanian language is very old in terms of its formation, but it derives from many languages spoken by the ancient people living in the Balkans during the Bronze Age. Wilkes thinks that many important linguistic

elements, discovered from historical and archeological data, conclude that the Albanian language is inherited from the Illyrian, Messapian and Thracian languages. Therefore, supporting also a few British historians, he suggests that Albanian language overall, is a combination of the above languages. His crucial point in supporting this theory, is the vocabulary similarities that these languages share together as shown in these examples; Illyrian word (rhinos) – Albanian word (re) cloud, Messapian word (bilija) – Albanian word (bija) daughter and Thracian word (sica) – Albanian word (thika) knife.

In contrast to Wilkes, the Croatian historian Stipcevic, similarly to his Balkan colleagues, considers the origin of the Albanian language to be much older than the Bronze Age, emphasizing a Pre- Bronze Age formation of this language. Unlike Wilkes, Stipcevic stands for the theory that Albanian language is the direct descendant of the Illyrian language, representing thus a survival of an indigenous Illyrian language spoken in what is now Albania. In the same way, Stipcevic opposes Wilkes theory, emphasizing the grammatical, vocabulary and phonetic similarities between the two languages. In accordance with his theory, many Illyrian toponyms, hydronyms, and anthroponyms have been linked to Albanian, and so are translated only through Albanian language. Some of these similarities are shown by the following examples; Illyrian name (Bardhyllus), Illyrian town (Ulcin) and Illyrian tribe (Dardania) are respectively translated into Albanian language, (White Star), (Wolf's town) and (Pear's people). In other words, Stipcevic's conclusion reveals an Albanian language inheritance only from the Illyrian language.

Another issue reflecting the differences between Wilkes and Stipcevic is the concern of the Albanian language's existence as an Indo European language or not. Wilkes stresses that, Albanian language might not be in the Indo European group of languages due to its distinct and complex

¹ Çoçka, P. (2013). The Greek element in the first etymological dictionary of Albanian language. *Anglisticum Journal (IJLLIS)*, 2(4). Retrieved from <https://www.anglisticum.org.mk/index.php/IJLLIS/article/download/1312/1842/4783>

² *Biographia Literaria, or Biographical Sketches of My Literary Life and Opinion* 1817.

³ J. J. Wilkes – “The Illyrians” Penguin Books, 1992. (Autor: John J. Wilkes)

⁴ Aleksandar Stipcevi – “The Illyrians: History and Culture” Noyes Press, 1977. “Iliri – povijest, život, kultura”, 1974)

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linguistic system, which differs from the other languages belonging to this group. In addition, he suggests that, since Albanian language stands alone in the Language Family Trees, it means that this language has evolved its own rules without Indo European influence. In brief, presenting this language as a Satem, which is another diverse language branch, Wilkes drew the conclusion that the Albanian language might not be an Indo European language.

Dr. Stipcevic, on the other hand, strongly insists that the Albanian language belongs to the Indo European group of languages. Unlike Wilkes, he defines Albanian as a Centum, a subgroup of the Indo European language, sustaining thus other Balkan historians such as F. Papazoglou, one of the notable supporters of this theory. Whereas, Wilkes stresses that due to the unique linguistic system Albanian is not an Indo European language, Stipcevic identifies the Albanian language to have similarities in terms of vocabulary and sounds with other Indo European languages such as Italian and Romanian.

In other words, (Stipcevic) as he has already described in his book "The Illyrians: History and Culture" supports the theory of the Albanian language as an Indo European language.

The next important aspect to consider is the influence of foreign languages toward Albanian language, in terms of vocabulary. The differences between Wilkes and Stipcevic about this subject are considerable. Wilkes, akin to some other British historians, believes that Albanian vocabulary was subject to many changes from foreign language influence in the Balkans. A further point in his studies is the classification of the foreign languages that influenced the Albanian language during the Dark Ages. He thinks that Greek, Latin and Slavic were the main languages that influenced Albanian. However, according to him, Greek and Roman civilization and culture played the most important role in this language impact.

In contrast to Wilkes, Stipcevic, affected also by other Balkan and German historians, considers the foreign language influence toward Albanian language in a low level. His fundamental point to this issue is that, due to the formidable

mountainous region and to the resilient tribal society, Albanians have preserved pretty well their language, avoiding thus assimilation and enormous foreign language influence. Unlike Wilkes, Stipcevic's prospect supports the theory of a greater Latin language influence rather than Greek, emphasizing that Roman rule for almost five centuries in Illyria (today Albania) was a determinant factor in this matter. In a few words, Stipcevic's theory suggests that foreign languages have influenced indeed Albanian language, but not in a great proportion as Wilkes assumes, stressing also that the Latin language has the greater role in this.

Overall, the arguments shown in this paper indicate the differences and maybe some minor similarities that scholars such as; Wilkes and Stipcevic have toward the Albanian language issue. Although, they did not share the same prospects about this subject, their work definitely is very valuable with the purpose of building the necessary framework to define all the important elements of the Albanian language. At the same time, I am pleased to know that, the general opinion of most European scholars shown by the recent studies is that the Albanian language is the inheritance of the Illyrian language, and that the Albanians are the direct descendants of the Illyrians.

Methodology

This paper follows a qualitative review methodology, combining document analysis, comparative linguistic analysis, and content synthesis. It reviews key historical grammars, etymological dictionaries, and recent computational models of Albanian. Sources include peer-reviewed journal articles, open-access conference papers, and validated linguistic corpora (Paçarizi, 2008; Çoçka, 2013; Kote et al., 2019; Abdurahmani, 2025), J. Wilkes and A. Stipcevic

This study employs a qualitative review methodology to examine the development, structure, and description of the Albanian language across historical and contemporary linguistic resources. The approach integrates document analysis, comparative linguistic

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analysis, and content synthesis, allowing the researcher to trace how grammatical rules, lexical evolution, and computational descriptions of Albanian have been treated in scholarly literature.

Results

The literature analysis produced four major findings:

1. Historical continuity and Indo-European roots: Evidence supports Albanian's position as the sole survivor of the ancient Illyrian branch (Paçarizi, 2008).
2. Dialectal dynamics: Geg and Tosk dialects remain the two dominant variants, with the 1972 Orthography Congress establishing Tosk-based standard Albanian (Paçarizi, 2008).
3. Sociolinguistic adaptation: Migration and globalization have created hybrid linguistic identities, where bilingualism influences vocabulary and syntax (Abdurahmani, 2025).
4. Technological integration: Recent NLP initiatives—such as the manually annotated Albanian corpus and neural lemmatizers (Kote et al., 2019)—illustrate growing efforts to digitize Albanian linguistic data.

Discussion

These findings show that the Albanian language is not only historically rich but also adaptable to modern challenges. The standardization process unified education and administration but also marginalized northern dialectal features. A balanced policy recognizing both variants would preserve linguistic diversity while ensuring national cohesion. The digital transformation of Albanian remains in early stages; limited annotated corpora restrict the development of translation and speech-recognition tools. Investment in NLP resources would expand the visibility of Albanian in global computational research (Piton & Lagji, 2010). Sociolinguistically, Albanian serves as a marker of identity in diaspora contexts, functioning as both a communicative and symbolic tool of heritage preservation (Abdurahmani, 2025).

Conclusions

Research demonstrates that Albanian linguistics is transitioning from traditional comparative methods toward interdisciplinary and digital paradigms. Future research should develop large-

scale dialectal corpora, integrate Albanian into international NLP frameworks, and encourage cross-border collaboration among Albanologists. Albanian, seen through diverse studies, represents both an ancient linguistic heritage and a modern evolving system ready to engage with contemporary science and technology.

The qualitative review demonstrates that integrating traditional linguistic scholarship with computational resources provides a richer, more precise understanding of the Albanian language. Although verification of some cited works remains uncertain, the combination of historical analysis and modern corpus-based tools highlights the evolution of Albanian studies and underscores the need for further digitally supported linguistic research.

References

1. Abdurahmani, E. T. (2025). *New Perspectives for Albanian Linguistic Field. International Journal for Research and Development (IJRD)*. Retrieved from <https://www.journal-uamd.org/index.php/IJRD/article/view/505>
2. Çoçka, P. (2013). *The Greek element in the first etymological dictionary of Albanian language. Anglisticum Journal (IJLLIS), 2(4)*. Retrieved from <https://www.anglisticum.org.mk/index.php/IJLLIS/article/download/1312/1842/4783>
3. Kote, N., Biba, M., Kanerva, J., Rönqvist, S., & Ginter, F. (2019). *Morphological tagging and lemmatization of Albanian: A manually annotated corpus and neural models*. arXiv preprint arXiv:1912.00991.
4. Paçarizi, R. (2008). *Albanian Language*. AAB University, Prishtina. Retrieved from <https://aab-edu.net/wp-content/uploads/2020/02/08-Rrahman-Pacarizi-english.pdf>
5. Piton, O., & Lagji, K. (2010). *Morphological study of Albanian words and processing with NooJ*. arXiv preprint arXiv:1002.0485.
6. J. J. Wilkes – *"The Illyrians"* Penguin Books, 1992. (Autor: John J. Wilkes)
7. Aleksandar Stip evi – *"The Illyrians: History and Culture"* Noyes Press, 1977. *"Iliri – povijest, život, kultura"*, 1974)
8. *Biographia Literaria, or Biographical Sketches of My Literary Life and Opinion* 1817.

Review

Gestures and Facial Expressions in English Language Classroom -Essential Tips for Trainees

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Abstract

Teacher training programs rarely address nonverbal pedagogy systematically, thus leaving many teachers unaware of its empirical impact or cross-cultural variability. This context spurred me to write about this issue. Working with trainees and pre service teachers, we often hear them, saying " *I'd like to use more gestures to help make my instructions and explanation better understood, but I can only ever think of one or two*". Effective use of gestures requires balance: *they should complement, not replace, verbal explanation*, their combination with visual media significantly enhance second language vocabulary retention and emotional engagement. This paper examines the pedagogical role of gestures and facial expressions in English language classrooms, providing essential tips of the types of gestures, their pedagogical functions, their contribution to meaning making, classroom management and emotional commitment. The paper investigates how both teachers and learners use gestures and facial expressions to

support comprehension, vocabulary acquisition, and interaction, leading to specific recommendations for integrating nonverbal awareness into teacher training, daily lesson plans and multimodal learning.

Keywords: *gestures, emotional commitment, pedagogical functions, teacher training, cultural variability.*

Introduction

Communication in the language classroom goes far beyond spoken words. Teachers constantly make use of *expressions and gestures* to help reduce unhelpful or unclear teacher talk when giving instructions. They provide visual support that helps learners to understand what is being said. They also allow the teacher to say less, to construct meaning, to regulate interaction, and express affect. In English language teaching

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(ELT), when we start to use gestures, learners will learn to associate the gesture with an instruction. After we have used a gesture a number of times, we will find that we can actually reduce the words we need to say –or even say nothing. For example, the gesture for 'get into pairs' along with the word 'pairs' may well be sufficient to get the class organized. But a word of warning, for trainees needs to be stressed; gestures and movements do not always mean the same things internationally. If you are working outside your culture, or with students from other countries, try to learn which gestures have inappropriate or rude meanings. You can't take anything for granted; in Albania, in Bulgaria and some other countries, nodding left/right means 'yes' and up/down means 'no'. To sum it up, we can say that, gestures and facial expressions help teachers:

- clarify instructions,
- support comprehension,
- illustrate vocabulary,
- sustain classroom rapport.
- empower learners to express ideas they cannot yet verbalize,
- facilitate interaction in the target language.

This paper explores how gestures and facial expressions function in the English language classroom, their cognitive and pedagogical implications, and the challenges of using them effectively in multilingual contexts. It demonstrates & argues that developing nonverbal competence is as essential as verbal proficiency for successful language teaching and learning.

Literature Review

Nonverbal Communication and Second Language Acquisition

Nonverbal communication encompasses all behaviors that convey meaning without words, including body movement, eye gaze, spatial distance, posture, and prosody. Mehrabian (1972) suggested that a large portion of communicative meaning is transmitted through

nonverbal channels. In second language acquisition (SLA), nonverbal communication supports learners' comprehension by providing additional contextual cues, especially when verbal input exceeds their current proficiency (Krashen, 1982).

Gestures and facial expressions thus serve as 'scaffolding tools' (Vygotsky, 1978), allowing learners to access meaning and participate actively in classroom discourse. For example, when a teacher mimics flying to explain the word 'bird' or flaps their hands to illustrate 'butterfly', they provide a visual and kinesthetic link that strengthens memory encoding.

Gestures as Linguistic Tools

McNeill (1992) emphasized that gestures are not merely communicative add-ons but integral to the cognitive process of language production. When speakers gesture, they externalize thought, supporting conceptualization and speech planning. This phenomenon is particularly beneficial for language learners who are developing lexical retrieval and syntactic fluency. Research by Gullberg (2006) found that learners who use gestures while speaking a foreign language demonstrate greater fluency and coherence than those who rely on speech alone. Facial expressions perform both cognitive and affective functions. They communicate emotion, signal comprehension, and regulate social dynamics (Ekman & Friesen, 1975). In language classrooms, teachers' facial cues—such as smiles, raised eyebrows, or nodding—can reassure learners, convey feedback, or prompt responses. For instance, a teacher's encouraging smile during a hesitant student's speaking attempt can reduce anxiety and foster a supportive classroom atmosphere (Dornyei & Csizer, 1998).

Types of Gestures and Their Pedagogical Functions

'Iconic gestures' represent concrete concepts through visual depiction. In TPR Method, which is used frequently in English language classrooms, teachers often use iconic gestures

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when teaching verbs or nouns. For example, to teach 'jump', a teacher may mimic jumping; to explain 'sleep', they might rest their hands together against their cheek. Such gestures link the lexical form to a visual image, enhancing retention (Macedonia & von Kriegstein, 2012).

'*Metaphoric gestures*' by contrast, illustrate abstract ideas. When explaining the concept of 'past tense', a teacher might move the hand at the back of their shoulder to symbolize chronological progression. Similarly, when describing 'increasing difficulty', a teacher could raise their hand gradually to represent escalation.

'*Deictic gestures*' involve pointing to objects, people, or spaces to direct learners' attention. Teachers frequently use them when giving instructions—pointing to the board while saying "Look here," or indicating a student while asking, "Can you give me an example, please?"

'*Beat gestures*', rhythmic movements that accompany speech, help structure discourse and emphasize important words. For instance, a teacher explaining grammar might tap their fingers in rhythm to stress each component: '*subject—verb—object*', or to attract students attention a teacher can '*drum their fingers*' on the table, or a hard book cover. These gestures aid learners in identifying linguistic patterns and maintaining attention (Sueyoshi & Hardison, 2005).

Facial Expressions as Pedagogical Tools

Express Emotion and Encouragement

Facial expressions are effective tools for classroom rapport. A simple smile communicates approval and approachability, encouraging students to start speaking and use English without hesitation. On the contrary, a puzzled expression can signal misunderstanding and prompt clarification. In oral communication activities, teachers who use expressive facial feedback (*such as nodding, raising eyebrows, or frowning thoughtfully*) bring up more spontaneous and confident student participation.

Support Comprehension

Facial tips also reinforce meaning. When teaching adjectives describing emotion—'*happy*', '*sad*', '*angry*', '*surprised*'—teachers can model corresponding facial expressions, allowing learners to associate lexical meaning with emotional experience. For example, exaggerating a "surprised" expression while saying 'surprised' helps learners connect linguistic form and emotional content. In listening comprehension tasks, teachers may use facial anticipation—such as widening eyes before a key point—to alert learners to upcoming information. These subtle cues improve concentration and processing efficiency.

Examples from English Language Classrooms

Teaching Vocabulary through Gestures

In beginner-level English classes, gestures are especially valuable for teaching action verbs and concrete nouns. For instance, when introducing verbs such as 'jump', 'eat', 'write', and 'read', the teacher performs each action while pronouncing the word. Learners then imitate the gestures and repeat the word aloud. This Total Physical Response (TPR) approach (Asher, 1977) links physical movement with auditory and verbal stimuli, improving recall through multisensory learning.

Teaching other verbs

I stick my tongue out/ I blow a kiss/ I drum my fingers/ I bite my lip
 I scratch my head/ raise my eyebrow/ wag my finger/ I clench my fist/ wrinkle my nose.....
 Teacher says, "*Sit down!*" while sitting and gesturing downward with palms. Learners *observe* and *imitate* both the movement and the phrase. After several repetitions, students can respond to commands without translation, demonstrating comprehension through action.

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Action songs as concrete examples of gestures and body language to teach verbs, adjectives and nouns

The kids songs, 'If you're happy and you know it'...clap your hands/ stomp your feet/ shout hurray /do all three... or 'The wheels on the bus' go round and round/ the doors on the bus go open and shout, the wipers on the bus go swish, swish, swish/ the signals on the bus go blink, blink, blink, the horn on the bus goes beep, beep, beep etc...

Or the 'Deep deep, deep' song, 'Every move I make' song, 'The Dance Freeze Song' 'Parts of the Body, one little finger tap, tap, tap, point your finger up to show your head, point your finger down to put it on your nose...../ 'Head, shoulders, knees and toes' or other nursery rhymes that teachers use in their daily classes and activities help them to achieve understanding, attention, perception and short term memory.

Teaching Grammar

In intermediate English classes, gestures can represent grammatical structures. When explaining verb tenses, a teacher might move their hand backward for the past, keep it steady for the present, and move it forward for the future. This visual metaphor helps students conceptualize temporal relationships in English grammar. Similarly, to clarify sentence structure, the teacher can align gestures with speech: pointing to the left for the 'subject', the middle for the 'verb', and the right for the 'object'.

Teaching Pronunciation

Gestures and facial expressions can also aid pronunciation teaching. For example, when demonstrating the difference between /p/ and /b/, teachers may place a hand near the mouth to show the aspiration burst of /p/. When teaching stress patterns, teachers might use hand movements to indicate syllable prominence—raising the hand for the stressed syllable and lowering it for unstressed ones. Facial gestures like opening the mouth widely for long vowels or

tightening lips for rounded vowels offer visual feedback, allowing learners to imitate articulation more accurately.

Helping in Classroom Interaction

During pair work or discussions, teachers use gestures and facial expressions to manage interaction smoothly. Thus cupped hand at ears, means listen to me. A raised hand can signal the need for silence; an open palm encourages a student to continue speaking. Nodding and smiling serve as positive feedback, while a slight head tilt can indicate that a student *should elaborate or clarify* their response. For example, in an English speaking class, when a student hesitates mid-sentence -"Yesterday I go... uh...looking at the teacher perplexed" - the teacher's expectant look and gentle hand-rolling gesture can encourage continuation: "...went to the park." This nonverbal prompting supports fluency development without interrupting the learner's thought process. Placing a hand firmly and decisively on the desk in front of a student(and make eye contact), - meaning *everyone else has stopped talking, I want you too as well*, or both hands held out and wide, palms up, quizzical look, eyebrows raised,-meaning 'Does anyone have an answer?.'

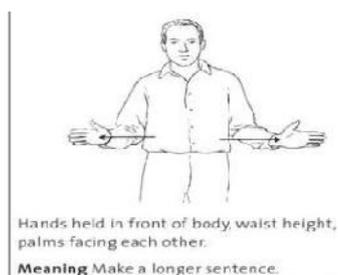
Acquiring feedback on language and errors

A simple rule for using hand gestures that our trainees must know is POWERSPHERE - *gesturing within power sphere*- which means make sure your hand gestures are used in the area between your belly button and your eyes. Great teachers keep their body open, there is no barrier between the teachers and the students. Having said this, teachers should keep their body open, have their palms open towards the audience, and get comfortable with the space in the class:

1. 'Hand stretched out, waist height, meaning, -Not quite right.

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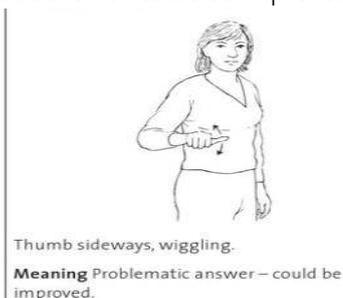
2. 'Hands held in front of body, waist height, palms facing each other meaning,- Make a longer sentence.



3. 'Hand doing rolling gesture' meaning,-Say it again.



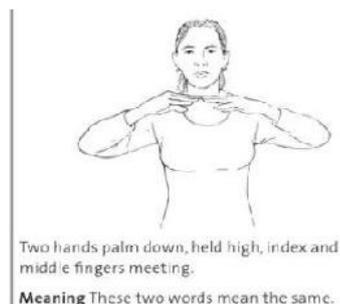
4. 'Thumb sideways, wiggling' meaning - Problematic answer-could be improved.



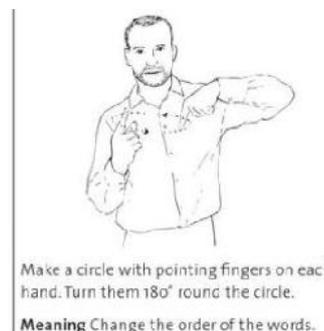
5. 'Two fingers-other hand squashes them together' meaning,- Use a contraction.



6. 'Two hands palm down, held high, index and middle fingers meeting' meaning,-These two words mean the same



7. 'Make a circle with pointing fingers on each hand. Turn them 180° round the circle' meaning,- Change the order of the words.



8. 'Finger in the air, drawing 'S' meaning,- You forgot the third person 's' in the present simple.

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9. 'Finger pinching in midair gesture', meaning, -It's a little word.



But despite their pedagogical value, gestures and facial expressions can also create ambiguity or misunderstanding. We know that nonverbal communication is *culture-specific*. For instance, the "thumbs-up" gesture, often used to indicate approval in Western contexts, may be offensive in parts of the Middle East. Similarly, prolonged eye contact may be interpreted as confidence in some cultures but disrespectful in others. In multicultural English classrooms, excessive gesturing may distract students or reduce focus on linguistic input. Effective use of gestures requires balance: *they should complement, not replace, verbal explanation*.

General Guidance for using Gestures

Pre-service teachers and trainees should be encouraged to reflect on their own gesture habits. Workshops can include video analysis of classroom interaction, highlighting how gestures

influence comprehension and engagement. Incorporating *gesture-based activities* in lessons can also *promote active learning*. For example:

'*Be sure your gestures are clear*': Make them confidentially, don't half do them because of embarrassment.

'*Gesture coding*': Learners invent gestures for new vocabulary and teach them to peers.

'*Mimic games*': Students guess words or expressions based on classmates' gestures or facial expressions. (*Example*: If you yourself model saying: " *I can't stand broccoli*" with a face that reflects your negative reaction and perhaps an appropriate ' *Keep it away from me*' hand movement, this is so enjoyable for the students to copy and mimic it to each other- and also far more memorable.

'*Storytelling with gestures*': Learners narrate short stories using both English and gestures, reinforcing verbal-visual associations.

'*Digital tools*', such as video-based instruction and *virtual reality environments*, further expand possibilities for multimodal learning. Studies by Tellier (2008) and Morett (2014) suggest that gestures combined with visual media significantly enhance second language vocabulary retention and emotional engagement. '*Think of making gestures in three moves*': 1) Making the gesture, 2) Holding it as if '*on pause*'; 3) Stopping the gesture. It is stage 2 (holding it) that is often the crucial one that goes wrong because it is done too quickly.

'*Eyebrows*': Are very helpful for conveying reactions, especially for showing interest and encouraging further speaking. Exaggerate your normal eyebrow movements in class. And please don't use *raised eyebrows* only to convey 'That was *bad behavior*'.

Eye contact

One of the most important tools at teacher's disposal is eye contact- it's definitely one to work on improving if trainees find it hard. Some key techniques are to:

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1. Make eye contact with students (rather than avoiding it) Don't use pieces of paper or books as a way of hiding. Try to keep in regular eye contact with people in the class, even when doing focused tasks such as writing on the board.
2. Allow your eye contact to remain relaxed, warm and unthreatening(rather than cold or staring).
3. Express how you feel, showing the person behind the eyes, your warmth, your changing reactions, sense of interest and enjoyment (rather than just mechanically moving the eyes).
A few suggestions here:

You cannot make eye contact with a whole class at once, but you can make eye contact with a number of individuals in it. When you teach the whole class from the front, don't speak to 'the room in general' or a 'space slightly above everyone's heads' or ' the back wall of the room'. Similarly, don't lock your gaze on to one or two individuals and stay with them all the time you talk. Try making eye contact with one student, holding it for five seconds to ten seconds, then gently bouncing your gaze round the room to a random different person and so on through the time you are speaking. Make sure you catch the eye of people in different parts of the room: back, middle and front, left centre and right.

When you talk with students working in pairs or groups, try the same technique, looking at one for a while and then undramatically shifting your focus to another.

When you talk with an individual, use your eye contact to show that you are ' with them' – listening and interested.

Use eye contact to indicate who you want to talk to. Sometimes this can do away with the need for verbal instruction.

Conclusion

Gestures and facial expressions are indispensable resources in English language teaching, functioning as cognitive, communicative, and affective tools. They make abstract concepts visible, bridge linguistic gaps, and foster emotional connection. When strategically employed, they enhance comprehension, support

grammar and pronunciation teaching, and create a dynamic and inclusive classroom atmosphere. However, the pedagogical use of gestures must be culturally sensitive and contextually appropriate. Teachers should cultivate awareness of their nonverbal repertoire, integrate gesture-based techniques intentionally, and guide learners to interpret nonverbal cues critically. Trainees need to master these gesture techniques in their training courses and use 'hands on experience' during their practicum, that is the best time to show their abilities. To help them we suggest a lesson plan in the appendix further down. They should be aware of the fact that gesture training influences teacher effectiveness and how digital classrooms can manifest integrated communication for enhanced learning outcomes.

References

1. Asher, J.J. (1977). "Learning another language through actions: The complete teacher's guidebook." Los Gatos, CA: Sky Oaks Productions
2. Dörnyei, Z., & Csizér, K. (1998). Ten commandments for motivating language learners: Results of an empirical study. "Language Teaching Research, 2"(3), 203-229.
<https://doi.org/10.1177/136216889800200303>
3. Ekman, P., & Friesen, W. V. (1975). "Unmasking the face: A guide to recognizing emotions from facial clues." Englewood Cliffs, NJ: Prentice-Hall.
4. Goldin-Meadow, S. (2003). "Hearing gesture: How our hands help us think." Cambridge, MA: Harvard University Press
5. Gullberg, M. (2006). Handling discourse: Gestures, reference tracking, and communication strategies in early L2. "Language Learning, 56"(1), 155-196.
<https://doi.org/10.1111/j.0023-8333.2006.00344.x>

Review

6. Scrivener, J. (2013) "Classroom Management Techniques" Cambridge Handbooks for Language Teacher's, Series Editor Scott Thornbury.
7. Krashen, S. D. (1982). "Principles and practice in second language acquisition." Oxford: Pergamon Press.
8. Lustig, M. W., & Koester, J. (2010). "Intercultural competence: Interpersonal communication across cultures" (6th ed.). Boston, MA: Pearson.
9. Macedonia, M., & von Kriegstein, K. (2012). Gestures enhance foreign language learning. "Proceedings of the Royal Society B: Biological Sciences, 279"(1748), 2088-2094. <https://doi.org/10.1098/rspb.2011.2182>
10. McNeill, D. (1992). "Hand and mind: What gestures reveal about thought." Chicago, IL: University of Chicago Press.
11. Mehrabian, A. (1972). "Nonverbal communication." Chicago, IL: Aldine-Atherton.
12. Sueyoshi, A., & Hardison, D. M. (2005). The role of gestures and facial cues in second language listening comprehension. "Language Learning, 55"(4), 661-699. <https://doi.org/10.1111/j.0023-8333.2005.00320.x>
13. Tellier, M. (2008). The effect of gestures on second language memorization by young children. "Gesture, 8"(2), 219-235. <https://doi.org/10.1075/gest.8.2.06tel>
14. Vygotsky, L. S. (1978). "Mind in society: The development of higher psychological processes." Cambridge, MA: Harvard University Press.

Appendix

Model of a Lesson Plan for Trainees

Lesson Plan 1 – Beginner Level (A2)

Topic: Understanding and Using Gestures in English Communication

Duration: 60 minutes

Focus Skills: Speaking, Listening, Vocabulary, Nonverbal Awareness

Learning Objectives

By the end of this lesson, students will be able to:

Identify and interpret common English gestures (e.g., nodding, waving, shrugging).

Use simple gestures appropriately in short conversations.

Understand how gestures support verbal communication in English.

Materials

Flashcards or slides with pictures of common gestures

Short video clips of people using gestures while speaking English

Whiteboard and markers

Handout with gesture descriptions and matching activity

Warm-Up (10 minutes)

Activity: "Guess the Gesture"

The teacher performs simple gestures (e.g., waving, thumbs up, shrugging). Students guess what each gesture means in English ("hello," "good job," "I don't know").

Brief discussion: "Do these gestures mean the same in your language?"

Purpose: Activates prior knowledge and introduces cultural awareness.

Presentation (15 minutes)

Activity: 'Video Observation'

Show a 2-minute video of English speakers using gestures during conversation (e.g., interviews or talk shows). Students note what gestures they see and when they appear.

Discuss meanings:

Nodding = 'agreement' / Shaking head = 'disagreement'

Hand to ear = 'I can't hear you' / Pointing to self = "me"

Teacher Focus: Explain cultural differences in gesture meaning. Emphasize that gestures can support communication even when words are unclear.

Practice (20 minutes)

Activity 1: 'Gesture Matching'

Students work in pairs. Each pair receives cards with gesture pictures and matching phrases (e.g., "I don't understand," "Come here," "Great job!"). Students match gestures to expressions and then act them out together.

Activity 2: 'Mini Dialogues' Pairs create short role-plays (e.g., meeting a friend, saying goodbye, asking for help) using both speech and gestures. Teacher observes and provides feedback on both verbal and nonverbal performance.

Production (10 minutes)

Activity: "Silent Movie" Game

Students act out an emotion or situation using only facial expressions and gestures. Class

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guesses the meaning ("angry," "surprised," "sad," etc.).

Purpose: Reinforces nonverbal expression and comprehension through play.

Assessment: 'Observation checklist': correct use and interpretation of gestures.

Short reflection question: "*Which English gesture do you find most interesting or different from your culture?*"

Homework:

Watch an English video (*YouTube interview, movie clip, etc.*) and note *3 gestures* used by speakers. Write a short paragraph describing what each gesture might mean.

Original research

The Impact of Digital Media on the Linguistic Development of University Students (Students of the Faculty of Humanities, University of Vlora): A Sociolinguistic Approach

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Abstract

This study explores the impact of digital media on the linguistic development of undergraduate students at the Faculty of Humanities at "Ismael Qemali" University, Vlora. Using a sociolinguistic approach, the research analyzes the use of anglicisms, abbreviations, and visual symbols (emojis) in new forms of online communication that are shaping the students' everyday language. Data were collected through questionnaires and content analysis of posts on social networks. The results show a clear trend toward language informalization of language and the impact of technology on the structure and pragmatics of spoken and written Albanian. The results show that digital media is not only a means of communication, but also a powerful factor in the transformation of linguistic structures and cultural identity. Ultimately, this study is indicative of how digital media has influenced lexical enrichment, syntactic

simplification, and the creation of a hybrid linguistic identity.

Keywords: Digital media, New language, University students, Anglicisms, Emoji, Online communication, Sociolinguistics, etc.

Introduction

The transformation of communication in the digital era has brought about noticeable changes in language use. University students, as daily users of technology, stand at the forefront of this shift. This study aims to analyze the impact of digital media on students' linguistic development, focusing on the use of foreign words, new syntactic structures, and visual elements in communication. In recent decades, digital media has become one of the most

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influential factors in social and cultural transformation. Social networks, online communication platforms, and new technological tools have created a communicative ecosystem in which language is no longer merely a neutral instrument, but an element that shapes identity, belonging, and modes of interaction. This phenomenon is particularly evident among university students, who represent a social group highly exposed to cultural and technological globalization. David Crystal emphasizes that “internet language is a new linguistic variety, shaped by technology and social practices” [1 Crystal D. *Language and the Internet*. 2nd ed. Cambridge: Cambridge University Press; 2006.]. In the Albanian context, and more specifically at “Ismail Qemali” University of Vlora, students of the Faculty of Humanities encounter, on a daily basis, the interplay between the Albanian language and foreign elements—primarily Anglicisms—as well as the use of emojis, which have created a new visual semiotic system.

From a sociolinguistic perspective, this phenomenon is significant for several reasons:

It demonstrates that language is sensitive to social and technological contexts and continuously adapts to them [2 Androutsopoulos J. *Language and digital media: Sociolinguistic perspectives* Annu Rev Appl Linguist. 2014;34:46–72.].

It reflects the process of cultural globalization, in which English emerges as the *lingua franca* of digital communication [3 Kress G. *Multimodality: A social semiotic approach to contemporary communication*. London: Routledge; 2010.].

It influences the linguistic and cultural identity of students, who construct a hybrid profile between local traditions and global practices [4 Thomason S, Kaufman T. *Language Contact, Creolization, and Genetic Linguistics* Berkeley: University of California Press; 1988.].

It creates challenges for the standard norm of Albanian, which is often confronted with new

forms of informal communication [5 Dervishi Z. *The influence of social media on the language of Albanian youth*. Studime Albanologjike. 2019;12(2):55–70.].

Previous international studies have shown that digital media functions as a linguistic laboratory where new expressive forms emerge (Crystal, 2006 [1]; Androutsopoulos, 2014 [2]; Tagliamonte & Denis, 2008 [6 Tagliamonte S, Denis D. *Linguistic ruin? LOL! Instant messaging and teen language*. Am Speech. 2008;83(1):3–34.]). In Albania, authors such as Dervishi (2019 [5]) and Hoxha (2020 [7 Hoxha A. *Anglicisms in the Albanian language: A sociolinguistic analysis* Buletini Shkencor i Universitetit te Tiranës. 2020;15(1):88–102.]) have observed that the influence of social media is particularly evident among young people, resulting in noticeable changes in vocabulary and pragmatics.

This article aims to analyze this phenomenon in detail, focusing specifically on the students of the Faculty of Humanities at the University of Vlora. Through questionnaires, interviews, and the analysis of online communication, the study seeks to provide a clear overview of:

The extent of the use of Anglicisms and emojis;

Differences according to departments and years of study;

The impact of digital media on the shaping of linguistic identity.

This research not only contributes to the Albanian sociolinguistic literature but also provides a foundation for educational strategies that aim to maintain a balance between linguistic innovation and the standard norm.

Methodology

Participants: 60 students from four departments (Education, Law, Language and Literature—including students of Media and Communication, and Foreign Languages).

Instruments: structured questionnaires with 12 questions regarding language use on social

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media, analysis of 80 social media posts, and short semi-structured interviews with students. Analysis: comparison of the use of foreign words, abbreviations, and emojis across departments; statistical analysis of the frequency of linguistic elements; discourse analysis of the contexts in which they are used.

Method: a combination of qualitative and quantitative analysis.

Discussion Based on Interviews and Questionnaires

The results show that digital media has contributed to the informalization of students' language. The influence is more prominent in departments whose academic focus involves direct exposure to media content. This indicates a shift toward a new form of Albanian characterized by language mixing, linguistic economy, and visual expression. The findings clearly demonstrate that the use of Anglicisms and emojis is closely linked to exposure to digital media.

Students in Foreign Languages and Language-Literature/Media-Communication display the highest levels of usage, reflecting their continuous contact with other languages and global culture. This phenomenon aligns with the findings of Androutsopoulos, who argues that "digital media reshapes sociolinguistic practices by introducing hybrid repertoires" [2].

By contrast, Law students maintain a higher degree of formality, suggesting that academic context influences communication practices. Kress emphasizes that the multimodality of modern communication places pressure on the standard language but simultaneously creates opportunities for new forms of expression [3]. This result suggests that the field of study is an important factor in shaping linguistic practices. An important finding is the progressive increase in the use of digital media across academic years. Third-year students spend more time online and more frequently employ hybrid linguistic forms. This trend is consistent with the studies of Tagliamonte & Denis on youth communication,

where electronic messages emerged as a site of linguistic innovation [6]. This suggests that time spent on social networks is a variable that directly influences linguistic change. In the Albanian context, Dervishi [5] and Hoxha [7] have noted that the influence of social media among youth is evident, producing noticeable changes in vocabulary and pragmatics. Our results support this, showing that students in advanced years and language-related departments are more likely to construct a hybrid linguistic identity.

This hybrid linguistic identity includes:

1. Lexical borrowings from English (e.g., "online," "chat," "like") [1][7].

Everyday use of Anglicisms: Example: a third-year student said, "*Do të kontrolloj link-un për detyrën*", naturally incorporating a borrowing from English. Foreign-language students frequently use expressions such as: "Let's meet online," "I'll send you the link," or "Check the deadline."

These borrowings are not merely occasional words; they show that English has become part of the academic and social discourse [1][7].

Multimodal expressions through emojis, which function as pragmatic elements replacing intonation and gestures [3][8]. Emojis as substitutes for intonation and gestures.

In fast conversations, students use emojis to express emotions:

-  for approval,
-  for sympathy,
-  for enthusiasm.

Example: a second-year student stated, "*When I'm happy, I don't write words; I just put .*" This is consistent with Kress's theory of multimodality, where communication relies not only on words but also on visual elements [3][8].

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Simplified Syntax.

This relates to the speed of communication and the nature of digital platforms [2]. Instead of complete structures, students often write: "Po vij tani" "Po vij", or "Shof nesër" instead of "Do ta shoh nesër". This simplification is particularly widespread in instant messaging and reflects the rapid pace of communication inherent to digital platforms, as noted by Androutsopoulos [2].

Changes by Academic Year.

First-year students use fewer Anglicisms , e.g., "Shihemi nesër në leksion". In contrast, third-year students often say: "See you tomorrow in class", mixing Albanian and English. This gradual change supports the idea that prolonged exposure to digital media increases linguistic influence [6].

Departments as a Differentiating Factor

Law students, due to the formal nature of their studies, prefer more standard communication: "Do të konsultohemi me profesorin".

Students in Foreign Languages, and Language-Literature/Media-Communication, use hybrid forms: "Let's talk with prof".

Examples by year and department:

"Shihemi nesër në leksion" (Year I, Media & Communication) vs.

"See you tomorrow in class" (Year III, Foreign Languages)

This indicates that the academic discipline influences communication practices [5][7].

a) Examples from Interviews

First-year student (Education): "I usually write in Albanian, but sometimes I use words like 'online' or 'deadline' because they are shorter and understandable for everyone."

Second-year student (Language-Literature): "When we chat, I often use emojis to express emotions. For example, instead of saying 'I'm happy,' I just put ."

Third-year student (Foreign Languages): "We use a lot of English in communication, e.g., 'Let's meet tomorrow in class.' It feels more natural because we read and speak English every day."

Second-year student (Law): "I try to avoid Anglicisms because formal language is required in our field. However, in quick chats I use emojis to save time."

b) Analysis of Examples

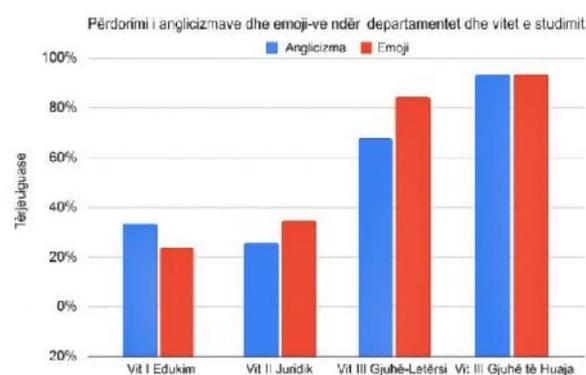
First-year students are more careful and use Anglicisms only when necessary.

Second- and third-year students show a progressive increase in hybrid language use, treating English as a natural part of communication.

Emojis appear as pragmatic elements, replacing intonation and gestures, making communication more expressive.

Law students maintain higher formality, while language-related departments are more open to linguistic innovation.

These examples support the international literature, where Crystal [1] and Tagliamonte & Denis [6] emphasize that online communication



serves as a linguistic laboratory where new forms of expression emerge. In Albania, Dervishi [5] and Hoxha [7] have noted that young people are more likely to use hybrid language, reflecting the influence of social media.

This phenomenon should not be viewed solely as a threat to the standard language but also as a sign of linguistic vitality. Thomason & Kaufman [4] highlight that language contact always

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produces new forms, which is part of the natural evolution of language. In this sense, digital media functions as a linguistic laboratory where Albanian is adapting to new cultural and technological realities.

However, it is important to note that this process also presents educational challenges. Educational institutions should raise students' awareness of the distinction between standard language and the hybrid language of online communication. This is essential for maintaining a balance between linguistic innovation and the standard norm, recognizing that language is a living system that continuously adapts [1][5].

Based on the concrete examples, we can conclude that:

Anglicisms have become an integral part of everyday vocabulary.

Emojis serve a pragmatic function, replacing gestures and intonation.

Simplified syntax is a result of the rapid pace of online communication.

Academic year and department influence the extent of hybrid language use.

Conclusions and Recommendations

This study concludes that digital media is a key factor in the linguistic transformation of university students. Its impact is evident in several areas:

Vocabulary: Students use Anglicisms such as *deadline, link, chat, online*, which have become part of everyday communication.

Syntax: Sentence structures are often simplified due to the rapid pace of communication.

Pragmatics: Emojis are used as expressive elements that replace intonation and gestures.

Changes by Academic Year: First-year students use fewer Anglicisms and emojis, whereas third-year students use them more frequently.

Departments as a Differentiating Factor: Law students maintain higher levels of formality, while students in Foreign Languages are more open to linguistic innovation.

Key Observations and Implications:

Digital media is creating a new variety of Albanian that requires academic attention.

Integration of modules on digital language in university curricula is necessary.

Awareness campaigns should be developed to preserve standard Albanian in formal contexts.

Further research in this area is recommended to monitor the evolution of language in the digital era.

Recommendations

In Teaching: Professors should raise students' awareness of the distinction between standard language and the hybrid language of online communication.

In Language Policy: Educational institutions may establish guidelines for the use of Anglicisms, accepting necessary borrowings while maintaining a balance with the standard norm.

In Media Education: Students should be trained to understand the role of emojis and multimodality in communication, without allowing them to fully replace written language.

References

1. Crystal, D. *Language and the Internet*. 2nd ed. Cambridge: Cambridge University Press; 2006.
2. Androutsopoulos, J. *Language and digital media: Sociolinguistic perspectives*. *Annu Rev Appl Linguist*. 2014;34:46–72.
3. Kress, G. *Multimodality: A social semiotic approach to contemporary communication*. London: Routledge; 2010.
4. Thomason, S., & Kaufman, T. *Language Contact, Creolization, and Genetic Linguistics*. Berkeley: University of California Press; 1988.
5. Dervishi, Z. *The influence of social media on the language of Albanian youth*. *Studime Albanologjike*. 2019;12(2):55–70.
6. Tagliamonte, S., & Denis, D. *Linguistic ruin? LOL! Instant messaging and teen language*. *Am Speech*. 2008;83(1):3–34.

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7. Hoxha, A. *Anglicisms in the Albanian language: A sociolinguistic analysis. Buletini Shkencor i Universitetit të Tiranës.* 2020;15(1):88–102.
8. Danet, B., & Herring, S.C. *The Multilingual Internet: Language, Culture, and Communication Online.* Oxford: Oxford University Press; 2007.
9. Labov, W. *Principles of Linguistic Change.* Blackwell; 1994.
10. Eckert, P. *Linguistic Variation as Social Practice.* Blackwell; 2000.
11. Thurlow, C., & Mroczek, K. *Digital Discourse: Language in the New Media.* Oxford University Press; 2011.

Review

The Congress of Manastir, the Rightful Pride of our Folk

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Abstract

The Congress of Manastir is an important link in the chain of century-long efforts that the Albanian people made 'with rifle and with pen' for the defense of our national existence and for securing the country's freedom and independence. Its roots lie in the centuries-old struggle of the Albanian people against foreign invaders who trampled Albanian land, against the Ottoman feudal reaction and the clerical one, against the neighboring chauvinistic circles and the great powers that supported them. The path of the letters was long and difficult, full of sacrifices and unstoppable. Although thorny, those who loved the light walked courageously, despising the centuries-old darkness. This titanic effort, as long and arduous as it was, has its roots deep in history. As a representative of the Union, Gjergj Fishta was elected Chairman of the Alphabet Commission. In his sensational lecture "On the Latin Alphabet", as an orator he excelled

above all Albanian orators, where he spoke for more than an hour and a half amidst the amazement and admiration of those present. The Union alphabet designed by Fishta summarized the most positive features of the existing alphabets and the Congress accepted it as the only Albanian alphabet. Time has shown the justice of this decision: it became the only national alphabet. The Renaissance dream was realized: one alphabet, one language, one nation.

Keywords: *alphabet, congress, Monastery, independence, language, Ottoman, nation, history*

Introduction

The Congress of Manastir constitutes an important link in the chain of centuries-long efforts undertaken "with rifle and with pen" by

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the Albanian people to defend national existence and to secure the freedom and independence of the country.

Its roots lie in the multi-century struggle of the Albanian people against foreign invaders who trampled Albanian lands; against Ottoman feudal and clerical reaction; against chauvinistic circles in neighboring countries; and against the Great Powers that supported them.

Although this struggle was unequal and marked by extraordinary sacrifices, paid with the blood of thousands of patriots, our people succeeded in creating and preserving a national, democratic Albanian culture.

The Congress of Manastir is one of the most important events in the Albanian national movement, representing the colossal efforts of our people to protect and develop Albanian culture, language, and writing.

With exceptional determination in its struggles against all the storms that swept over Albanian lands throughout the centuries, while confronting the efforts of various empires to eradicate and assimilate it, the Albanian people demonstrated a fervent love for their language and culture, for their development, and for the progress of the country. In this way, they proved their unwavering resolve to defend them with the same legendary heroism and bravery with which they fought for centuries for the freedom of the homeland.

Despite living under foreign domination, and particularly under the harsh and barbaric yoke of Ottoman feudal lords who pursued policies of assimilation and denationalization, denying Albanians their nationality and education in their mother tongue, at a time when the Greek Patriarchate of Istanbul and chauvinistic circles in neighboring states sought to erase the name and language of the Albanians, the struggle for Albanian culture and writing assumed particular importance. It became an integral part of the political and armed struggle of the Albanian people against Ottoman bondage, clerical reaction, and chauvinistic neighbors in the pursuit of national liberation.

The Historical Development of Albanian Writing

Our thirty-six golden letters... The Albanian alphabet marked its 117th anniversary on 22 November of this year since its unification at the Congress of Manastir, precisely where its standardization became a cornerstone of both language and nation.

The road of letters was long and arduous, filled with sacrifice and perseverance. Although thorny, those who loved enlightenment advanced courageously, scorning centuries-old darkness. This titanic effort, as lengthy and demanding as it was, has its roots deep in history.

The earliest Albanian works known to us today are religious and didactic in character, such as those by Buzuku, Budi, Bogdani, and others. These works emerged at a time when the Catholic Church strongly opposed the use of the vernacular as a liturgical language. Faced with the danger of the spread of Islamization and the ideas of the Reformation, the Church was compelled to permit the limited publication of certain religious works in native languages for the instruction of religious doctrine.

The Albanian language is one of the oldest languages of the Balkan Peninsula, just as the Albanian people are among the oldest peoples of this region. Like two other Indo-European languages, Romanian and Lithuanian, Albanian began to be written relatively late. The first Albanian book known to us today is *Meshari* by Gjon Buzuku, published in 1555. However, this date should not be considered the beginning of Albanian writing. Various facts demonstrate that Albanian must have been written long before Buzuku.

This does not refer merely to the three well-known documents—the *Formula of Baptism* by Pal Engjëlli, the *Vocabulary* of Arnold von Harff, and the *Gospel Pericope*—but rather to the existence of a genuine writing tradition. The presence of such a tradition has been acknowledged by several renowned Albanian and foreign scholars, including the Austrian albanologist Norbert Jokl, the Arberesh scholar

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Gaetano Petrotta, Eqrem Çabej, Mahir Domi and others.

In addition to linguistic arguments, historical testimonies also confirm that Albanian was written prior to Buzuku. Notable among these is the testimony of the French monk Brocardus, behind whose name stands the Archbishop of Tivar, Guillaume Adam. In a report from 1332, he clearly refers to the use of Albanian writing in everyday life and to the existence of books in the Albanian language. He states: "*Although the Albanians have a language entirely different from Latin, they nevertheless use the Latin script in all their books*"¹

This testimony is further corroborated by the statement of Marin Barleti, the renowned biographer of Skanderbeg, who in his Latin work *De Obsidione Scodrensis* (p. 27) writes: "*Some writings came into our possession—more fragments than annals—in which there was more discussion of the restoration carried out by our ancestors on this city (Shkodra) than of its construction. There it was written in the vernacular that a certain Roza and her sister Fa were the first founders of Shkodra, and therefore its fortress is called Rozafa.*"¹

Judging from these facts, we may conclude that the Albanian language was written at least from the thirteenth century, and possibly even earlier.

The reasons why Albanian was written relatively late compared to some other Indo-European languages must be sought in historical and political circumstances that prevented our ancestors from cultivating their mother tongue at an earlier stage.

Referring to the fact that from Roman times onward, our country was subjected to centuries-long domination by foreign invaders who attempted by every means to assimilate it, which as a result, had our ancestors were forced to stand with sword in hand to defend their lives, honor, and language.

Religion also played a negative role when imposed upon our people. Catholicism allowed only Latin as a liturgical language, the language of the Roman conquerors, while Orthodoxy permitted only Greek, the official language of the Byzantine Empire.

Similarly, Islam, spread in Albania by the Ottoman invaders, accepted only Arabic as the liturgical language, while Turkish functioned as the language of administration.

The earliest works known to us are religious and didactic in character, such as those by Buzuku, Bardhi, and Bogdani. They appeared at a time when the Catholic Church, historically opposed to the use of the vernacular in liturgy, was compelled, in the face of the spread of Islam and Reformation ideas, to allow limited publication of religious works in native languages.

The authors of these works employed an alphabet based on Latin, supplemented with several Cyrillic characters. This alphabet, first encountered in Buzuku and later refined by northern authors, became traditional in Catholic religious writings and continued to be used in Shkodra until 1909, even after the Congress of Manastir.

With socio-economic changes and the emergence of capitalist elements, the process of Albanian nation-building also developed, albeit with significant obstacles that slowed its pace. Nevertheless, it forged its own path, and alongside it the Albanian national movement gained momentum. Our Renaissance figures, through extraordinary efforts, left us a rich cultural legacy: the great Naim Frasheri, who burned like a candle to illuminate Albania; the immortal Sami Frasheri; Koto Hoxhi; and hundreds of others with enlightened minds, unmatched courage, and pure hearts. For the Albanian school and alphabet, the illustrious teacher Petro Nini Luarasi fought throughout his

¹ Marin Barleti, *The Siege of Shkodra* (translated by Henrik Lacaj), 2nd ed., Tirana, 1967, p. 35.

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life and was killed by enemies; Papa Kristo Negovani was massacred by Greek chauvinists, along with thousands of other patriots.

As early as 1825, Naum Veqilharxhi became the first compiler of an Albanian primer using original letters, which he refined and completed twenty years later.

At the International Congress of Eastern Peoples held on 10 October 1899, Jeronim de Rada presented his ideas, valuing Albanian as a language superior to any classical language and as a precious treasure for scholarship.

In 1872, Konstantin Kristoforidhi compiled another primer in both dialects.

The Istanbul Alphabet, which may be considered the greatest achievement of this effort prior to Manastir, was compiled by prominent patriots: Sami Frasheri, Jani Vreto, Pashko Vasa, and Hoxha Tahsin.

Despite some members of the Istanbul Society advocating other variants, Sami Frasheri insisted on a Latin-based alphabet with some Greek letters. Using the Istanbul ABC, also known as Sami Frasheri's alphabet, which spread rapidly, the works of Naim Frasheri were published.

The alphabets of the *Agimi* Society and the *Bashkimi* Society of Shkodra, together with the Istanbul Alphabet, became central topics of discussion at the Congress of Manastir.

Manastir as a Vilayet Center and the Birthplace of the Albanian Alphabet

Skanderbeg and Ali Pasha of Tepelena made an extraordinary contribution to transforming Manastir into a vilayet center and the birthplace of the Albanian alphabet. Albanian resistance dating back to the time of Gjergj Kastrioti, an early stronghold against Ottoman occupation, compelled the Sultan to deploy large military forces. To support these forces, various economic structures were built, completely altering the city's appearance and transforming it into a city of consuls, which also enabled its emergence as the center of the all-Albanian national movement. Aware that he could not defeat the Albanian hero

by force, the Sultan sought to pacify the region through Islamization. Consequently, it was no coincidence that the first mosque in the Balkans was built precisely in this city. Following the first mosque, many others were constructed, eventually numbering seventy-two, turning Manastir into the most important and attractive religious center, and later a military one as well.

Like Skanderbeg, Ali Pasha of Tepelena, beyond his desire for Manastir's independence from the Turks as an ancient Illyrian center, also confronted the issue of the Vlachs. As is known, he burned Voskopoje and several other places not for plunder, as his opponents claim, but to uproot Greek propaganda. This led to the displacement of many Vlach families, who migrated to Macedonia and consequently to Manastir.

They possessed knowledge of several languages and crafts, giving a significant impulse to economic development, trade, and craftsmanship, and paving the way for Manastir's transformation into a vilayet center.

The Congress of Manastir, which lasted ten days, required substantial financial resources, provided by some of the wealthiest Albanian families. As an important economic center, Manastir enabled certain Albanian families to accumulate wealth and use part of it in support of national causes, including the Congress of Manastir. The congress was held at the Liria Hotel of the Gërmenji family. It is impossible not to mention the Qiriazi family, the most patriotic family in the Albanian nation throughout all periods after the Frasheri family, from whom they drew national and patriotic inspiration.

The Albanian Language as a Means of National Unity

The Congress of Manastir was not merely a congress of the Albanian alphabet. No—it was far broader and more meaningful, because language was viewed as the indispensable instrument for awakening and deepening national consciousness and unity.

Although some of the most renowned figures of the National Renaissance, including

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Faik Konica and others, did not participate for various reasons, they welcomed and highly valued this historic event.

The congress was held in the presence of 150 delegates from all regions of Albania, as well as Albanian communities in Romania, Italy, Greece, Turkey, Egypt, and America—Albanians of all religious communities: Muslims, Catholics, Orthodox Christians, and Protestants, educated individuals united by a great national goal.

Amid tendentious writings of media propaganda from states with anti-Albanian policies, claiming that “Albanians are barbarians,” “uncivilizable,” or “destined to be dispersed”, the Congress began its work.

As a representative of the *Bashkimi* Society, Gjergj Fishta was elected Chairman of the Alphabet Commission. In his renowned address “*On the Latin Alphabet*,” he shone above all Albanian orators, speaking for more than an hour and a half amid the astonishment and admiration of those present. The address delivered by the Catholic priest Gjergj Fishta deeply moved all participants, to the extent that a Muslim cleric rose and embraced him publicly.

The *Bashkimi* alphabet designed by Fishta summarized the most positive features of existing alphabets, and the Congress accepted it as the sole Albanian alphabet. By unanimous vote, the Congress decided to set aside the Istanbul Alphabet and to write Albanian exclusively with a Latin alphabet of thirty-six letters. Time proved the correctness of this decision: it became the only national alphabet.

The Congress also decided to establish an Albanian printing press in Manastir under the direction of Gjergj Qiriazi. A distinguished participant in the Congress was the scholar, poet, and patriot from Shkodra, Ndre Mjeda. Eight of his thirteen proposals were approved. Although he spoke thirteen foreign languages and lived in several countries, he placed no language above Albanian.

It was also decided that after two years a second congress would be held in Ioannina to address orthographic and literary issues and to

make efforts toward merging the Gheg and Tosk dialects into a unified language.

One of the four greatest historical, linguistic, literary, cultural, educational, and state-forming events—referred to by scholars of history, linguistics, literature, folklore, didactics, and culture—will remain the Congress of Manastir. By eliminating other alphabets, it clearly expressed the idea and will of the Albanians that unity of alphabet, unity of language, and unity of culture have been and remain prerequisites that legitimize and render functional the political unity of the nation.

The Renaissance dream was realized: one alphabet, one language, one nation.

The Spread of Albanian Schools and Writing as Part of the National Movement

The Congress of Manastir gave new impetus to the struggle of our people against the Young Turk regime, and particularly to the struggle for Albanian schools and writing. At the end of 1908 and the beginning of 1909, Albanian patriots continued to spread Albanian schools and literacy throughout the country.

All these efforts, as part of the national movement, were carried out in fierce struggle against Young Turk and clerical reaction. To disguise their propaganda against Albanian schools and writing, the Young Turk Central Committee “*Union and Progress*” published a demagogic declaration in March 1909 stating that the committee “... *would remain neutral and would not intervene in the choice of the Albanian alphabet.*”³

Such a declaration was distributed to all Albanian clubs; however, it had no calming effect and was regarded as yet another intrigue and attempt to deceive Albanians.⁴

In order to eliminate all Albanian clubs and societies, the Young Turks passed a parliamentary decision in July 1909 to close Albanian clubs.

Albanian patriots protested against Young Turk terror. Dielli wrote at the time that “today conditions in Albania are worse than during the

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era of Abdul Hamid, and the Albanian language is persecuted more than ever before,"⁵ calling on Albanians "to unite and engage in the true struggle against the enemies of our nation, the final and decisive struggle against the Young Turks"⁶

Further momentum in the struggle for Albanian schools and writing was provided by the Congress of Elbasan, convened in the first week of September 1909.⁷

The establishment of the Elbasan Pedagogical School for the training of teachers for Albanian schools crowned the efforts of our patriots to develop Albanian education and culture.⁸

Conclusion

The Congress of Manastir was not merely a congress of the Albanian alphabet. It was far broader and more meaningful, because language was seen as the indispensable instrument for awakening and deepening national consciousness and unity.

One of the four greatest historical, linguistic, literary, cultural, educational, and state-forming events to which scholars of history, linguistics, literature, folklore, didactics, and culture have referred, and will continue to refer, remains the Congress of Manastir. By setting aside other alphabets, it clearly expressed the idea and will of the Albanian people that unity of alphabet, unity of language, and unity of culture have been and remain prerequisites that legitimize and ensure the functioning of the political unity of the nation. The founding of the Elbasan Pedagogical School for the preparation of teachers for Albanian schools was the crowning achievement of the efforts of our patriots in developing Albanian education and culture

References

1. *History of Albanian Literature I (Historia e Letërsisë Shqiptare I)*. (n.d.). pp. 155–156.
2. Barleti, M. (1967). *The Siege of Shkodra (Rrethimi i Shkodrës)* (H. Laca, Trans.; 2nd ed.). Tirana.
3. *Central State Archive of Albania (AQSH)*. (n.d.). *Fund "Bashkimi" Club of Manastir (Fondi "Klubi Bashkimi" i Manastirit)*, File 7, p. 11, Doc. 50109.
4. *Austrian State Archives – Haus-, Hof- und Staatsarchiv*. (1909, April 5). *Report of the Austrian Consul in Vlora (Raport i Konsullit Austriak në Vlorë)*.
5. *Dielli (Boston)*. (1909, September 17). Year I, p. 25.
6. *Central State Archive of Albania (AQSH)*. (n.d.). *Fund "Elbasan Societies" (Fondi "Shoqëritë e Elbasanit")*.
7. *Central State Archive of Albania (AQSH)*. (n.d.). *Fund "Dituria" Society, Korçë (Fondi "Shoqëria Dituria", Korçë)*, File 56.
8. *Central State Archive of Albania (AQSH)*. (n.d.). *Fund "Dituria" Society, Korçë (Fondi "Shoqëria Dituria", Korçë)*, File 2.

Original research

The Room of Voices: Existential Confinement and the Dismantling of the Socialist Subject in First Albanian Modern Opera

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Abstract

This article proposes a holistic reading of first Albanian composition opera as a paradigmatic case of post-Cold War, postmodern opera at the intersection of musicology and the social sciences. Drawing on international opera studies the study situates Dhoma within broader debates on interdisciplinary, cultural history, and compositional technique. The work breaks decisively with Albanian socialist realism, both aesthetically and ideologically, by adopting a chromatic, serially oriented musical language closely tied to an existentialist libretto.

Methodologically, the article follows the structure of a holistic dissertation project: first, it outlines the theoretical framework for an interdisciplinary analysis of opera; second, it examines Dhoma's compositional strategies in the vocal and orchestral domains, with particular attention to flexible uses of dodecaphony and

Grundgestalt-like motivic processes; finally, it interprets the opera as a cultural artifact that articulates post-socialist subjectivity, anxiety, and confinement.

The argument advanced here is that Dhoma can be read simultaneously as a technical laboratory for dodecaphonic procedures, as a narrative of existential entrapment, and as a postmodern intervention into the history of Albanian opera. In this sense, the work exemplifies how contemporary opera requires an integrated methodology that combines detailed musical analysis with tools from cultural sociology, literary theory, and performance studies.

Keywords: contemporary Albanian opera, operatic postmodernism, Albanian socialist realism, dodecaphony / serialism, existentialist libretto

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Studies on the operatic genre in the international literature (the interweaving of musicology and the social sciences)

Opera has always occupied, in a manner at once awkward and fertile, the crossroads of several disciplines. As Carolyn Abbate and Roger Parker¹ have argued "*likewise, this genre cannot be reduced either to the musical score or to the literary libretto: it constitutes a "composite art" that demands simultaneous attention to sound, text, scenography, and audience reception*"² Consequently, opera studies, when undertaken seriously, are by necessity interdisciplinary, given the very nature of the object they examine.

The most influential scholarships on this subject has articulated this thesis with particular clarity. Naomi André, for example (*a US musicologist and scholar in music, gender, and race studies*) demonstrates that issues of race and gender in opera can only be fully understood when scores and librettos are read in interaction with performance practices and their corresponding socio-historical contexts.³ Nicholas Till (*a British scholar of opera and music theatre, professor at the University of Sussex, editor of The Cambridge Companion to Opera Studies and author of studies on the cultural history of opera and its relationship to critical theory*) conceives opera as a performative event in which direction, scenography, and audience reception are just as constitutive of meaning as the written text itself.⁴ Linda Hutcheon (*a Canadian literary theorist and scholar known for her work on postmodernism and opera, who treats opera as a cultural space for reflecting on death and the modern subject*) goes even further, showing that opera often becomes a privileged medium for negotiating metaphysical questions about death, loss, and memory, thereby linking

musical analysis with cultural theory and with philosophies of mortality.⁵

Jane Fulcher (*a musicologist and distinguished professor associated with the "new cultural history of music," a specialist in nineteenth- and twentieth-century French music and in the relationships between music, politics, and ideology*), for her part, has called on musicologists to adopt a "new cultural history" approach, in which musical works are read within broader social, political, and symbolic structures rather than as autonomous artifacts.⁶

Thus, taking all this into account, the doctoral research dissertation on which this article is based takes these theoretical interventions seriously and extends them to the analysis of the opera *Dhoma*, the first work of its kind in this genre to be written in a contemporary post-socialist environment. The central methodological thesis is at once simple in formulation yet demanding in practice: opera must be treated as an inherently interdisciplinary object, in which musical technique, dramaturgy, visual concept, and socio-cultural context are interwoven into a dense and mutually dependent network. *Dhoma* provides a particularly compelling test case for such an approach, since its subject matter (existential imprisonment within a confined space) invites psychological, philosophical, and sociological readings, while its compositional language requires a high level of technical analytical engagement.

Albanian opera after socialist regime:
 breaking the framework

Within the history of Albanian opera, *Dhoma* represents a clear and self-conscious break with the previously dominant aesthetic model. For

¹ Carolyn Abbate is an American musicologist and professor at Harvard University, known for her influential contributions to the study of opera, the theory of musical narration, and the relationship between music, text, and stage. Roger Parker is a British musicologist specializing in nineteenth-century Italian opera, former professor at King's College London, and one of the leading scholars of the works of Verdi, Donizetti, and the cultural history of opera; together, they are co-authors of *A History of Opera*.

² Cit. from Carolyn Abbate and Roger Parker, *A History of Opera*

³ Naomi André, *Voicing Gender and Race in Opera*

⁴ Nicholas Till, ed., *The Cambridge Companion to Opera Studies*

⁵ Linda Hutcheon, *Opera: The Art of Dying*

⁶ Jane F. Fulcher, ed., *The Oxford Handbook of the New Cultural History of Music*

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decades, traditional operatic production in Albania had been shaped by the aesthetics of socialist realism: a musical language grounded in stable tonality, a straightforward and transparent narrative, and an openly didactic and ideological function. In opposition to this paradigm, Ermir Dergjini's work subjects these expectations to a systematic process of deconstruction.

The work in question abandons diatonic-tonal syntax in favor of a highly chromatic, serially inclined language that is closely bound to the philosophical-existential horizon of the libretto. The libretto itself, directly influenced by existentialist thought, no longer constructs a heroic narrative of liberation but articulates a condition of psychological "imprisonment," in which the "room" is as much a mental as a physical space.

The text is based on Jean-Paul Sartre's¹ drama *No Exit* and depicts the way in which three deceased characters find themselves locked in a room in hell, without mirrors and without any possibility of escape. Gradually, they come to understand that no physical torture is required: they will torture one another endlessly through judgement, desire, shame, and mutual dependence. At its core, the work conveys Sartre's well-known idea that hell is other people; that is, the human being finds himself trapped within the gaze of others, but also within their own refusal to assume responsibility for their freedom and their choices.

In this context, serial technique functions as a means of articulating anxiety, cyclical rotation, and the impossibility of definitive resolution. The rupture with socialist realism is, consequently, twofold:

On the musical plane, through the abandonment of functional tonality and the embrace of a dodecaphonic ethos;

On the ideological plane, through the shift of focus toward individual consciousness,

ambiguity, and moral uncertainty, rather than a collective teleology.

This move aligns *Dhoma* with broader modernist and postmodernist tendencies of the twentieth century (Schoenberg's serialism, Berg's psychologically charged atonality, as well as later post-serial experiments), yet it does so from a specifically Albanian vantage point, marked by the historical experience of isolation and the turbulent transitions after the 1990s. It is precisely this double inscription (at once local and transnational) that renders the opera an exceptionally rich object both for musicological analysis and for research approaches within the social sciences.

Methodological premise – Technique as an independent analytical layer

One of the most important theoretical moves in this study is the decision to detach the analysis of compositional technique from the traditional segmentation of operatic form into acts, scenes, and numbers. Instead of treating each "number" as a self-sufficient unit, the analysis follows the internal logic of serial and motivic processes, which extend beyond classical formal boundaries.

Carl Dahlhaus has emphasized that compositional techniques are responsible for the internal cohesion of a musical work, regardless of its external formal configuration. Likewise, Theodor W. Adorno, in his writings on opera and new music, insists that music is not merely a support for text and stage action, but an autonomous bearer of intellectual and emotional content. Carolyn Abbate, in *A History of Opera*, similarly cautions that overly rigid structural schemata can obscure the ways in which technical procedures generate meanings that go beyond formal labels. In the same vein, Julian Johnson argues that the analysis of compositional

¹ Jean-Paul Sartre was a philosopher, writer, dramatist, and one of the central figures of French existentialism. He argued that the human being is "condemned to be free": there is no pre-given essence, but

rather we construct ourselves through our choices, and are therefore fully responsible for those choices and their consequences.

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technique often brings to light a musical "narrative" that traverses and exceeds conventional boundaries, carrying a carrying a significant philosophical weight².

Drawing on this contextual framework of perspectives from leading scholars and critics in the field of opera studies, the analytical strategy I have adopted for this opera does not begin from traditional formal divisions, but from three interrelated levels:

1. The vocal lines, examined as linear projections of serial and motivic processes.
2. The orchestral fabric, studied as a stratified field of dodecaphonic series, partial rows, and textural techniques.
3. The vertical sonorities, treated as an autonomous dimension of harmonic and coloristic organization.

This threefold division makes it possible to observe how the technical "skeleton" of the opera supports its dramaturgical and psychological content, rather than assuming a priori that form is what explains technique.

Intersubjectivity, power, and social roles: a psychosocial analysis of the characters

The opera in question can be read as a miniature social laboratory, in which four individuals are placed within an enclosed space and forced to confront both themselves and one another. The "room" is transformed into a micro social model of hell, where relationships, gazes, guilt, and social expectations generate suffering more efficiently than any form of physical torture.

In other words, instead of flames and demons (as one might expect in a traditional imagination of hell), what is presented is a system of relationships: isolation, the absence of personal belongings, the absence of a mirror, the presence of a cold and impersonal servant, and three other individuals (the entire plot thus revolves around these four characters) locked into an endless game of surveillance, judgement, and self-justification. This shifts the operatic work away from a conventional "narrative"

toward a psychosocial study of guilt, identity, freedom, and structural constraints.

Garsen is the fractured axis of this universe: stripped of his social attributes and terrified by the lack of any "mirror," he is forced to confront his own cowardice, the failure of the traditional masculine model, and his moral fragility. For him, "hell" is the impossibility of controlling the way he is seen, a radical fall from the role of the "strong," self-legitimizing man. At the opposite pole stands the Servant, a cold bureaucratic functionary who applies rules without explanation and embodies an anonymous system that administers bodies and destinies while remaining entirely indifferent to the inner world.

Inesi enters as a lucid, aggressive female subject, devoid of false guilt: she rejects the status of victim, embraces cruelty and manipulative capacity, and exposes the hypocrisy of gender norms. In contrast, Estela is crushed by the pressure of social image: haunted by guilt, she clings to the façade of the perfect mother and wife, while internally experiencing shame and self-contempt.

Taken together, these characters testify that hell is not a place, but a structure of relationships in which people become instruments of torture for one another.

Orchestral serialism and textual space

If the voices carry the psychological narrative directly, the orchestra creates the environment (both acoustic and symbolic) within which that narrative unfolds. In the case at hand, and especially in the opening moments of the work, analytical attention focuses primarily on the string instruments, where complete series and compositional techniques based on partial twelve-tone rows frequently intersect.

If one allows a brief parallel (linking music with the social sciences), this compositional technique can be read as an acoustic metaphor for the social complexity of late modernity: multiple rules and systems coexist, sometimes align, more often collide, yet nonetheless produce a coherent environment (even when it is

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profoundly dissonant). The “room” in this opera is not merely a physical space with four walls; it is transformed into a dense network of superimposed orders from which the characters cannot easily free themselves.

Existentialism, postmodernism, and cultural meaning

As noted above, the libretto of the opera *Dhoma* is powerfully grounded in explicitly existentialist motifs. The chromatic and serial musical language amplifies these themes precisely by avoiding traditional cadential closure and stable tonal centers. Harmony remains in a state of continuous tension; repetition does not bring resolution or repose, but instead deepens the sense of blockage and inner captivity.

From this perspective, the opera is closely aligned with the broader tendency of postmodern opera to question metanarratives and fixed identities. Rather than offering a linear narrative with clear moral conclusions, *Dhoma* exposes the fractured inner life of its protagonists.

As Hutcheon observes, opera possesses a particular capacity to stage death and crisis as spaces of cultural reflection; in this case, “death” is not only physical but profoundly existential – a death of certainty, of ideological comfort, and of the older socialist-realist subject.¹

At the same time, the work is deeply rooted in the specific contours of Albanian historical experience. The break with socialist realism, the appropriation of new compositional means, and the focus on interior psychological space reflect broader social transformations after the 1990s: the shift from collectivist ideology to individual precariousness, and from cultural isolation to an abrupt and often disorienting encounter with global modernism. In this sense, *Dhoma* can be read as a sonic archive of post-socialist subjectivity, in which sound preserves the traces of the traumas, expectations, and ambivalences of this transitional period.

From a social-science perspective, the opera cannot be regarded merely as a formal musical experiment; rather, it appears as a narrative about the ways in which individuals experience structural change. Serial techniques, with their strict rules and deliberate violations, mirror the tension between inherited norms and the desire for personal autonomy. The confined stage space becomes a metaphor for the constraints of a society in transition, in which freedom is perceived simultaneously as potential and as impediment. Likewise, the fragmentation of the vocal lines reflects the fragmentation of identity itself: the post-socialist subject emerges as fractured, unsettled, and compelled to negotiate between ideological inheritance and the demand for self-determination within a new historical reality.

Personal conclusions: Toward a holistic theory of contemporary opera

This article has argued that this work, as the first contemporary operatic creation after the 1990s, clearly exemplifies both the necessity and the concrete outcome of a holistic, interdisciplinary approach to the study of contemporary opera. On the one hand, the work demands a rigorous technical reading: without close attention to serial procedures, motivic cells, and orchestral stratification, the core of Dergjin’s compositional mastery is lost. On the other hand, to stop at technique alone would amount to a kind of betrayal of the opera’s cultural and philosophical ambition. Only by integrating music theory with cultural history, philosophy, and performance studies does it become possible to understand what this work actually “says” about existence, history, and the condition of the post-socialist subject.

The case of *Dhoma* suggests several broader conclusions for opera studies and for the dialogue between musicology and the social sciences:

- *Serial technique* is not inherently cold or abstract; in the hands of composers such as

¹ Hutcheon, Linda, dhe Michael Hutcheon. *Opera: The Art of Dying*.

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Dergjini, it becomes a powerful expressive medium for articulating both psychological and social conflict.

- *Vocal lines* must be read as agents of narrative and subjectivity, not merely as carriers of text; their intervallic and rhythmic behavior encodes different modes of being in the world.

- *Orchestral textures* can be interpreted as sonic environments that reflect the complexity and opacity of modern social structures.

- Local histories have real weight: placing a postmodern Albanian opera in dialogue with international theory enriches both sides, showing that traditions often considered "peripheral" are capable of making central contributions to global debates on opera and modernity.

References

1. Abbate, C. (2001). *In search of opera*. Princeton University Press
2. Abbate, C., & Parker, R. (2012). *A history of opera*. Penguin Books
3. Adorno, T. W. (2002). *Essays on music* (R. Leppert, Ed.). University of California Press
4. André, N. (2006). *Voicing gender and race in opera*. University of Illinois Press
5. Covach, J. (2002). *Twelve-tone theory*. In T. Christensen (Ed.), *The Cambridge history of Western music theory* (pp. 603–627). Cambridge University Press
6. Dahlhaus, C. (1983). *Analysis and value judgement*. Pendragon Press
7. Erwin, M. (2020). *Herbert Eimert and the Darmstadt School: The Consolidation of the Avant-Garde*. Cambridge University Press. Source: Eimert, H. (1964). *Grundlagen der musikalischen Reihentechnik*. Universal Edition.
8. Fulcher, J. F. (Ed.). (2011). *The Oxford handbook of the new cultural history of music*. Oxford University Press
9. Hutcheon, L. (2004). *Opera: The art of dying*. Harvard University Press
10. Johnson, J. (2002). *Who needs classical music? Cultural choice and musical value*. Oxford University Press
11. Till, N. (Ed.). (2012). *The Cambridge companion to opera studies*. Cambridge University Press

Review

POLITICAL-LEGAL AND ECONOMIC SCIENCES

Review

OWNERSHIP OF INTANGIBLE RIGHTS - COPYRIGHT

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Abstract

Copyright is the type of property characterized by its intangibility, which is hardly perceivable by our physical senses. This special feature determines the way copyright is managed by authors and used by others. The absence of tangibility does not mean that copyright consists of mere ideas and concepts, on the contrary, it requires the fixation of the idea in whatever form in a tangible medium of expression. Not the idea itself, but the way it is expressed must be original. That dose of originality in the way the idea was developed stems mainly from the ways selected by the authors to use their creative skills.

Work is the idea transformed into an intellectual product, based on new artistic perceptions, addressing emotions and senses. But the intangible copyright is not closely related, nor does it depend on the fate of the copies of the work. The Albanian Law on Author's Rights provides that "*Copyright exists independently of any property right over the physical object in which the intellectual creation is expressed or*

materialized." Except for a few cases, this makes it non-consumable as long as it has not expired. The paper will explain that copyright is a valuable asset, but it cannot be considered a classic form of property. Copyright ownership exists from the moment a work is created and comes about as the result of the creation. Intangibility determines the main difference from other material properties. The use and application of copyright as intangible are not limited to one user or fixed in a geographical location. The paper will further analyze how intangibility imposes the existence of specific legal rules on how to own and use copyright, and it will also indicate the differences in the owner's rights and the author's rights. It also will highlight the difficulties in protecting copyright as intangible property as not limited by physical boundaries.

Keywords: copyright, intangible rights, ownership, economic rights, medium of expression

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Introduction

The right to property is one of the most important human rights. All international documents regarding human rights (UDHR, art. 17; Protocol 1 to ECHR, art.1; EU CFR, art. 17) emphasize the right to enjoy and exercise the rights of the owner. At the same time, the protection of intellectual property is explicitly mentioned under the same provision that expresses the protection of the right to property. (EU CFR, art. 17) Property has been an important legal concept since ancient times. While it has been affiliated with tangible types of property and physical world, where the boundaries were perceived clearly the progress of society, economy and technology has introduced the intangible type of property.

The Albanian Civil Code (ACC) distinguishes objects (*res*) from rights. ACC describes ownership over *res* as the owner's power to freely enjoy it economically, and dispose of it within legal limits, thus identifying *res* referring to its material nature and its economic utility. Under this perspective, the rights lack material character, but their exploitation produces economic benefits.

The rights deriving from intellectual products of arts, literature, and science are different. They seem to be related to a material intellectual product, the work, but they originate from the content of the work that reflects the original and individual way of expressing the author's ideas. This bundle of rights over the work is legally recognized as copyright, a different category of property. It is a non-physical property, often generating immense financial gain. Precisely for its special features, it has its system of rules, that governs its protection, use, license, and termination.

This article will explain that copyright is an asset, but it cannot be considered a classic form of property. Copyright ownership exists from the moment a work is created and comes about as the result of the creation. Intangibility determines the main difference from other material properties. The use and application of copyright

as intangible are not limited to one user or fixed in a geographical location. The paper will further analyze how intangibility imposes the existence of specific legal rules on how to own and use copyright, and it will also indicate the differences in the owner's rights and the author's rights. It also will highlight the difficulties in protecting copyright as intangible property as not limited by physical boundaries.

Acquiring and exercising property rights

Property is acquired according to the ways provided by the Civil Code (Art. 133), through:

- contracts and agreements that are intended to transfer ownership,
- rules of succession,
- law,
- court decisions,

involving some formal act or legal recognition.

The classic form of property, the one over objects, both movable or immovable, is explicit and totally perceivable by our physical senses. There is an object over which the ownership can be created, changed, transferred, waived, or terminated through unchanged legal ways for thousands of years. The immovable goods and others must be registered in public registers when required by law. *"Registration does not ensure the validity and effectiveness of the title of ownership. This is because the registration system does not create rights but is a declarative system."* (Albanian High Court Decision, 2024) This approach is based on a previous Unifying Decision according to which the registration is a common formality or a means of giving publicity to the transfer of rights. (Albanian High Court Unifying Decision, 2009) The Albanian law recognizes the power of registration that serves multiple functions: the certainty about the ownership making it a public knowledge, it facilitates transferring the rights and legal transactions and create reliable state data. The propriety rights belong to the owner, thus meaning an exclusive relationship with the *res* that excludes others. He has the right to transfer part of his rights, without losing ownership. The

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transferred rights are related to the use of *res* according to its economic purpose.

On the other hand, there is the work, deriving from the idea transformed into an intellectual product, based on new artistic perceptions, addressing emotions and senses. It is also tangible in a medium of expression, which serves to prove the genius of the author. (D'Ammassa, 2014) However, copyright exists independently of any property right over the physical object in which the intellectual creation is expressed or materialized. (ALAR, art. 43/1) The intangibility feature is the primary reason for the different treatment compared to classical types of properties.

Copyright over the works exists from the moment the work is created by its author and both economic and moral rights are vested in him. There is no formality required to prove the unique bond between the author and its creation. The work belongs to its author without the need to register it according to the Free Formality Principle. This important principle is reduced to an optional provision for the Union states to include or not in their domestic laws, since the revision of the Berne Convention, in Stockholm in 1967. (WIPO, 2003)

The creation process is the only possible way that makes someone an author. (ALAR, Art. 17) Attribution is of utmost importance regarding the work. The name of the author is attached to the work like a brand name. The author has automatically moral and economic rights over the work. The first one stays with the author and cannot be transferred, licensed, or waived *inter vivos*. The author can keep and use the economic rights, or he can transfer, license, or waive them away. The rights received by the author are exclusive, meaning the author is the only person with the power of decision-making over the work. Given that the boundaries of ownership over tangible objects are natural and easily understood, but also legally regulated, through the provision of authors with exclusive rights, several new boundaries are "artificially" created. (Aliprandi, 2014)

According to ACC the only way the author acquires ownership of copyright is by law, the *lex specialis* that establishes that. Other forms of transferring rights do not make the new acquirer author, but copyright holder. This is a real and critical distinction because in transferring the traditional type of property, the tangible one, there is a new owner with the same rights as the previous one. The right holder has some of all the economic rights transferred *inter vivos* by the author, but he cannot have the moral rights that cannot be waived, alienated or licensed. The moral rights protect the creative integrity and good name of the creator expressed in his work. Economic rights protect the economic interest of the author and allow the author to benefit from the direct or indirect exploitation of his work. (WIPO, 2008) Economic rights belong initially to the creator of the work, usually as a party with the capacity to negotiate and enter into agreements. (O'Hare, 1982)

The author has no ownership of the copies of the work once they are sold or donated. The first sale doctrine dispossesses him from the property over the copy. Nevertheless, the loss of control over the copies sold does not affect his status as author. The author continues to own the content and generally, he can reproduce endless copies of the work. An owner, once sold or donated his *res*, loses all his rights over it.

The author, due to his moral rights, may impose the user of work restrictions on the use and exploitation of it. The right of withdrawal arose as a response to the author's dilemma of whether to give priority to his injured personality and morals, or to the implementation of the contract. The right to withdraw is based on the prevailing idea that the work remains the author's "spiritual creation" as a profound expression of his personality and that whatever happens, the close connection between the author and the work is not interrupted. (Stromholm, 1957) The resale right offers the possibility for the author to benefit from future resales of his visual artwork. (ALAR, Art. 33) These rights guarantee continuous control of the author over the work.

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The owner does not contain any kind of rights that prevents complete detachment from *res*

The *res* can be used by one or several users depending on the type and size. The immovables can only be used in the place where they are located. Consumables can only be used once or more.

The content of the work can be used without limits, and most works can be reproduced without any restrictions by creating as many copies as the author wishes. At the same time, many people all around the world can use the content of the work easily, completely, and without hindering others, thus considering copyright "*pure public goods*" (Yoo, 2007) characterized by their non-rivalry nature. (Marcowitz-Bitton, et al., 2023) In most cases, carrying them is simple as well, because of the digital copies of the works. There is another crucial difference between the use of *res* and works. If someone is using *res*, nobody else can use that at the same time. The work permits simultaneous and different uses of it. Copyright cannot be subject to the execution of obligations. Only the economic benefits derived from the use of copyrighted work may be subject to the execution of obligations. If the author has violated a contractual obligation, by not completing the work or by not publishing the manuscript, he is not obliged to fulfill it, but he will be responsible for the damage resulting from it. There is another advantage of copyright over the classic type of property. The law recognizes and permits the use of the institute of expropriation that can occur when the state decides that in the public interest someone should be deprived of the right to property. This institute expresses the priority given to public interest over private interest by striving for the owner of his property and denying him the further exercise of his rights. The state's decision-making is subject to a completely legal procedure and obliges it to compensate the owner for the full value of his property. (ACC, Art. 155) While expropriation in this sense cannot exist for copyright.

The ownership term of protection

The ownership over *res* exceeds the owner's life. The ownership passes to the legitimate heirs without an expiry date. They became the new owners. The ways ownership ends are also provided by the Civil Code. Thus, traditional ownership of *res* can be considered "eternal". When the owner dies, the ownership is passed to heirs fundamentally without any changes, who have the same rights as the previous owner. The perpetuity feature creates overlapping of assets of the future generations.

Economic rights and the moral rights too, also exceed the author's life. The first one is applied a term of protection of 70 years *pma*. The *ratio* behind the term of protection is related to the public importance of the works. The works enter the public domain once the economic rights have expired. The worst scenario for moral rights is to be protected as long as the economic rights of the author. (Berne Convention, Art. 6bis/2) In Albania moral rights are perpetual. They are related to the unique and personal bond of the author with his work. Nevertheless, succession never makes his heirs to be considered authors. The heirs exercise copyright as right holders. So, there is a different status for the legitimate heirs. The economic rights of authors are not perpetual to clearly express the role of creativity. It is often prescribed as an "agreement" between the authors and the public, where the authors and their heirs can exercise copyright only for a period and after that the works enter the public domain to be enjoyed by the public without any restriction and free of charge.

Protection of copyright

The owner, the author or the rights holder are always exposed to the risk of their property being damaged, destroyed, stolen or misused. Although the risk approaches different assets, in different forms and ways, property owners are forced to face these challenges by relying on appropriate legal measures, culminating in protection through the courts. While the owner of a tangible

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object is usually concerned about functioning, and physical integrity of their *res*, which can be violated by human actions or the forces of nature, the author or right holder is concerned not only about the violation of economic rights, but also about the violation of moral rights.

The protection of *res* requires diligent care, proportional to the risk that may be posed to it. So, the owner must protect it from damage, loss, theft, or destruction or through legal means to prevent someone else from acquiring ownership of it. The owner of tangible objects has more possibilities to protect their property: physical security like borders, locks and fences, or insurance against loss.

Copyright is much more complicated to protect. After all, copyright protection points to safeguarding the creativity of human beings. Copyright violations are difficult to detect and often are "accepted" or considered "morally ambiguous". (Marcowitz-Bitton et al., 2023) There are authors that believe that copyright infringements are not to be recognized as criminal offenses. Especially the digital environment makes it quasi-impossible to prevent every unauthorized use of the work. Online piracy, plagiarism, and infringement of moral and economic rights have become common situations faced by authors in the world today. Thus, copyright infringement often occurs on a large scale, meaning serious damage to rights holders. That is why authors support the idea that there should be an overlap of protection through technological protection measures over legal protection. (Ginsburg, 2005)

Conclusions

Property rights are the most important human rights, provided by all national legislations worldwide and by international declarations and conventions. But copyright is the most sacred right. It is direct compensation for the creative process and for the intellectual products which are treasured as public goods. Although there exist difficulties in perceiving the fact that copyrights are a type of property. The

intangibility determines acquisition, exercise, transfer, and protection of copyright. Different from the traditional and tangible type of property where the owner is at the center of the legal relationship between the *persona* and his *res*, it is of utmost importance to understand that the author, copyright holder, and physical owner have distinct legal statuses.

Copyright is an intangible asset, currently of immense value and the authors state that copyright is their currency. It is difficult to create a safe place to save copyright from a variety of infringements, due to its intangible nature that creates specific challenges that do not exist for traditional property.

Four best strategies that can be effective in the long-term protection of copyright are:

- Enforcing the law, especially the criminal law.
- Raising public awareness.
- Developing technological solutions.
- Applying reduced price for obtaining copies of the works.

These strategies, if adequately applied can help to find the right balance between the private interest of the creator and the public interest.

References

1. Aliprandi, S. (2014). *Capire il Copyright. Percorso Guidato nel Diritto d'Autore. Ledizioni*. <https://books.openedition.org/ledizioni/221?lang=en>
2. D'Amassa, G. (2014). *La storia* <https://dirittodautore.it/la-guida-al-diritto-dautore/la-storia-del-diritto-dautore/>
3. Ginsburg, J. C. (2005). *Legal Protection of Technological Measures Protecting Works of Authorship: International Obligations and the US Experience. The Columbia Journal of Law & the Arts*, 29 https://scholarship.law.columbia.edu/faculty_scholarship/1377
4. Marcowitz-Bitton, M., Fischman-Afori, O. & Billauer, H. (2023). *The Future of Criminal Enforcement of Copyright: The Promise of Civil Enforcement. George Mason Law Review*, 30(2) <https://lawreview.gmu.edu/wp-content/uploads/2023/04/Marcowitz.pdf>

Review

5. O'Hare, M. (1982). *Copyright and the protection of economic rights*. *Journal of Cultural Economics*, 6(1) <https://www.jstor.org/stable/41810305>
6. Strömholm, S. (1957). *Droit Moral – The International and Comparative Scene from a Scandinavian Viewpoint*, Stockholm Institute for Scandinavian Law <https://scandinavianlaw.se/pdf/42-14.pdf>
7. Yoo, C. S. (2007). *Copyright and Public Good Economics: A Misunderstood Relation*. *University of Pennsylvania Law Review*, 155 https://scholarship.law.upenn.edu/cgi/viewcontent.cgi?article=1779&context=faculty_scholarship
8. WIPO (2003). *Guide to the Copyright and Related Rights Treaties administered by WIPO and Glossary of Copyright and Related Rights Terms*. WIPO Publications No. 891 <https://www.wipo.int/publications/en/details.jsp?id=361>
9. WIPO (2008). *Copyright and Related Rights, Module 5* https://www.wipo.int/export/sites/www/sme/en/documents/pdf/ip_panorama_5_learning_points.pdf
10. *Universal Declaration of Human Rights*
11. *Berne Convention for the Protection of Literary and Artistic Works*
12. *Protocol to the Convention for the Protection of Human Rights and Fundamental Freedoms*
13. *EU Charter of Fundamental Rights*
14. *Albanian Civil Code*
15. *Albanian Law 35/2016 "On Author's Rights and Other Related Rights"*
16. *Albanian High Court Unifying Decision no. 1, date 06.01.2009*
17. *Albanian High Court Decision no. 190, date 17.04.2*

Review

Minors in the Criminal Process International Standards and Their Reflection in Albanian Judicial Practice

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Abstract

Minors constitute one of the most vulnerable and at the same time most important categories of a society. This article analyzes an integrated manner, the treatment of juveniles in conflict with the law and the rights of juvenile victims in the criminal process, focusing on the practical legal challenges related to the protection of children and the guarantee of justice.

The article deals with the institute of avoidance of criminal responsibility and the problems that have arisen in practice as well as the suitability of the minimum age for criminal responsibility, analyzing the possible impacts on the rehabilitation of minors and the protection of society, in a current situation that shows an increase in the number of minors involved in serious crimes against life.

Special attention is paid to minors victims of criminal offenses, the guarantees they possess, focusing on minors victims for crimes of a

sexual nature, in order to highlight the risk of re-victimisation during the criminal process and the need for adequate protection mechanisms.

In this paper, the minor in conflict with the law or victim of a criminal offense will be viewed from the perspective of international standards and Albanian legislation, from the moment of first contact with state institutions until the termination of the criminal case.

Keywords: minor in conflict with the law, minor victim, institute of avoidance, restorative justice, international standards, Albanian legislation.

"Nothing reveals the soul of a society more profoundly than the way it treats its children."

Nelson Mandela

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Introduction

The justice for juvenile crime constitutes an essential area of the rule of law, where the need for the protection of society is combined with the guarantee of the best interests of the child. The criminal treatment of minors has a special legal, ethical, and social dimension, since the minor is considered a developing subject, with a limited capacity to understand the consequences of his or her actions. The Constitution of the Republic of Albania, in its article 54, provides that children enjoy the right to special protection by the state. With the guiding principle of "the best interests of the child", in the function of a juvenile-friendly justice, the Albanian legal framework now enjoys a special criminal and procedural law in the field of protecting the rights of juveniles in all phases of criminal proceedings. The Juvenile Criminal Justice Code reflects international standards of restorative and rehabilitative justice.

This Code highlights the most important principles in the field of protection of children's rights, provided by the Constitution of the Republic of Albania, the United Nations Convention on the Rights of the Child and other international acts ratified by the Albanian state. This Code provides special regulations for minors in conflict with the law, minor victims, minor witnesses during their investigation, trial, execution and rehabilitation, and regulates the scope of activity of other entities participating in this process.

The adoption of the Juvenile Criminal Justice Code marked an important step towards harmonization with international standards. However, judicial practice has raised issues that need continuous treatment. This article aims to analyze the main challenges in the treatment of minors in the criminal process, the

implementation of the provisions of the Criminal Procedure Code, the legal omission of issues that have emerged during judicial practice, referring to the minor in the position of one in conflict with the law but also in the capacity of a victim.

Juveniles in conflict with the law

Age of criminal responsibility in the light of domestic and international law.

"For the purposes of this Convention, a child means every human being below the age of 18 years unless, under the law to which he or she is subject, majority is attained earlier." ¹ ; "For the purposes of this Convention: ² a) "child" means every person below the age of 18 years;" ³ ; "A minor means every person below the age of 18 years." ; "A child means every person below the age of 18 years. Where the age of a person cannot be accurately determined, but there are reasons to believe that the person is a child, he or she shall be considered a child for the purposes of this law until such time as his or her age is determined in accordance with the law in force." ⁴

What is evident from these legal definitions is that, unlike international Conventions that are unified in choosing the term "child" to refer to persons under the age of 18, the Juvenile Criminal Justice Code (hereinafter the JCJC) has chosen a term that is different from the Conventions but also from the special Law on the Protection of Children's Rights. It is estimated that such a stance was taken with the aim of unifying the legal terminology of the JCJC with the Code of Criminal Procedure.

Article 7 of the KDPM provides:

1. For the purposes of criminal liability for crimes, a minor is considered a person who has reached

¹Article 1, CONVENTION ON THE RIGHTS OF THE CHILD, Adopted by the General Assembly of the United Nations on 20 November, 1989. <https://www.unicef.org/montenegro/media/9291/file/MNE-media-MNEpublication505.pdf>

² Article 3, Lanzarote Convention, Council of Europe Convention on the "Protection of Children against

Sexual Exploitation and Sexual Abuse". <https://rm.coe.int/168046e1e3>

³ Article 3, point 3, Juvenile Criminal Justice Code.

⁴ Article 3, Law No. 18/2017 "On the Rights and Protection of the Child."

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the age of 14 years, but not 18 years at the time of committing the crime.

2. For the purposes of criminal liability for criminal offenses, a minor is considered a person who has reached the age of 16 years, but not 18 years at the time of committing the criminal offense.

The age of criminal responsibility is considered the age at which a person is considered capable, able to understand the importance and responsibility of his actions and who is subject to criminal proceedings.

The Convention on the Rights of the Child (hereinafter CRC) does not provide for an age limit for criminal responsibility, but requires States Parties to establish a minimum age below which children are presumed incapable of violating the criminal law and to bear criminal responsibility¹. According to our general and special criminal legislation, the age of criminal responsibility for crimes for minors begins with the attainment of the age of 14 to the age of 18 (when considered an adult), while the age of criminal responsibility for criminal misdemeanors for minors begins with the attainment of the age of 16 to the age of 18. Of course, determining the minimum age for criminal responsibility is a specific element for each state based on socio-cultural conditions, balancing the need for state intervention to prevent further criminal activity by the minor, the need for his or her re-education at the earliest possible time, and the protection of society from high crime.

The problem that arises in practice is related to the fact that what will happen to minors under the age of criminal responsibility, who consume the elements of a criminal offense?! The above does not refer to cases when a minor under the age of criminal responsibility commits a criminal

offense by being pushed by adults, since in this case we are in the conditions of Article 129 of the Criminal Code².

In Article 4, point 3, the KDPM states: *"The regulations provided for in this Code do not include minors who commit criminal offenses under the age of criminal responsibility, against whom criminal proceedings are not initiated or, if they have been initiated, are immediately terminated. In this case, child protection structures are put into motion and all measures provided for by the law on the rights and protection of children are implemented, in order to provide them with the same procedural guarantees, assistance and services as for minors in conflict with the law/victim or witness, with regard to the interrogation process and contact with the police and prosecution bodies."*

In reference to the above, the Law "On the Rights and Protection of the Child" (hereinafter LDMF) in Article 55, point 2, letter dh) provides: "Protective measures are imposed on a child who has committed a criminal offense and, due to his/her age, does not have criminal liability." While Article 66 of LDMF provides for "Specialized Supervision" as a protective measure of these children in activities such as going to school regularly; participating in pre-social service activities; following medical treatment or psychological counseling; prohibitions to go to or frequent certain places. But, is "specialized supervision" an effective and proportionate protective measure in cases of serious crimes, such as serious intentional injury, intentional murder, violent theft, sexual relations with minors, recidivists in these offenses.

The Criminal Code, in Article 46, entitled "Medical and Educational Measures", provides that, Educational measures may be given to minors who are exempt from punishment or

¹ Article 40/3 "States Parties shall endeavour to promote the establishment of special laws, procedures, bodies and institutions for children alleged as, accused of, or recognized as having infringed the penal law, and in particular:

(a) Establish a minimum age below which children shall be presumed not to have infringed the penal law;

(b) Take measures, whenever necessary and desirable, to deal with such children without resorting to judicial

proceedings, provided that human rights and legal protection are fully respected.

² Pushing a minor into crime: "Pushing or luring minors under the age of fourteen to commit a crime is punishable by imprisonment for up to five years."

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who, due to their age, do not have criminal responsibility. An educational measure is: 1. Placing the minor in an educational institution. The judicial decision on medical and educational measures is revocable at any time when the circumstances for which it was given disappear, but in any case, the court, in principle, is obliged to review its decision after one year from the date of the decision."

Such a legal provision is incomplete in terms of the conditions and criteria for the application of the measure and difficult to implement in practice. Cases of application of this institute in the case of minors under the age of criminal responsibility are extremely rare and in the absence of a uniformly developed practice. However, based on the Beijing Rules, the two main goals of juvenile justice are the promotion of the well-being of the minor and the principle of proportionality. According to this latter principle, the response to minors who commit criminal offenses must be proportionate to the circumstances of the perpetrator and the offense, i.e. it must be based on taking into account not only the gravity of the offense but also personal circumstances¹.

In the case of "Blokhin v. Russia", the European Court of Human Rights stated: "The placement of a minor in an educational institution must be aimed at supervised education within the meaning of Article 5 § 1 (d) of the ECHR; Supervised education must ensure appropriate accommodation, such as a return to the family, as well as the development of educational activities. ...minors, whose cognitive and emotional development in any case requires special considerations, and in particular that of young children below the age of criminal responsibility, deserve support and assistance in protecting their rights when coercive measures are applied to them, even under the guise of educational measures.."²

¹Rregullat Standard minimum të Kombeve të Bashkuara për Administrimin e Drejtësisë për të miturit (Rregullat e Pekinit 1985) <https://www.ohchr.org/en/instruments-mechanisms/instruments/united-nations-standard-minimum-rules-administration-juvenile>

² HUDOC - European Court of Human Rights

The Institute of Avoidance

One of the innovations of the Code of Criminal Justice for Children (CCJC) is the provision of the institute of avoidance, as a new instrument applicable to minors in conflict with the law. "Avoidance" is an alternative measure for not initiating, suspending or terminating criminal prosecution against a minor in conflict with the law, according to the provisions of this Code³.

Avoidance is the first instrument in the criminal process against a minor in conflict with the law that effectively guarantees the implementation of the best interest of the minor, as it does not allow the continuation of criminal proceedings against the minor with all the effects that it has brought. In addition, the diversity of several types of diversion measures, provided for in the CCJC, enables the institutions involved in this process (Child Protection Unit, Probation Service), to recommend and the prosecution body to evaluate that concrete measure, which offers the most appropriate program according to the circumstances and individual needs, which presents each minor in conflict with the law, and also ensures the reaching of the goal of his/her redirection and awareness of the committed offense.

In view of the above, the measures of diversion from criminal prosecution for minors, when the legal requirements are met, take priority and consequently are of essential importance in the criminal justice process for minor, for the very purpose that they pursue in correcting the minor in conflict with the law, as opposed to the application of criminal responsibility and its criminal punishment⁴.

As a new institute, until its consolidation, problems have initially appeared in its implementation, especially with regard to the conditions and criteria that the law provides for its implementation. Article 55 of the CCJC

<https://hudoc.echr.coe.int/>conversion>docx>pdf>
3 Article 3, point 23, Juvenile Criminal Justice Code.

4 Article 3, point 23, Juvenile Criminal Justice Code.

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provides cumulatively all the conditions and criteria for the implementation of the measure of avoidance of criminal prosecution. We will focus on point 3, letter c) of this article, which defines as one of the conditions and criteria, the fact that the minor has not been reported for committing a criminal offense or is not a repeat offender. The legal discussion in investigative and judicial practice is related to the definition of the deterrent criterion that the minor must not have been reported for committing a criminal offense. Some magistrates link this criterion to the existing legal situation, where a parallel criminal report is registered against the minor, which consequently leads to the futility and impossibility of achieving the goal aimed at through the institute of avoidance.

In my opinion, such a prohibitive criterion contradicts the constitutional principle of the presumption of innocence¹. This is because not every criminal report is followed by the registration of criminal proceedings, but the prosecutor can decide not to initiate criminal proceedings and the minor in conflict with the law to be denied the right to benefit from this institute. Moreover, investigations into criminal proceedings with a minor in conflict with the law and the application of avoidance must be carried out within a legal period of only 3 months.

In the Prosecutor's Office at the Court of First Instance of General Jurisdiction in Gjirokastra for 2025, the institute of avoidance was applied in 15

cases with minors in conflict with the law. Mainly the criminal offenses for which avoidance was applied are "Irregular driving of vehicles", provided for by Article 291 of the Criminal Code; "Theft", provided for by Article 134/1 of the Criminal Code; "Intentional minor injury", and provided for by Article 89 of the Criminal Code. In all these cases, a written warning was applied as an alternative measure for avoiding criminal prosecution. Although according to the Code of Criminal Justice for Children, a total of six different models are provided as alternative measures², there is a practical impossibility for their realization and application.

The minor, victim of a criminal offense.

Application of international standards in the protection of minors who are victims of a criminal offense in the KDPM

Until the adoption of the Code of Criminal Justice for Children, there was no definition of the term "Victim of a criminal offence" in Albanian legislation. In the absence of such a definition, Albanian judicial practice has referred to international acts ratified by Albania, defining the victim as a person harmed by a criminal offence. Specifically, for the definition of the term victim of crime, it refers to Directive 2012/29/EU in its article 2³.

¹ Constitution of the Republic of Albania, Article 30, "Everyone is presumed innocent until proven guilty by a final court decision."

²Juvenile Criminal Justice Code, Article 62:

1. Alternative measures for avoiding criminal responsibility may include:

- a. Restorative justice programs and mediation;
- b. Counseling for the minor and the family;
- c. Oral warning;
- d. Written warning;
- e. Coercive measures;
- f. Placement in care.

³ Article 2 of Directive 2012/29/EU, entitled 'definitions', provides: 1. For the purposes of this Directive, the following definitions shall apply: (a) 'victim' means: a natural person who has suffered harm, including physical, mental or spiritual harm, or economic loss directly caused by a criminal offence; family members of a person whose death

was directly caused by a criminal offence and who have suffered harm as a result of that person's death; 'family members' means the spouse, the person who cohabits with the victim in a committed intimate relationship, in the same household on a stable and continuous basis, the direct lineal relative, the siblings and the dependants of the victim; 'child' means any person under the age of 18; "restorative justice" means any process which enables the victim and the offender, with their free consent, to participate actively in the resolution of matters arising from criminal offences with the assistance of an impartial third party; 2. Member States may introduce procedures: to limit the number of family members who may benefit from the rights set out in this Directive taking into account the individual circumstances of each case; and, in relation to paragraph (1) (a) (ii), to determine which family members have priority in relation to the exercise of the rights set out in this Directive.

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With the adoption of the Code of Criminal Justice for Children, in article 3, point 5 it is determined that, "a minor victim" is any person under the age of 18 who has suffered verbal, physical or material harm as a result of a criminal offence." The protection of minor victims constitutes one of the main pillars of the contemporary system of criminal justice and human rights. Due to their age, incomplete maturity and increased vulnerability, minor victims enjoy special standards of procedural and material protection. Regarding Albanian legislation, the rights of the minor victim of a criminal offense are provided for in Article 58/a of the Code of Criminal Procedure (CCP), which, given its content, constitutes a fundamental article for the rights of minor victims, including the rights of the victim provided for in Article 58 of the CCP, the special law and the Code of Criminal Justice for Minors, especially in Chapter V thereof.

While Article 58 of the CCP, provides for the rights of the victim of sexual abuse and the victim of trafficking in human beings. The European Court of Human Rights (hereinafter the ECHR), through its jurisprudence, has developed a series of fundamental principles that oblige the member states of the Convention to build friendly and protective criminal procedures for child victims. Specifically:

- The principle of the best interests of the child, consistently emphasizing that the best interests of the child must be a paramount consideration in any proceedings involving a minor victim¹.

¹ M. dhe M. kundër Kroacisë (2015), HUDOC - European Court of Human Rights [https://hudoc.echr.coe.int > conversion > docx > pdf](https://hudoc.echr.coe.int/>conversion>docx>pdf).

The Court found a violation of Article 8 of the ECHR due to the lack of effective protection of the personal integrity of the minor. The Court noted that the national authorities failed to take sufficient measures to protect a child victim from sexual abuse, by failing to properly assess the best interests of the child during the proceedings. The best interests of the child are not declaratory, but a decision-making criterion with practical effect.

² O'Keefe kundër Irlandës (2014), <https://euro-centre.org/wp-content/uploads/2023/08/Jurisprudenca-e-Strasburgut-Botimi-IV.pdf>. The Court found a violation of Article 3 of the ECHR due to the lack of preventive and investigative mechanisms, as the state had failed to establish an effective system of protection for children against abuse in schools. When the victim is a child, the

- The positive obligation of the state to provide effective protection, which includes the prevention of violence against children, the effective and priority investigation of criminal offences involving minors².

- The principle of child-friendly procedures, according to which criminal proceedings should be adapted to the age and development of the child victim, ensuring that testimony is taken in appropriate settings, avoiding direct confrontation with the perpetrator and limiting the repetition of questioning³.

- The principle of protection of private life and dignity, paying particular attention to the confidentiality and anonymity of the child victim⁴.

- The right to effective participation in the process under Article 6 of the ECHR, including being truly heard, understanding the procedure and treating the child victim as a subject of rights and not simply as a means of seeking evidence⁵.

Article 24 of the Code of Criminal Procedure stipulates: "The minor victim and/or witness of a criminal offense shall enjoy, to the extent possible, the same rights provided for a minor in conflict with the law, as provided for in this chapter, as well as the rights provided for in Chapter V of this Code."

Regarding the above provided by the legislator, in judicial practice, I consider it appropriate to dwell on the cases of the Individual Assessment

standard of investigation must be more rigorous and protective.

³Ibid., Y. v. Slovenia (2015), the Court found a violation of Articles 3 and 8 of the ECHR, as a child victim of sexual violence was questioned repeatedly, without psychological support and without procedural sensitivity. The unnecessary repetition of questioning constituted degrading treatment for the child victim.

⁴ B.V. kundër Belgjikës (2017) https://ahc.org.al/wp-content/uploads/2020/05/27-Maj_2020_Raport-Studimor_Per-Paraburgimin-dhe-masat-e-sigurimit-personal_KSHH.pdf The Court stressed that the authorities must ensure the anonymity and protection of the personal data of the child victim, particularly in cases of sexual violence. Any disclosure of identity violates Article 8 of the ECHR.

⁵ N. Ç. v. Turkey (2009), the Court found a violation of Article 6 in conjunction with Article 8 of the ECHR, as the authorities failed to meaningfully include a child victim of sexual violence in the criminal proceedings.

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Report for the Minor ¹ (hereinafter IAR), where an erroneous practice, followed during preliminary investigations by the prosecutor, is found, which consists in drafting the IAR only for the minor in conflict with the law and not for the minor victim of the criminal offense. The purpose of administering the IAR is to present to the proceeding body a complete overview of the individual, health, family and social circumstances of the minor. Through this act, the personality of the minor is understood and the factual legal situation of the minor is assessed in the application or not of the institute of avoidance or the finding and implementation of a proportional measure with the aim of his rehabilitation and re-socialization. However, the administration of the IAR constitutes a very important element also for the minor victim of the criminal offense, since in its presence, the prosecutor is oriented towards addressing the minor victim to provide the necessary assistance which may consist of psychological, social, or medical assistance. In this perspective, a criminal process cannot be considered complete without the administration of the RVI, both for the minor in conflict with the law and for the minor victim.

The principle prohibiting the second/repeated victimization of a minor victim of a criminal offense.

The Code of Criminal Justice for Children provides that second/repeated victimization is considered the situation when a minor victim of a criminal offense may be harmed as a result of participating in the criminal justice process. In my opinion, the principle of preventing the second victimization of the victim of a criminal offense constitutes one of the most important principles in the sphere of principles for the protection of minor victims of a criminal offense. This is because this factual situation in the minor

victim is caused only as a result of the procedural activity in the investigative and judicial activity by the procedural authorities (police, prosecutor's office, court, experts) who must show increased care so that the actions are carried out completely and exhaustively, without the need for the repeated presence of the minor victim, which may bring back to the victim episodes of the same event in the form of painful experiences that affect him emotionally by reminding him of the pain caused by the criminal offense, causing new damage.

This prohibition principle takes on added importance in cases of minors who are victims of sexual violence. Sexual violence against children constitutes one of the most serious violations of their fundamental rights and a profound violation of their physical, emotional and psychological integrity. It has manifested itself in various forms, including sexual abuse, sexual harassment, rape, sexual exploitation for economic gain, as well as exposing children to inappropriate content or behavior. During 2024, child protection workers have handled a total of 59 cases of sexual violence, a number that, although not representing the real scale of the problem – due to the sensitive and hidden nature of these cases – remains worrying. Statistics and field experience show that in most cases, sexual abuse occurs within the child's close circle of trust, by people close to them, known and often with moral or emotional authority in the child's life. This includes family members, relatives, neighbors, and society. This situation makes it even more difficult to detect and report cases, as the child may feel afraid, ashamed, or engulfed in feelings of guilt².

The ECHR has recognized the specific features of proceedings concerning criminal offences of a sexual nature.

1. In the case of *S.N. v. Sweden*³, the ECHR stated: "Such proceedings are often conceived as a test

¹ Article 22 of the Juvenile Criminal Justice Code.

² <https://femijet.gov.al/al/wp-content/uploads/2025/07/Raport-vjetor-i-punes-se-Agjencise-Shteterore-per-te-Drejtat-dhe-Mbrojtjen-e-Femijes-Viti-2024.pdf>

³*S.N. v. SWEDEN – HUDOC. (ECHR, 2 korrik 2002)* In this case, the applicant S. N. was convicted in Sweden of sexual acts with a minor. The child victim, aged 10, was interviewed by the police and the recorded interview was used as evidence in the trial. S.N. alleged that the national court had violated his right to a fair trial under Article 6 of the ECHR because he

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by the victims, particularly where the latter has been confronted unwillingly by the defendant. These features are even more prominent in a case involving a minor. In assessing the question whether or not in such proceedings an accused has received a fair trial, the right to respect for the private life of the perceived victim must be taken into account. The Court therefore accepts that in criminal proceedings concerning sexual abuse certain measures may be taken with a view to protecting the victim, provided that such measures can be reconciled with the adequate and effective exercise of the rights of the defense." This case constitutes a benchmark for the prohibition of repeated victimization of minor victims of sexual crimes, although the Court does not mention the term "repeat victimization", but it is understood as the risk of exposing the child victim to stress or trauma from the direct testimony/questioning in the courtroom by avoiding the direct confrontation of the victim with the defendant, perceiving it as a form of protection of the victim from excessive procedural exposure.

2. In the case of *Y. v. Slovenia*¹, the ECHR found violations of Articles 3 and 8 of the Convention. Article 3 guarantees that no one shall be subjected to torture, inhuman or degrading treatment. In the case of the child victim Y., the national authorities failed to ensure an effective and prompt investigation, prolonging the trauma and psychological damage to the child victim. The Court found a violation of Article 3 of the Convention due to the failure of the state authorities to ensure a prompt investigation and prosecution of the complaint against the applicant's sexual abuser. The Court also found a violation of Article 8 of the ECHR, which guarantees the right to respect for private and

family life, as the investigation and trial of the minor victim were inadequate and emotionally burdensome, exposing the victim to repeated trauma, failing to protect the identity and privacy of the victim. The principle of prohibiting second/repeated victimization of the minor victim is reflected in the provisions of Chapter V of the Code of Criminal Procedure, focusing on the provision of Article 41 of the Code of Criminal Procedure, which provides for special rules for the questioning of the minor victim and/or witness of sexual exploitation or sexual violence, determining that for these minors, audio and video recording during the questioning is mandatory and the audio and video testimony given by the minor may be shown during the court session. Thus, through this legal provision, the Code of Criminal Procedure for Minors who are victims of crimes of a sexual nature has reflected international standards for the prevention of secondary victimization of minors by defining an instrument that "resembles" the provision of evidence.

In conditions where this audio-video recording can be heard in the hearing without the presence of the minor, as long as the mandatory accompaniment of the minor in conflict with the law/victim of the criminal offense is categorically prohibited. In practice, questioning the minor victim of crimes of a sexual nature as quickly as possible, exhaustively and in the appropriate form in the presence of all procedural actors avoids the possibility of re-questioning the minor victim. Special attention should be paid to the issue of repeated victimization of the minor even by courts of general jurisdiction, specifically the judge of the preliminary hearing, when declaring the uselessness of the audio-video interview of

was not given the opportunity to directly question the child victim during the trial. The Court noted that the child victim's testimony had been used in the proceedings and that, although the child did not physically appear at the trial, he was considered a witness for the purposes of Article 6 of the Convention. The ECtHR held that there had been no violation of Article 6 of the Convention on the right to a fair trial, as the national system had provided adequate mechanisms to protect the defendant's right to a defence and at the same time to protect the interests of the child victim.

¹*Y. v. SLOVENIA* - HUDOC - The Council of Europe. In this case, the applicant Y., a minor girl from Ukraine, after settling in Slovenia, at the age of 14 is suspected of having been sexually abused by a friend of the family of X. After the complaint, the investigations continued until 2007, when criminal charges were brought against citizen X. In 2009, after 12 court hearings, the domestic courts dismissed the case against citizen X, as the charges were not proven beyond reasonable doubt.

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the minor victim, ordering its redoing¹. International standards that judges must to be known during the trial of criminal offenses involving minors who are victims of crimes of a sexual nature and which require that in the trial of these criminal offenses, the victims be protected and treated in accordance with the principles of humanity, of protecting and guaranteeing life, health and personality with the aim of their rehabilitation.

Conclusions and recommendations

From the analysis of this paper, as a general conclusion, we can underline that the current legislation of the Republic of Albania on minors in the criminal process generally reflects international standards.

However, I assess that referring to the current situation in the referral of juvenile delinquency, the growing trend, the increasingly serious criminal offenses committed by them, the consequences in society, perhaps reality dictates changes in criminal legislation regarding the age of criminal responsibility, always in compliance with European and international standards. In this perspective, criminal legislation should be supplemented with regard to minors who have not reached the age of criminal responsibility, by regulating and disciplining the implementation and variety of educational measures, depending on the seriousness of the criminal offense and the personality of the minor, considering that the provisions in the special law "On the Protection of Children's Rights" do not fit the reality and needs of society. The Prosecutor's Office and the Court are two institutions that contact the minor post factum, after the criminal act has occurred.

¹ Practical case. A.B. is accused of the criminal offense of "Sexual harassment", provided for by Article 108/a/2 of the Criminal Code with a minor victim citizen E.D. In the child-friendly premises of the Police Station, the minor victim is interviewed by audio-video regarding the circumstances of the reported fact. Present in the special room is the officer of the same gender, the psychologist, and the representative of the child protection unit, while in the special office for recording the interview, the mother of the minor victim was present, who at the end of the transcript of the material signed the minutes together with the other

The prevention of criminal activity by minors is important and this requires coordination of all actors such as the family, school and society. The first contact of the minor in conflict with the law/victim with a state institution is the state police, at the moment of questioning the minor in conflict with the law and the report of the minor victim. Police officers specialized in juvenile-friendly justice are needed, who have the necessary legal knowledge and special training for interaction with children.

Albanian legislation guarantees support for juvenile victims of crime, both before, during and for a period of time after the conclusion of criminal prosecution or regardless of their cooperation with justice, having dictated the need for a more precise implementation in practice of the principle of prohibition of repeated victimization. In general, the legislative approach aims to be comprehensive and to ensure the protection and reintegration of juvenile victims of crimes of a sexual nature.

References

1. *Constitution of the Republic of Albania (Kushtetuta e Republikës së Shqipërisë).*
2. *United Nations Convention on the Rights of the Child (1989).*
3. *Council of Europe Convention on the Protection of Children against Sexual Exploitation and Sexual Abuse (Lanzarote Convention).*
4. *Directive 2012/29/EU of the European Parliament and of the Council of 25 October 2012 establishing minimum standards on the rights, support and protection of victims of*

actors present according to the provisions of the KDPM. At the end of the investigations, the prosecution addresses the court with a request to send the case to trial. The judge of the preliminary hearing declares the audio-video interview of the minor victim unusable with the justification that the legal representative of the victim, who had duly signed the minutes of the statements, is not found in the video, ordering the repetition of the questioning of the minor victim.

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- crime, and replacing Council Framework Decision 2001/220/JHA.*
5. *United Nations Standard Minimum Rules for the Administration of Juvenile Justice (The Beijing Rules, 1985).*
 6. *Criminal Code of the Republic of Albania (Kodi Penal).*
 7. *Code of Criminal Procedure of the Republic of Albania (Kodi i Procedurës Penale).*
 8. *Juvenile Criminal Justice Code of the Republic of Albania (Kodi i Drejtësisë Penale për të Mitur).*
 9. *Law No. 18/2017 on the Rights and Protection of the Child (Ligji nr. 18/2017 "Për të drejtat dhe mbrojtjen e fëmijës").*
 10. *Merka, T. Commentary on the Juvenile Criminal Justice Code (Komentari i Kodit të Drejtësisë Penale për të Mitur). Tirana.*
 11. *Case-law of the European Court of Human Rights concerning juvenile justice and child protection.*

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The Uncontested Divorce in Albania and the Controlling Role of the Judge.

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Abstract.

The divorce institute in the Albanian family law is designed to avoid severity and to promote the preservation of family relations and the amicably settlement of the family disputes. Respecting the will of the partners to divorce by a mutual agreement, the Albanian legislation provides their right to divorce by a facilitating judicial procedure, while many European countries have recently adopted a more facilitating procedure, the administrative divorce. The paper aims at comparing the Albanian judicial procedure with the administrative procedure by identifying in any of them the guarantor elements of the best interest of the child and the rights of the partners.

Keywords: Uncontested divorce; agreement; judicial procedure; administrative procedure.

Introduction

Maintaining the "yes we do" formula even in the divorce is considered to be more convenient to

partners by keeping civil their relationship and avoiding the traumatic consequences of the divorce. Divorce is a disruptive event in the life of each of the partners and in the contests of family relations. Dealing with it is a complex issue as it involves the emotional status of the partners and also it has many legal consequences concerning the division of the property and the child support. The increasing number of divorces has led to substantive legal changes in the procedure of the divorce and also in its consequences. Legislations have adopted new unconventional forms of divorcing. The traditional divorce intended to minimize direct communication between partners and to maximize third party decision making. (Folberg et al., 2004) Having in mind that if there is a way to handle with divorce that should be the one where the partners try to communicate on how they want to proceed after the divorce, legislations are evolving new practical forms.

The Albanian families in these two latest decades are experiencing the most dramatic change as the mass scale of divorce is increasing year after year. (Instat, 2018) According to the Albanian Institute

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of Statistics the average of divorce has grown from 1.3 per 1000 inhabitants in 2013 to 1.6 per 1000 inhabitants in 2017. (Instat, 2018) This is considered as a significant increase in the number of divorces with an average grown number of 0.075 per 1000 inhabitants per year. The increase number of divorces means more cases of divorces to solve by the judge, overloading so the judicial administration and increasing the costs for spouses and extending the time to have a definitive solution for the spouses pending the decision of the judge. The institute of marriage is based on the mutual consent of the former partners to consume the life together. The consent of the spouses is not just a necessary condition for the marriage as an act but at the same time it constitutes a necessity in regulating the consequences during and after the marriage. The consent of the spouses has a very important role in the Albanian Family Code (F.C) While solving the family disputes the judge is obligated to consider the consent of the spouses.

The Albanian Family Code provides only judicial forms of marriage dissolution; the uncontested marriage divorce, the dissolution of marriage because of factual separation and dissolution of marriage by the request of one of the spouses. (Law No 9695/2007, Article 125 - 144) Despite the fact that the three of them are judicial forms, the uncontested divorce differs from the others as the will of the spouses plays a determinant role in regulating the legal consequences of the divorce.

"Yes we do...want to divorce"

The Procedure of the Mutual Consent Divorce in Albania

The uncontested divorce is designated in four articles from article 125 to article 128, providing the meaning of the uncontested divorce, the procedure and the legal effects of the agreement between the spouses. A special attention is given to the role of the judge to check the validity of the agreement based on two main principles, the best

interest of the child and the equality between spouses. Even the main purpose of the uncontested divorce is to give more space to the will of the spouses in solving the consequences of the divorce, the judge still have a crucial role in this procedure. The procedure starts with a request, signed by both partners and not by a plaintiff. The request should be accompanied by a settlement agreement that stipulates the terms for the dissolution of the marriage and it can be submitted by the spouses or by their representatives. (Law No 9695/2007, Article 125) It is very important to highlight the fact that in the uncontested divorce, according to the Albanian family law the mutual consent of both partners is necessary to begin the divorce procedure. In this case the request filed at the court should be signed by both partners. Article 126 of the F.C requires the presence of both spouses. This is to clarify that according to article 127 of the F.C, each of the spouses expressed a serious and their fully consent in the agreement for the dissolution of the marriage. If there is any hesitation from the spouses or if the consent is not clearly manifested the court can refuse the request for the divorce by mutual consent. The court should refuse the request for a divorce by mutual consent even if one of the spouses withdraws his/her request and should orient the spouse to other ways of marriage dissolution. (Omari, 2008) If the court evaluates that the given consent was based on their free will and that the common purpose of the spouses during the trial is still the mutual dissolution of the marriage, the court should continue with the examination of the provisions of the agreement. In the procedure of the divorce by mutual consent, the court does not examine the reasons of the divorce and it does not administer any evidence to seek and prove the causes of the divorce.

After considering the mutual consent of the spouses for the dissolution of the marriage, that each of the spouses is freely deciding for the divorce and that each of them has freely given his/her consent, the court examines the provisions of the agreement. There is a

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noticeable difference between the role of the court in examining the free will of the partners and its role in examining and evaluating the legality of the agreement and the validity of its provisions. In this phase the court has a judicial role as it evaluates if the agreement "does properly respects" the interest of the child or of one of the spouses. (Omari, 2008) Even in this phase the court does not fully exercise a judicial role as it can only orient the partners towards solutions to regulate the consequences but the court can't decide for them, as the divorce by mutual consent is fully based in the free will of the partners and so are its consequences.

The content of the agreement is mostly determined by the law. The agreement must contain the provisions for the care and education of the minor children, the financial support for the child care and education and the provisions for alimony. Provisions on the division of their property are not required to be part of the agreement, but spouses can include them freely and if included those should be part of the judicial examination by the judge.

The judicial examination of the agreement is based in two main principles; the protection of the higher interest of the child and the equality between the spouses. (Law No 9695/2007, Article 128) Each of the dispositions of the agreement should be in respect to both of these principles. If the court in its examination finds that the agreement does not properly provide for the needs of the child or one of the spouses, it may suspend the judgment for three months and request the spouses to make the necessary changes. If after this time period, the agreement still doesn't fulfill the legal requirements, the court may refuse to approve the agreement and dismiss the request for uncontested divorce. (Law No 9695/2007, Article 128 (2) If the agreement has met the legal requirements and the spouses have given their freely consent the court approve the agreement and decides on the dissolution of the marriage.

The refusal from the court to dissolve the marriage by the mutual consent of the spouses doesn't prevent the spouses to file a new request

for the uncontested divorce as it doesn't prevent each of them to file a plaintiff for the dissolution of the marriage under article 132.

This requirement to reach an agreement to the partners is in contradiction with principle 1; 7 (3) of the European Family Law which does not require an agreement as a precondition of the uncontested divorce. Even if the partners haven't reached an agreement at all or even when the agreement is partly reached, the divorce nevertheless remains a consensual divorce but the competent authority will decide on the consequences. Although the contradiction it looks like the Albanian Family Code provides for a wider margin of respect for the will of the spouses. As it is mentioned above the procedure is entirely dependent on the will of the spouses from the investment of the court to the resolution of the consequences.

New Procedures of Divorce by Mutual Consent.

The area of family law and its harmonization is part of a controversial debate in the European Union. The EU efforts on this field led to the establishment of the Commission on European Family Law (CEFL) in 2001. In order to give way to the harmonization of the family law, in 2004 the CEFL drafted in 2004 the first principles regarding Divorce and Maintenance between Former Spouses. (CEFL, 2004) The principles regarding divorce aims at facilitating the divorce procedure without jeopardizing the interest of the children and the interests of both spouses. The mutual consented divorce is clearly favored than the unilateral divorce, as the principles aim to encourage the former spouses to determine themselves the consequences of the divorce. (Boele - Woekli, 2005) Although the principles give a particular importance to the consent of the spouses the divorce, due to the involvement of the public interest, should be granted by a judicial or an administrative authority determined by law. (Principle 1;2, CEFL) Recently there is a tendency of many countries to switch from the judicial procedure to an administrative one in granting the unconventional divorce or the

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consensual divorce. In 2017 Greece simplified the divorce procedures by giving the possibility to former spouses, who have mutual consent for a divorce, to bring it before the notary except the cases of religious marriages before the Greek Orthodox Church. (Law No 4509/2017) From January 2017 even in France the family court has no longer jurisdiction on mutual consent divorce cases, unless a minor child requested to be heard or one of the spouses is under a guardianship measure. (French Civil Code, 1804) In all other cases, the divorce agreement is countersigned by both the lawyers of the parties and registered by the notary. In 2015 Italy also introduced the so called "fast track divorce law" which gives the possibility to spouses to divorce before a municipality officer, but in these cases the spouses cannot introduce provisions on the child support or division of the assets. The spouses cannot ask for a "fast divorce" if they have minor children or if the children have reach the age of maturity but they are still economically depending on their parents. (Law No 55/2015) Romanian legislation has the same approach as the Italian one, considering both judicial and administrative procedures and by giving the possibility to spouses who do not have minor children to apply for divorce in mutual consent at the civil register. (Law No 287/2009) The basic principle of a consensual divorce is the mutual consent of the spouses and their free will to determine the consequences of their marriage dissolution. Under the European Divorce Principles mutual consent is not considered as an irretrievable breakdown so no investigation for the reasons of a breakdown is necessary. (Boele - Woekli et.al, 2005) This is another reason why different legislations have adopted the administrative procedure of a consensual divorce as no investigation is necessary to make and there is no contestation from the parties. In the view of facilitating the uncontested divorce procedure the general principles does not necessary require a period of factual separation, but this is led to the national authorities to decide if it is necessary to have a prior factual separation between the spouses and how long its duration

will be. (CEFL, Principle 1;4 (1) The lack of a factual separation period is an expression of the respect to the free will of the spouses to decide how they want to organize their relationship which stands at the heart of the consensual divorce. The other interest that may be at stake such as the interests of the child and that of the other spouse are foreseen in the principle 1;5 of the reflection period. The principle of the reflection period helps the spouses to take the necessary time to evaluate the divorce situation and its consequences. The reflection period and its duration depend on the interest they seek to protect. The presence of children under the age of sixteen years and whether an agreement is reached or not, are both the elements used to define the reflection period. If the spouses have children under the age of sixteen years and an agreement on the consequences of the divorce is reached, the reflection period should be of three months. If there is no agreement the reflection period should be extended to six months. If the spouses have no children, under the age of sixteen years, and they have not reached an agreement the reflection period should be three months. If the spouses have no children, under the required age and they have reached an agreement no reflection period should be applied. (Scherpe, 2016) The factual separation period conquer over the reflection period, as in the cases where the spouses have been factually separated for more than six months, no reflection period should be required. Different legislations have different approaches on this point. Some legislations still envisages the necessity of a factual separation period. In Italy for instance before entering in force of the new law of 2015, the factual separation time was of three years. (Law No 898/1970) Article 3 of the Italian Divorce Law was amended and according to the amendments the factual separation period is of six months in cases of consensual divorce and no reflection period is applied. In France there are no requirements on the separation or reflection period. The interest of the child and that of the other spouse are protected by making compulsory the judicial procedure in cases when

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a spouse is under guardianship or minor children are involved. In Spain there are no provisions on a factual separation requirement or on reflection period. The so called "fast track" divorce in Spain, by mutual consent, is given by a court procedure if the spouses are married for at least three months. (Andrev, Hummelsheim, 2009)

The agreement reached by the spouses is not always a sine qua non requirement for the consensual divorce. In many states the mutual consent of the spouses is just necessary for the dissolution of the marriage and not necessarily for its consequences. In others like the Albanian case, the mutual consent does not imply only the will of both spouses to divorce but also to regulate the consequences. If there an agreement is not reached than there is no divorce with mutual consent. According to the European principles the form of the agreement should be respected for its validity. The agreement should be in writing and signed by both spouses. The validity of the agreement is of a crucial importance as it defines the process in itself. The judge can not affect the will of the partners on how they will deal with the consequences of the divorce; neither can he make any adjustment to the agreement.

The content of the agreement is of a particular importance as it guarantees the respect of children rights and the rights of the partners. There is a common approach of different countries in determining the terms and provisions of the agreement despite the fact if the procedure is a judicial or an administrative one. This is because of the sensitivity of the issues that need to be determined in it. According to the Albanian family legislation the agreement must conclude provisions for the care and education of any minor children, financial support for their care and education, provisions for alimony if needed and if possible the division of their assets. (Law No 9695/2007, Article 127) The agreement provisions are mandatory when they related to the minor children and their relation with their partners. Between partners no

provisions are mandatory except the case when the alimony is needed and one of the partners ask for it. The factual relation between partners and the division of their assets is not mandatory to be stipulated in the agreement. The ex spouses, after the divorce can file a request to the court to settle the division of their property. The difference between the uncontested divorce procedure and that of other forms lies in the value of the will of the partners to define the consequences of their divorce, while in other divorce procedures the court decides and settles the relationship between partners and between them and their children. But the agreement between the partners is not entirely autonomous since its validity depends totally on the court approval. Another common approach, in judicial procedure, is noticed also in the imperative requirement that the partners should be personally present before the court.¹ This is a necessary requirement as the court needs to determine that the partners have expressed a fully, serious and complete consent. In cases of the administrative procedure the given consent will be subject of the assessment of the administrative authority.

Conclusions

The Albanian family law provides a facilitating procedure in cases of divorce by mutual consent of both spouses, but still it remains a judicial procedure where the spouses shall file a request to divorce accompanied by an agreement signed by them. As a judicial procedure is expected by the judge to give a decision and solve the consequences of divorce. But in the divorce by mutual consent the "role of the judge" lies in controlling the validity of the agreement and in conserving the interests that are at stake. The judge is the guarantor of the procedure and not the decision maker in the process. The divorce by mutual consent is a special form of divorce which is based in the principle of the consent of the spouses to disrupt their marriage. In this view it

¹ United Kingdom, Spain, Italy

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is a faster divorce procedure as no conciliation sessions are needed and the resolution of the consequences has to be settled by the spouses in the agreement and is not part of the judicial debate. Though it seems more facilitating than other divorce procedures, the divorce by mutual consent still requires time and costs to afford the judicial and notary expenses.

The administrative procedure, which provides all the necessary guarantees for interests that are at stake, is seen as a possibility to avoid the legal trap of a long judiciary procedure, reduces the costs and helps the former spouses to freely determine their property and personal relations after the marriage. The administrative procedure should be adopted as a possibility to resolve the mutual consented divorce only in limited cases, such as provided in other European countries' legislations. In the discussion of which administrative body should have the competence to deal with the divorce by mutual consent, the experience of other European countries shows that this competence is left to the civil register or to the public notary. In Albania according to the judicial reform and as a need to facilitate the courts some of the issues that were under the judicial jurisdiction have been transferred to other legal services. One of them is definitely the notary service which due to the professional legal service that it offers has helped the courts in some legal, administrative and technical issues. So it seems logical that as an administrative body, to dissolve the marriage by mutual consent should be appointed the public notary having regard of the fact that he is a legal professional and he can orientate the spouses to conclude a valid legal agreement.

References

1. Folberg J., Milne A., Salem P. (2004), "Divorce and Family Mediation. Models, Techniques and Application", New York, Guilford.
2. Yearly statistics 2018, Albanian Institution of Statistics Available from <http://www.instat.gov.al/media/4936/vjetar-i-statistikor-2018.pdf>
3. Albanian Family Code Law No 9695/2007.
4. Omari S. (2008), "E Drejta Familjare", [Family Law], Tirane.
5. Divorce and Maintenance between Former Spouses Principles, drafted in 2004 by the Commission on European Family Law. Available at: <http://ceflonline.net/>
6. Boele- Woekli, K., (2005), "The principles of European family law; its aims and prospects", *Utrecht Law Review*, Volume 1, Issue 2, retrieved from <https://www.utrechtlawreview.org/artides/abstract/10.18352/ulr.13/>
7. Law 4509 / 2017 (GG. A 201/ 22. 12.2017) amended art 1438 and 1441 of the Greek Civil Code.
8. French Civil Code, 1804.
9. Law 55/2015, GU Serie Generale n.107 del 11.05.2015.
10. Romanian Civil Code, Law No 287/2009
11. Boele- Woekli K., Braat B., Summer I. (2005),
12. European Family Law in Action Vol.III: Parental Responsibilities', Oxford, Intersentia.
13. Scherpe J., M. (2016), "European Family Law Volume I: The Impact of Institutions and Organizations on European Family Law", Northampton. Elgar E.
14. Law No898/1970, Gazzetta Ufficiale 3 dicembre 1970
15. Andrev H. J., Hummelsheim D., (2009), "When Marriage Ends: Economic and Social Consequences of Partnership Dissolution", Northampton. Elgar E.

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MEDICAL AND HEALTH SCIENCES

Original research

Does Knowledge Level Affect Students' Eating Habits?

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Abstract

Food is one of the main factors for having a healthy mind and body. Many people believe that the knowledge a person has about food influences healthy food choices. Thus, education on food and nutrition is seen as a strategy for promoting healthy habits.

To assess the level of knowledge and eating habits among students of the University of Vlora.

This is a descriptive analytical study, which was conducted with N =200 students from different faculties of the University of Vlora during the period January - June 2023. The sample size was determined based on the descriptive-analytical nature of the study and the recommendations of the literature for similar studies in order to ensure an acceptable level of statistical power and representativeness of the study population. The selection of participants was carried out through a convenient sample of students from different faculties of the University

of Vlora. The study included students regularly registered in the relevant academic year, who voluntarily agreed to participate, while students who did not complete the questionnaire regularly or did not provide informed consent were excluded.

The selection procedure was implemented in academic settings, respecting the inclusion and exclusion criteria, in order to minimize bias and increase the validity of the results.

A self-administered questionnaire was used to assess nutritional knowledge and habits among students. The questionnaire used in this study is a validated instrument, previously used in similar studies on nutritional knowledge and habits among university students. The instrument has been adapted to the local context, while maintaining the basic structure and content, which guarantees validity and reliability.

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200 students, whose average age was 19.6 years, participated in the study from three faculties of UV. No statistically significant difference was observed in eating habits related to the level of knowledge about nutrition ($p=0.432$). The majority of students, 45%, receive information on nutrition from their family. The majority of them, 83%, do not follow a special diet. It is seen that 65% of students have good eating habits and only 18% of them have good knowledge on nutrition, while 82% have moderate knowledge. Regarding knowledge on nutrition and sociodemographic factors, it was observed that younger students and those residing in Vlora have better knowledge compared to others. No statistically significant differences were observed by faculty, gender or year of study. Regarding eating habits, the findings show significant differences by gender, with male students reporting better eating habits compared to females. This result may be related to food preferences, energy needs or sociocultural factors that affect cultural behaviours differently according to gender.

Based on the results of this study, it is recommended to develop and implement structured institutional interventions to promote healthy eating among university students, which should be based on a multidisciplinary approach that includes collaboration between educational institutions, health professionals and the academic community.

Educational programs on healthy eating should be integrated into university curricula, especially for first-year students, including mandatory modules or open informative lectures led by nutritionists, public health doctors and psychologists. These programs should focus not only on increasing theoretical knowledge, but also on developing practical skills for food selection and building sustainable eating habits. It is also recommended to strengthen the role of university health services through individual and group counselling on nutrition, body weight management and healthy lifestyle.

Active involvement of the family and community through awareness-raising campaigns is

recommended, since the family is the main source of information for students.

Finally, periodic monitoring and evaluation of institutional interventions through further research studies using validated instruments and longitudinal designs is suggested, with the aim of measuring the effectiveness of programs and adapting them to the real needs of students.

Keywords: habits, knowledge, nutrition, students, Vlora.

Introduction

Over the past few decades, nutrition has been treated as one of the most important aspects of lifestyle, and even healthy diets have become trends in society. The main goals of nutrition plans are to achieve the necessary and appropriate nutrition to be healthy and physically fit. The latter, for many reasons, such as lack of information or financial or time constraints, have shown very bad habits in daily nutrition. Based on these data, many universities aim to improve students' attitudes, knowledge and practices in nutrition. Educating and training students towards healthy nutrition can create a conscious and healthy society. Also, many contemporary studies have proven that nutrition affects stress management, psychological issues, concentration and academic performance of students [1].

Malnutrition is highly prevalent in many developing countries. Nutrition education contributes to the acquisition of knowledge, attitudes and practices on nutrition, which can lead to improved nutritional status [2]. Despite this nutrition education, which has a potential to address malnutrition, has not been given much importance starting from school curricula in developing countries. The deficit in the curriculum covering nutrition education means that knowledge on nutrition and good hygienic and dietary practices may be lacking or need

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improvement in developing countries [3, 4]. The role of the school environment, family and community has not been fully exploited in addressing the gap in nutrition knowledge and practices. Furthermore, there are so many factors that influence food choices and eating habits, but most people believe that healthy food choices are influenced by the level of knowledge about food that a person possesses [5,6]. In this regard, food and nutrition education is seen as a key strategy for promoting healthy eating habits. In addition, people believe that school is an appropriate place to promote healthy food choices and eating habits [6]. Unfortunately, this has not been the case because so many studies show that despite having sufficient knowledge about nutrition; most students are making unhealthy choices. In view of this, the reasons why better nutrition knowledge means healthy choices about food products and eating habits will be determined.

Good knowledge of health and nutrition are key factors on the global agenda. A healthy body and mind come from good nutrition received since childhood. Thus, good dietary choices are very essential for the growth and development of every human being from conception. Students in educational institutions need proper knowledge of nutrition and nutrition to have a healthy mind. However, none of these three factors will be enough alone to achieve social and economic development; only a combination will enable progress towards a world free from poverty and hunger [7]. Nutrition education is an important factor in improving knowledge, attitudes and practices on nutrition (KAP) in schools, families and the community at large [8]. Furthermore, nutrition education is not the only source of nutrition knowledge as there are other points such as the school environment, school meals, health and nutrition clubs and school gardens among others. Furthermore, the family and community play an important role in the acquisition of nutrition knowledge and nutrition-related practices [9].

Thus, educational institutions are the main social context in which lifestyles are developed. However, it is still difficult to link

students' knowledge of nutrition and their dietary intake, because even university students, who we assume to have sufficient knowledge about nutrition, do not know how their daily food choices are related to their nutrition knowledge [10]. For example, it has been found that young university students in different countries take responsibility for choosing and preparing their own meals, but unfortunately their diet is unhealthy, with few fruits and vegetables, irregular daily meal consumption patterns, and a high frequency of fast-food choices [10]. This is a particular concern for everyone, especially parents, policymakers, social workers, and nutritionists, as dietary habits established at this stage of life can have a significant effect on individuals' health in the long term. According to Nesli ah and Emine, (2011), taste preferences, self-discipline, social networks, friends, and peers are among the main factors that determine students' food choices. Another factor that influences students' food intake includes the physical environment such as availability and accessibility, attractiveness and prices of food products, media and advertising, and university characteristics such as residence, student societies, university lifestyle and examinations (Nesli ah et al, 2011). Nesli ah and Emine, (2011) found that once they start school, students' diets change in a less healthy direction. In view of this, the researcher wanted to establish the relationship between nutrition knowledge and students' dietary choices. The study aimed to uncover the truth about this contradiction. The information from this study will help nutrition stakeholders to plan and design targeted health programs or interventions that can effectively influence students to make healthy dietary choices [11].

Based on the importance of nutrition at a young age, it was decided to conduct this study among students of the "Ismail Qemali" University in Vlora.

Purpose of the study

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The purpose of this paper is to assess the knowledge and nutritional habits among students from different faculties of the University of Vlora, as a key indicator for designing health interventions to improve nutritional status.

Objectives

1. Assessment of knowledge about nutrition among students of the University of Vlora.
2. The association between knowledge on nutrition and sociodemographic factors.
3. Assessment of eating habits among students of the University of Vlora.
4. The association between eating habits and sociodemographic factors.

Research Methodology

Study design

This is a descriptive analytical study, which was conducted among students from different faculties of the University of Vlora during the period January - June 2023. A self-administered questionnaire was used to assess the knowledge and eating habits of students.

Study sample

A total of 200 students were contacted, all of whom completed the questionnaire in full. The sample size is considered sufficient to obtain valid data. The sample size was determined based on the descriptive-analytical nature of the study and the recommendations of the literature for similar studies in order to ensure an acceptable level of statistical power and representativeness of the study population. The selection of participants was carried out through a convenient sample of students from different faculties of the University of Vlora. The study included students regularly registered in the relevant academic year, who voluntarily agreed to participate, while students who did not complete the questionnaire regularly or did not provide informed consent were excluded. The selection procedure was implemented in academic settings, respecting the inclusion and

exclusion criteria, in order to minimize bias and increase the validity of the results.

Instrument Used

The primary data collection for this study was carried out through self-administered questionnaires. A self-administered questionnaire was used to assess nutritional knowledge and habits among students. The questionnaire used in this study is a validated instrument, previously used in similar studies on nutritional knowledge and habits among university students. The instrument has been adapted to the local context, while maintaining the basic structure and content, which guarantees validity and reliability.

For the purpose of compiling the questionnaires, the questionnaire is divided into 3 main sections. Section 1. This section of the questionnaire collects information on the demographic data of the respondents, including age, place of residence, faculty and year of study.

Section 2. This section collects information on the level of knowledge that students have about nutrition.

Section 3. This section collects information on the students' eating habits.

Data Collection

Questionnaires designed for this study were administered in the classrooms where the students were learning, through which the primary data for the study were collected, which were then statistically processed to obtain measurable values from this work.

Processing of Data

After completing all the questionnaires, the data were coded and entered into the SPSS 21 program. Continuous data were described through the mean and standard deviation. Quantitative data were described with absolute frequencies and percentages. Bar graphs and pie charts were used to better reflect each phenomenon. The coding of the variable "Nutrition Knowledge" and the variable "Nutrition Habits" was used, classifying

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Knowledge Above 5 points = "Good" and Below 5 points = "Moderate", as well as Nutrition Practices Above 65 points = "Good" and Below 65 points = "Moderate". The differences between the different groups were analysed through cross-tabulations and the Chi-square probability indicator was calculated, the value of which, less than 5% ($p < 0.05$) indicates statistically significant differences between the groups we study.

Results

The results of this study show that, although most students present relatively good eating habits, the level of knowledge on nutrition remains mainly moderate. This discrepancy suggests that eating behaviours do not necessarily depend on scientific knowledge, but can be influenced by other social and cultural factors such as the family, which is the main source of information on nutrition. The lack of a statistically significant relationship between the level of knowledge and eating habits indicates that theoretical knowledge does not always translate into healthy eating practices, a finding that is consistent with previous international studies. The statistically significant differences observed by age and residence regarding nutrition knowledge suggest that exposure to information and social context may play an important role in the formation of nutritional knowledge. Students residing in the city of Vlora present better levels of knowledge, which may be related to greater access to information, media, or awareness programs.

Analysis of the Data

After statistical analysis of the data, the information is presented below according to the study objectives.

Sociodemographic data of the sample

The study included a sample of 200 students who studied at different faculties of the University of Vlora "Ismail Qemali". The students were

surveyed regarding their knowledge and habits that they follow regarding nutrition.

From Table 1 we note that, the majority of the surveyed students are female, 75%, and 25% are male. The interviewees are classified into 2 groups, according to their age: "Up to 20 years old", and " 20 years old". The majority of students are " 20 years old", around 55% and "Up to 20 years old" around 45%. The average age is 19.6 years, Minimum age = 18 years, Maximum = 26 years and Standard Deviation = 1.0462 years. 48% of the interviewed students belong to the Faculty of Health, 34% to the Faculty of Technical and Natural Sciences and 18% to the Faculty of Economics. 55% of students are in Year II of studies and 45% in Year I. 60% of students are from Vlora, 31% from Fier and 9% from other cities.

Table 1. Distribution of students according to sociodemographic indicators.

Sociodemographic indicators	Distribution	Nr (n=200)	% (n=200)
Gender	Female	151	75.5
	Male	49	24.5
Age	Up to 20 years old	91	45.5
	20 years	109	54.5
Faculty	F.Economics	36	18
	F.Health	97	48.5
	F.Technical and Natural Sciences	67	33.5
Year	Year I	90	45
	Year II	110	55
Residence	Vlorë	120	60
	Fier	62	31
	Other	18	9

Assessment of knowledge about nutrition among students of the University of Vlora

This section concerns questions on students' knowledge about food and nutrition. In this section, 11 questions were asked to determine

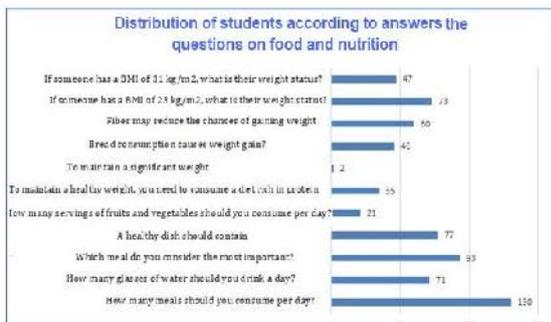
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knowledge and 1 question related to the source of information.

Graph 1. Distribution of students according to answers the questions on food and nutrition.

From Graph 1 it is observed that:
 65% of students answered correctly about the number of meals that should be consumed per day.
 35.5% of students answered correctly about the amount of water that should be consumed per day.
 46.5% answered correctly about the most important meal of the day.
 38.5% of students know the composition of a healthy dish.
 30% of students answered correctly about the question whether fiber reduces the possibility of weight gain.
 36.5% and 23.5% answered correctly about the two questions about what BMI values indicate for body weight.
 23% of students answered correctly about the question whether bread consumption causes weight gain.
 17.5% answered correctly about the question whether for a healthy weight we should completely eliminate fat.
 10.5% of students answered correctly the question of how many servings of fruits and vegetables should be consumed per day.
 1% answered correctly the question of whether for a healthy weight we should use a diet rich in proteins.

Graph 1



Most students do not have good knowledge about nutrition because the majority of correct answers are below 50%. By assigning

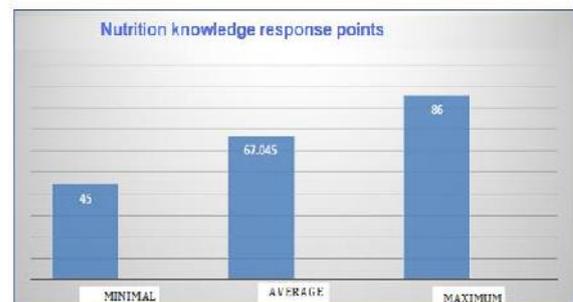
1 point to each correct answer, each student's total points regarding nutrition knowledge were calculated.

Table 2. Average Nutrition Knowledge Scores

Knowledge grade point average data.	N	Min	Max	Average	St.Deviation
	200	0	7	3.275	1.4069

From Table 2 we note that the average score is Mean =3.3 points, Min=0 points and Max=7 points and a SD= 1.4.

Graph 2.



From Graph 2 it is observed that:
 The average score is Mean =3.3 points, Min =0 points and Max =7 points and the SD=1.4.
 So, the students' knowledge scores on nutrition are mostly below the average of the total scores of correct answers.

By classifying scores " 5 points as "Good knowledge" and "<5 points "as "Moderate knowledge"

Table.3. Distribution of students according to knowledge on nutrition

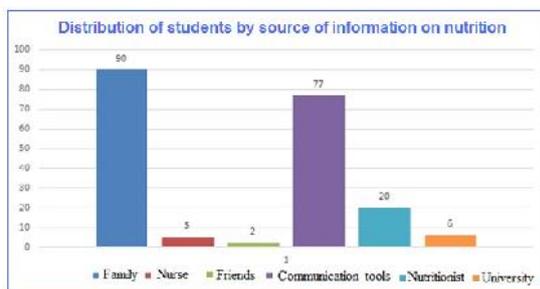
Knowledge	Number (n=200)	%(n=200)
Moderate	164	82.0
Good	36	18.0

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Total 200 100.0

From Table 3 it is observed that:
18% of students have good knowledge about food and eating habits.
82% of students have moderate knowledge about food and eating habits

Graph 3.



From Graph 3 it can be seen that:
45% of students received information on nutrition from their family.
39% of students received information from the media (TV, radio, internet, magazines, etc.).
10% of students received information from nutritionists.
3% of students received information from their university studies.
2.5% of students received information from their nurse.
1% of students received information from friends.
Most students received information on nutrition from their family.

The association between knowledge on nutrition and sociodemographic factors

The relationship between Knowledge about food and nutrition and sociodemographic factors of students was analysed. The following table presents these relationships along with the Chi-square probability indicator, whose p value <0.05 indicates significant differences between the classes being compared.

From Table 4 we note that:
There are statistically significant differences in the level of knowledge on nutrition among students according to age.

Thus, 24% of students "Up to 20 years old" have "Good" knowledge on nutrition compared to students "Over 20 years old" of whom only 12% have good knowledge.

The Chi-square probability indicator is 0.043 (p<0.05) which indicates that the differences are statistically significant.

There are statistically significant differences in the level of knowledge on nutrition among students by residence.

Table 4. Distribution of students according to knowledge on nutrition and sociodemographic factors.

Sociodemographic factors	Knowledge			P (Chi-Square)	
	Moderated	Good	Total		
Gender	Female	121	30	151	0.287
	Male	43	6	49	
Age	Over 20	95	14	109	0.043
	Up to 20	69	22	91	
Residence	Fier	58	4	62	0.017
	Other	14	4	18	
	Vlorë	92	28	120	
Faculty	F.Economics	32	4	36	0.12
	F.Health	74	23	97	
	F.Technical and Natural Sciences	58	9	67	
Year	1	68	22	90	0.095
	2	95	15	110	

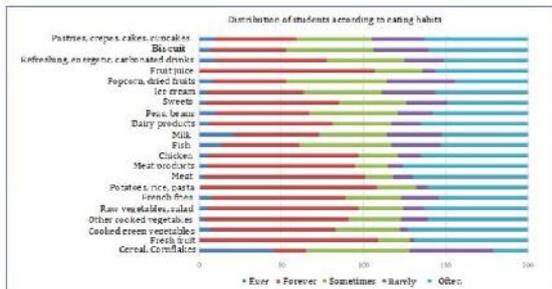
Thus, 24% of students from Vlora have "Good" knowledge on nutrition compared to 22% of students from Fier and 7% of students from other districts.

The Chi-square probability indicator is 0.017 (p<0.05) indicating that the differences are statistically significant.

Assessment of eating habits among students of the University of Vlora.

Graph 4.

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From Graph 4 we note that:
 55% of students use fresh fruits "Always" and 35% "Often".
 46% use raw vegetables or salad "Always" and 32% "Often".
 38% use cooked green vegetables and 44% other cooked vegetables "Always".
 54% consume potatoes, rice and pasta "Always" and 31% "Often".
 49% consume meat "Always" and 35% "Often".
 46% consume chicken "Always" and 33% "Often".
 24% consume fish "Always" and 27% "Often".
 26% consume milk "Always" or "Often".
 38% consume dairy products "Always" and 32% "Often".
 29% consume peas or beans "Always" and 29% "Often".
 23% consume popcorn or dried fruit "Always" and 22% "Often".
 10% use cereal/cornflakes "Always" and 11% "Often".
 54% consume fruit juices "Always" and 28% "Often".
 Also:
 41% of students use French fries "Always" and 27% "Often".
 45% use meat products "Always" and 38% "Often".
 41% use sweets "Always" and 25% "Often".
 30% consume ice cream "Always" and 28% "Often".

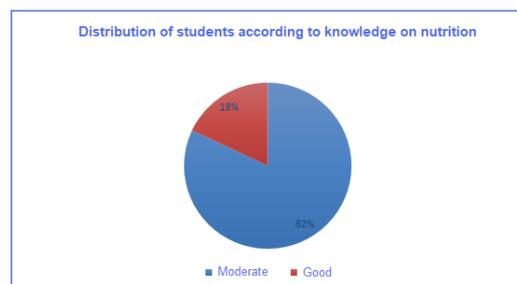
34% consume energy drinks, carbonated drinks and 26% "Often".
 23% consume cookies "Always" and 35% "Often".
 25% consume pastries, pancakes, cakes etc. and 32% "Often"

Table 5. Distribution of students according to eating habits by type of food.

Eating habits	Number (n=200)	% (n=200)
Moderate	65	32.5
Good	135	67.5
Total	200	100

From Table 5 we note that:
 65% of students have good eating habits
 35% of students have moderate eating habits.

Graph 5.



Distribution of students according to knowledge on nutrition

From Graph 5 it is observed that:
 18% of students have good knowledge about nutrition
 82% of students have moderate knowledge about nutrition
 Therefore, it is observed that the majority of students have moderate knowledge about nutrition.

The association between eating habits and sociodemographic factors

Original research

The relationship between eating habits and sociodemographic factors of students was analysed.

The following table presents these relationships along with the Chi=quare probabillity indicator, whose value <0.05 indicates significant differences between the classes being compared.

Table 6. Distribution of students according to knowledge on nutrition and socio -demographic factors.

Socio demograp hic factor	Category	Knowledge			p (Chi-Square)
		Moderated	Good	Total	
Gender	Female	121	30	151	0.287
	Male	43	6	49	
Age	Over 20	95	14	109	0.043
	Up to 20	69	22	91	
Residence	Fier	58	4	62	0.017
	Other	14	4	18	
	Vlore	92	28	120	
Faculty	F. Economics	32	4	36	0.12
	F. Health	74	23	97	
	F. Technical and Natural Sciences	58	9	67	
Year	1	68	22	90	0.095
	2	95	15	110	

There are statistically significant differences in eating habits related to the types of foods they consume, among students by gender. Thus, 80% of male students have "Good" eating habits related to the types of foods they consume, compared to females of whom 63% have "Good" knowledge.

The Chi-square probability indicator is 0.026 (p<0.05) which shows that the differences are statistically significant.

There are statistically significant differences in eating habits among students by age. Thus, out of 49 male students, 39 or (80%) of them have "Good" eating habits. While out of 151 female students about 96 of them or (60%) have "Good" eating habits. Male students have more good eating habits than females.

Discussion

The assessment of the level of knowledge of students on nutrition is determined by 11 questions, where each correct answer is evaluated with 1 point, with an average score of between = 3.3 points, where the max points are 7 points and the min are 0. Therefore, it can be said that the level of knowledge of students on nutrition is below the average level, a level that has no significant differences according to faculty, gender or year of study. The level of knowledge was significantly related by age where young people had better knowledge on nutrition and by residence where students from the city of Vlora had better knowledge compared to students from other districts. In line with our study, other studies have also shown that a moderate level of knowledge on nutrition was found among university students in Ankara, with 63.1% of students having moderate knowledge on healthy eating. Ozdogan (2018) (103). Regarding the source of information, 45% of students received information on nutrition from their family, 39% from the media, 10% from nutritionists, 3% from their studies at universities, 2.5% from their nurses and 1% from their friends. They had important knowledge about the number of meals they should eat per day, with 65% of students answering correctly, as well as the level of knowledge about the amount of water they should drink in 24 hours, with only 35% of students answering correctly. Regarding the students' eating habits, 21 questions were asked, where each answer was rated with a score from 1=Never and 5=Always, with an average score of Mes=67 points, min=45 points and max=86 points. So, the students have relatively good eating habits. There was no statistically significant relationship of the students with regard to the faculty, place of residence or year of study, but there were statistically significant differences in eating habits regarding the type of food they consume between genders, where 80% of the male gender has better habits compared to females where

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only 63% of them have good knowledge regarding the types of food. On the eating practices, 6 questions were asked regarding the students' diet, where the majority, 83%, do not follow a special diet. Regarding beverages, students consume more water and coffee, with men consuming more water and coffee compared to women, while women consume twice as much tea as men.

From this study, no significant relationship was observed regarding the knowledge on nutrition and the eating habits of students, students have little knowledge on nutrition but on the other hand they exhibit good eating habits and this may be due to the impact that the family has on daily practices of eating habits, being one of the main sources of information on nutrition and not because students have scientific knowledge about healthy foods. These results have also been found in similar studies where it has been noted how the family, especially in recent years (2016-2020), affects healthy eating. This may be a result of awareness on healthy eating by WHO. (N. Liu, 2021).

Limitations and Future Research

This study has several limitations that should be considered when interpreting the findings. The study does not allow casual inference between nutrition knowledge and eating behaviours, capturing associations only at a single time point. In addition, the use of convenience sampling and recruitment from a single university may limit the generalizability of the results, while the overrepresentation of female participants could have influenced gender-related comparisons.

Furthermore, the instrument primarily assessed declarative nutrition knowledge and reported dietary practices, without accounting the key psychosocial and environmental determinants known to influence eating behaviours.

Future research should employ longitudinal and intervention-based designs across multiple university settings to better elucidate causal pathways and enhance external validity. The integration of qualitative methods and objective measures, such as anthropometric indicators or

assessments of the university food environment, would further strengthen the evidence base and support the development of effective, context-sensitive nutrition interventions for university students.

Conclusions

The findings of this study indicate that the relationship between knowledge and eating habits among university students is multifactorial and not necessarily linear. The absence of a statistically significant association between nutrition knowledge and dietary practices suggests that theoretical knowledge alone is insufficient to drive healthy eating behaviours. This finding aligns with contemporary public health frameworks, which emphasize that health-related behaviours are shaped by a complex interaction of individual, social, cultural, and environmental determinants rather than by knowledge acquisition alone.

Despite predominantly moderate levels of nutrition knowledge, most students reported relatively good eating habits. This discrepancy highlights the influential role of familial and cultural norms in shaping dietary behaviours, particularly in young adults. The family emerged as the primary source of nutrition related information, suggesting that early socialization and household dietary patterns may exert a stronger influence on eating behaviours than formal education and scientific knowledge during university years.

Observed differences in nutrition knowledge by age and place of residence further underscore the importance of contextual factors. Better knowledge among younger students and those residing in urban areas may reflect greater exposure to health promotion initiatives, media content, and educational interventions targeting younger population. These findings support the notion that accessibility to information and supportive environments contributes significantly to the development of health-related knowledge.

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Gender based differences in eating habits suggests the influence of social-cultural and psychosocial factors on dietary behaviours. Male students reported healthier eating practices compare to female students, a finding that may be related to differing dietary motivations, body image perceptions and dietary behaviours. Female students may be more vulnerable to restrictive or inconsistent eating patterns driven by weight-control concerns, whereas males may follow more regular and energy-oriented dietary routines.

Effective strategies should prioritize behaviour change approaches, skill-building, and supportive food environments while considering the broader social and cultural context of students lives.

Integrating multidisciplinary, context-sensitive interventions may enhance the translation of nutrition knowledge into sustainable healthy eating behaviours and contribute to long-term health promotion among university populations.

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Ethics Approval and Consent to Participate: Ethical approval was obtained from the relevant faculties of the University. Informed consent was obtained from all individual participants included in the study.

Data Availability: The datasets generated and analysed during the current study are not publicly available due to privacy and ethical

restrictions but are available from the corresponding author on reasonable request.

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References

1. *Hellas Cena, Philip C Calder. (2020). Defining a Healthy Diet: Evidence for The Role of Contemporary Dietary Patterns in Health and Disease. PMID: 32012681
PMCID: PMC7071223 DOI: 10.3390/nu12020334.*
2. *Christian Rivera Medina,* ORCID, Mercedes Briones Urbano, Aixa de Jesús Espinosa and Ángel Toledo López.(2020). Eating Habits Associated with Nutrition-Related Knowledge among University Students Enrolled in Academic Programs Related to Nutrition and Culinary Arts in Puerto Rico. Nutrients 2020, 12(5), 1408; <https://doi.org/10.3390/nu12051408>.*
3. *Reinhold Laessle H Wurmser K M Pirke. (2000). Restrained eating and leptin levels in overweight preadolescent girls. July 2000 Physiology & Behavior 70(1-2):45-7
DOI:10.1016/S0031-9384(00)00243-2
PubMed.*
4. *Anna C Ciao 1, Erin C Accurso, Ellen E Fitzsimmons-Craft, James Lock, Daniel Le Grange. (2015). Family functioning in two treatments for adolescent anorexia nervosa. PMID: 24902822 PMCID: PMC4382801 DOI: 10.1002/eat.22314.*
5. *Gillian Anne Hendrie 1, John Coveney, David Cox. (2008). Exploring nutrition knowledge and the demographic variation in knowledge levels in an Australian community sample. PMID:18671887 DOI: 10.1017/S1368980008003042.*
6. *Christian Rivera Mercedes Briones Urbano Aixa de Jesús Espinosa Ángel Toledo*

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- López. (2020). *Eating Habits Associated with Nutrition-Related Knowledge among University Students Enrolled in Academic Programs Related to Nutrition and Culinary Arts in Puerto Rico*. DOI: 10.3390/nu12051408 License CC BY 4.0.
7. Hadi Badri Ahmadi Simonov Kusi-Sarpong Simonov Kusi-Sarpong Jafar Rezaei. (2017). *Assessing the social sustainability of supply chains using Best Worst Method*. DOI: 10.1016/j.resconrec.2017.07.020.
 8. Contento, I. (2007). *Nutrition Education: Linking Theory, Research and Practice*. Jones and Bartlett Publishers, Sudbury.
 9. Schiefermeier - Mach, N., Egg, S., Eler, J., Hasenegger, V., Rust, P., König, J., & Purtscher, A. E. (2020). *Electrolyte intake and major food sources of sodium, potassium, calcium and magnesium among a population in Western Austria*. *Nutrients*, 12(7), Article1956. <https://doi.org/10.3390/nu12071956>.
 10. Nicholas, D., et al. (2001) *Digital Health Information Provision and Health Outcomes*. *Journal of Information Science*, 27, 265-276. <https://doi.org/10.1177/016555150102700409>
 11. (Cebirbay, M.A., & Bayrak, E. (2022). *Fruit and vegetable consumption, attitudes and knowledge in preschool children and adolescents*. *BAUN Health Sci J*, 11(3), 389-396

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Ethical Dilemmas of Nursing Staff in Health Care.

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Abstract

A code of ethics can be defined as "a set of agreed-upon rules and expectations designed for a specific purpose". In fact, it has several functions, including promoting and maintaining ethical standards of professional conduct, nurturing the moral profile of the nursing professional, and encouraging him or her to ask himself or herself questions of a moral nature. The code may also prescribe ethical conduct that is not legally binding, for example, voluntary engagement in ethical behavior involving patient care. It also emphasizes standards of ethical practice that all nurses should adhere to. This paper aims to get acquainted with the ethical dilemmas of nursing staff at the Vlora Regional Hospital on the legal and ethical aspects of nursing in healthcare.

A descriptive, cross-sectional design was adopted to discover the knowledge among 120 nurses at the Vlora Regional Hospital. The non-probability purposive sampling technique was used. A semi-structured questionnaire was self-administered to collect data. The data were analyzed using SPSS software, for descriptive

analysis and chi-square test. The study included 120 nurses at the Vlora Regional Hospital, who were surveyed regarding ethical dilemmas in healthcare. The nurses were analyzed according to sociodemographic indicators.

Keywords: Code of Ethics, nursing staff, care, hospital, dilemmas, etc.

Introduction

The origins of nursing ethics can be traced back to the late 19th century. At that time, ethics were thought to include virtues such as loyalty to the physician, high moral character, and obedience. Since that early time, the nursing profession has evolved, and nurses are now part of the health care team and are advocates for patients. The first formal Code of Ethics to guide the nursing profession was developed in the 1950s.

Developed and published by the ANA, it guides nurses in their daily practice and establishes

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primary goals and values for the profession. Its function is to provide a concise statement of the ethical obligations and duties of each individual entering the nursing profession. It provides a non-negotiable ethical standard and is an expression of nursing's own understanding of its commitment to society. The Code of Ethics has been revised over time.

The current version represents advances in technology, societal changes, the expansion of nursing practice into advanced practice roles, research, education, health policy and administration, and builds and maintains healthy work environments.

Purpose of the study:

The purpose of this study was to explore nurses' responses to ethical dilemmas in everyday nursing practice. By profession we mean an activity carried out, within the company, in the service of others and independently by people who have specific scientific knowledge and technical skills. Benefiting from a variable period of schooling and the acquisition of a higher or university level qualification that allows the free exercise of the professional activity itself [4]. It is characterized by the decision-making autonomy of the operator and consequently by the exclusivity of his cultural and operational independence [4].

A profession is governed by a code of conduct, i.e. the observance of specific deontological rules and binding legal rules [4]. Therefore, professionalism is the set of distinctive attributes of a profession that allows the role of those who carry out an activity for the benefit of others to be defined as professional, independently and responsibly, as holders of specific skills in this sector [4]. Nursing itself possesses all the elements described above, which, combined together, give the image of the professionalism of the nurse and consequently the recognition as a profession [4]. When we talk about nursing care, we mean the responsible assistance given to the patient by qualified nurses, in any context, independently or in collaboration with other professionals, for people of all ages, families and/or cohabitants, groups or communities.

Nursing is the use of clinical judgment in the provision of care to enable people to improve, maintain or recover health, address health problems and achieve the best possible quality of life, regardless of the person's illness or limitations, until death [16].

The true evolution of the nurse is the ability to exercise one's role in a relational aspect, to "adapt" one's intervention to the person in front of them, to let oneself be involved, to the appropriate extent, in the relationship with the patient, in a way that he truly feels at the center of attention and professional commitment [17]. Nursing is not limited to care, but also includes health promotion, disease prevention and care. Other primary and essential tasks can be identified in the protection of the needs and interests of the patient (Advocacy), in the promotion of a safe environment, in research, in collaboration with organizations operating in health policies, health management and training. Nursing care contributes to the promotion, maintenance and prevention of health risks. Therefore, nurses help people during treatments and support them in dealing with the consequences that the disease or therapies have on their quality of life with the aim of obtaining the best possible results in the treatment and care phase and to ensure them a good quality of life in all phases of life and illness. Fundamental, in this context, is the relationship between nurse and patient based primarily on attention, emotional participation and concern for the other.

The task of nurses is to discover the resources and nursing care needs of patients, set objectives, plan interventions and carry them out using the necessary technical and relational skills, then evaluating the results. In order to set objectives and interventions, it is necessary to collaborate with the patient to guarantee personalized care for his needs, taking into account, in accordance with ethical guidelines, the physical, psychological, spiritual, daily and socio-cultural aspects and those related to his age.

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For good nursing care, collaboration with patients, their families and members of the supporting professions within a multidisciplinary team plays a fundamental role, however, whether in a leadership role or following instructions from others, nurses are in any case responsible for their decisions, their work and their behaviour. The role of nurses in society is to help individuals and their loved ones identify and realise their physical, mental and social potential within the context of their environment. Nurses participate in an interdisciplinary way in the definition and implementation of intervention projects (educational, preventive and therapeutic) of individuals or groups of people [9]. Nurses have four essential responsibilities:

(a) to promote health,
(b) to prevent illness,
(c) to restore health and
(d) to alleviate suffering [9]. Therefore, education, care and prevention are the three main concepts that accompany the profession. To educate: In general, it means to promote the development of the intellectual, aesthetic and moral qualities of a person through teaching and example. Being a nurse does not only mean caring for others, but also teaching them to care for themselves through adequate therapeutic education [10]. Health education is not limited to the communication of information, but should promote motivation, the development of individual skills and confidence (self-efficacy), i.e. those conditions necessary to act with the aim of improving health [6].

Health education involves communicating information about the underlying socio-economic and environmental conditions that influence health, information about individual risk factors and risk behaviors, or the use of the health care system. Care: Being a nurse means caring for the other, and caring for the other means meeting their needs as much as possible [10]. Authentic caregiving is one in which one knows how to care for the other at their core and is a practice that aims to restore the autonomy of

self-care, which is a universal necessity of the human condition [10].

Care is a practice, care is the placing of the other at the centre of care priorities [10]. Prevention: Disease prevention includes measures to prevent the onset of disease, such as reducing risk factors, and methods to stop its progression by reducing the consequences once the disease has occurred [2]. The term "disease prevention" is sometimes used as a complementary term for health promotion. Although there is frequent overlap in content and strategy between the two terms, a distinct definition of disease prevention has been proposed [6]. In this context, by disease prevention we mean action that normally comes from the health sector and is directed at people and specific populations in whom risk factors have been identified, very often associated with various risk behaviours.

Nursing in history Nursing care is not limited to care, but also includes promotion, prevention and health assistance. They are delivered to the sick, the disabled and people at the end of their lives. Nursing is a complex and systematic set of theoretical-methodological knowledge and tools aimed at exercising the functions of protecting and promoting individual and collective health [7]. It is therefore not difficult to imagine that at the beginning of the profession it was a task entrusted to women. In fact, the concept of "adesistere" (staying by) is historically linked to the figure of the woman, mother-savior by nature [7]. The establishment of a school to train nurses led to the need to create a profile of specific skills for the profession, moreover, over time, the role of the nurse in patient care has evolved, until the nurse becomes an experienced professional, responsible for their professional actions and related decisions and assessments within the health system [8]. This realization of accountability led practitioners to begin to regain the authority to make independent decisions regarding patient care, including those of an ethical nature. Therefore, the need arose to create a specific code of ethics to guide the practice of the profession.

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Nurse competence profile To be considered as follows, nurses need, as previously mentioned, scientific knowledge and technical skills that are adapted during a variable period of education and the acquisition of a higher level or university degree that allows them to exercise professional activity [4]. SUP is necessary for a different profession in professional professions, different areas related to me, are specific to some professions, while others are specific to nursing [8].

After basic training, the nurse or in general the team working in the field of health should know the legal bases, health policy priorities, principles and limits of health care management and social protection and 15 be able to maintain the profession in accordance with the mentioned points and be able to continuously evaluate the effectiveness, cost-effectiveness, quality and appropriateness of the services provided [8]. The nurse, graduated or recently graduated with a Bachelor's degree, specifically possesses professional knowledge and specialized methodological skills, this is evidenced by the necessary scientific knowledge regarding preventive, diagnostic, therapeutic, palliative and rehabilitation measures [8]; continuous training and information of personnel through evidence of effectiveness (Evidence Based Practice) leads to continuous scientific research and continuous personal and health sector development [8]. Nurses are aware of the determinants that maintain and promote health at both the individual and population levels and are able to take measures that contribute to a better quality of life [8]; they possess clinical reasoning and are able to develop measures for taking responsibility and global accompaniment of the person and are able to provide high-quality services in accordance with the good practices of their profession [8]. Specifically, nurses must enter the profession with competence and a sense of responsibility, this means taking responsibility for their actions and recognizing and respecting their limits, acting with commitment and according to specific ethical principles.

Communication, interaction and documentation allow the nurse to actively seek collaboration with other professions and other actors in the health system [8] to develop a professional relationship appropriate to the circumstances with patients and their families and to provide them with adequate counseling [8]. 2.4 Code of Ethics for Nurses The behavior of the nurse was initially associated with an image of the nurse identified as a charitable woman in the service of others. In the past, the respect of ethical standards by the nurse meant obedience to the doctor and loyalty to the hospital.

Over the years, the role of the nurse in patient care has evolved to the point where the nurse is an expert in nursing care, responsible for his or her professional actions and for the relevant decisions and assessments within the health system [8]. This change in role has led to a change in views on the ethical standards of the profession. The transformation of social values and needs began to have a dominant influence on the way nurses perceived their responsibilities towards patients, colleagues and the institution to which they belonged. This sense of responsibility led professionals to begin to regain the authority to make independent decisions regarding patient care, including those of an ethical nature.

This awareness of responsibility to patients has created the need to create a code of ethics to guide the practice of the profession. A code of ethics can be defined as "a set of agreed-upon rules and expectations designed for a specific purpose." In fact, it has several functions, including promoting and maintaining ethical standards of professional behavior, nurturing the moral profile of the care professional, and encouraging him or her to ask himself or herself questions of a moral nature [15]. A code can also describe ethical behavior that is not legally present, for example, voluntary engagement in ethical behavior involving patient care [15].

A further function is to regulate the ethical conduct of the profession, identifying the parameters for acceptable ethical practice and clarifying to the community what is expected of

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nurses [15]. It also emphasizes standards of ethical practice that all nurses should adhere to [15]. The moral guidelines of a code of ethics are based primarily on three fundamental elements for professional practice in the health field: values, duties, and virtues [15]. Values represent the fundamental aspects considered good or objectives embraced by the profession, which in nursing can be anything that aims at the well-being of the patient [15]. Duties vary in nature and include respecting human dignity, protecting self-determination, and maintaining confidentiality [15].

The virtues in a code may include character traits that are expected of members of a professional group, such as honesty, compassion, sincerity, and personal integrity [15]. These fundamental elements are particularly evident in the code when it comes to maintaining the confidentiality of patient information, being competent to practice the profession, and respecting the dignity and rights of individuals [15]. Therefore, the Code of Conduct for Nurses is a guide to professional action based on social values and needs, and at the same time it can be suggested that it defines the profession itself [2]. This code serves as a guide to professional action based on social values and needs [15]. It is a practical aid for prioritizing actions and their purpose in specific situations involving ethical issues or unethical behavior [15].

Like all codes of ethics, including nursing, they can be difficult to apply professionally in specific care situations [15]. This is because professionals, as individuals, already have their own basic moral code and, consequently, the latter is often considered more solid and/or dominates the professional one [18]. However, this aspect can create a conflicting problem for the individual in trying to find a balance between personal values and the values related to the practice required by the code of ethics for nurses [18]. For this reason, it is very important that nurses know this document and that it is exposed to them already during the school period, so that it becomes internal to protect future professional actions [2]. It is divided into four main areas

which decree the rules of ethical behavior that must be respected [2].

Euthanasia is one of the most intriguing ethical, medical and legal issues that marked the entire 20th century and the beginning of the 21st century, sharply dividing the scientific and non-scientific public with its supporters and opponents. It also appears as one of the points where the three main religions (Catholic, Orthodox and Islamic) have the same point of view. Rather than an ethical dilemma, as is usually the case, it would be more accurate to speak of a bioethical dilemma. That said, before giving a definition of the ethical dilemma, I would like to clarify two terms that are often and willingly used as synonyms: ethics and morality. Morality is a set of declared values, which determine what is right and what is wrong. While ethics determines the meaning that a person gives to these values [21].

Ethical Dilemmas

An ethical dilemma in nursing is a situation where a nurse must decide between competing values and know that no matter what choice they make, there are consequences. Ethical dilemmas may conflict with the nurse's personal values or the Code of Ethics for Nurses.

Nurses often face ethical dilemmas when caring for patients. Ethical dilemmas come in many forms and for several reasons. The following are some of the main reasons why nurses face ethical dilemmas in nursing.

- Patients or their loved ones must make life-or-death decisions;
- Patient refuses treatment;
- Nursing duties may conflict with the patient's cultural or religious beliefs;
- Inadequate staffing.

Examples of Ethical Dilemmas

Example 1: X is a 28-year-old college student who is 18 weeks pregnant. She has a history of heart disease that has worsened due to the pregnancy. Her doctor is concerned that

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continuing the pregnancy could cause her heart condition to worsen and could result in a life-threatening emergency. He has recommended termination of the pregnancy within the next two weeks. The patient is hesitant, stating that, although she does not currently attend church, she was raised to believe that abortion is wrong and believes that God will heal her. She wants to know what the nurse would do in her position. Her nurse does not believe in abortion under any circumstances.

Ethical dilemma:

Patients often seek advice from nurses about their health, well-being, and decisions about their care. In some cases, such as the scenario presented here, the medical need for a treatment or intervention conflicts with the patient's personal moral and/or religious beliefs. It is not uncommon for patients to want someone to tell them which decision is best. An ethical dilemma in nursing can arise in such situations, especially if the nurse has opinions that differ from the patient or physician. How to deal with this ethical dilemma: According to the Code of Ethics, "healthcare clients have the right to privacy and the right to make personal health care decisions based on full information and without coercion." Nurses also have the right to refuse to participate in a particular case for ethical reasons. However, if the client's life is at risk, nurses are obligated to care for the client's safety and avoid abandonment. Although the nurse does not believe in abortion, she should not express her personal beliefs or opinions to the patient. Instead, the nurse should encourage the patient to speak with her significant other (if appropriate), family, spiritual advisor, or others she feels she can trust and seek advice. The nurse should schedule a follow-up visit with the physician to discuss options and decisions before the two-week deadline by which the physician wishes to perform the procedure. An ethical dilemma arises when a person is forced to choose one value over others that, although valid in other circumstances, appear here in contrast

[19]. There are two absolute good that conflict with assisted suicide: on the one hand, respect for the autonomy and freedom of the person, and on the other, the dignity and value of human life [11]. Over the past decades, no single position on the concept of assisted death has emerged in many countries. In the United Kingdom, euthanasia is illegal and assisted suicide can lead to imprisonment, while Canada and Belgium have already legalized this process [7]. The existing diversity of options and positions on euthanasia serves as a solid background for ongoing research in this area. The resolution of an ethical dilemma cannot be verified by evidence because there is always enough supporting and opposing evidence.

On the one hand, the passage of legalization of euthanasia is possible, but it is characterized by certain obligations and requirements in some regions [10]. On the other hand, physician-assisted death increases the responsibilities of health care providers in relation to patients who have lost their decision-making abilities and continue to suffer [7]. Researchers can discover many pros and cons of euthanasia in a short period of time, and each position will have many arguments. Therefore, this ethical dilemma contributes to the development of new studies and examples of how assisted death is accepted by American society.

Methodology:

The aim of the study is to get to know the ethical dilemmas of the nursing staff at the Vlora Regional Hospital on the legal and ethical aspects of nursing in healthcare. The aim of this thesis is to explore and describe what nurses find problematic and morally disturbing in their work, the factors that contribute to the emergence of problematic ethical situations and the reported actions taken to address them, thus creating an ethical climate.

Objectives of the study:

The realization of this study highlights the following objectives:

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To identify the ethical dilemmas of nurses in their work;

To analyze the factors that contribute to the emergence of problematic and morally disturbing situations in the work of nurses;

To become familiar with the ethical conflicts in recent years in the workplace of nurses and the way to resolve them.

Research question

1• What ethical dilemmas do nurses face during their working day?

2• What are the factors that contribute to the emergence of problematic and morally disturbing situations in the work of nurses?

3• Have nurses had ethical conflicts in the workplace in recent years and how do they resolve them?

31 Questionnaires were distributed to 120 nurses at the Vlora Regional Hospital and after they were completed, the data were extracted from the SPSS program.

The measurement instruments of the study are:

Structured questionnaire for the socio-demographic data of nurses;

Structured questionnaire for knowledge on the Code of Ethics in the Nursing profession.

Sample

The type of sample used in this study is purposive, as only nurses at the Vlora Regional Hospital were interviewed through questionnaires.

Study size: $N=120 > 30$, so 120 interviewees participated in the questionnaire, where the sample size is large.

Data collection: It was carried out through a questionnaire that was made clear in advance by the interviewer. The employee's anonymity, privacy and comfort in completing it were maintained. There was no need for direct assistance in completing it. Coding, data entry and editing Each variable was coded according to the purpose and possibilities offered by the SPSS statistical package, to enable data analysis. Coding was carried out after completing the

questionnaires and in accordance with the structure of the questionnaire to facilitate the data entry process as much as possible.

The type of method used in this study was quantitative.

Both of these methods are important for effectively understanding social phenomena, despite the fact that the strengths and weaknesses of both methods have been an ongoing debate in the social sciences 32 (Erzberger & Prein, 1997) and according to Takayama (2015), a classic paradigm war and epistemological debates have arisen regarding positivism and phenomenology.

This means that they either rely entirely on objective measurements and statistical analyses and lack qualitative methods, or they apply only qualitative methodology and reject the quantitative approach as a method that departs from the perspective of human behavior.

Quantitative research is the systematic examination of social phenomena, using statistical models and mathematical theories to develop, accumulate, and refine the scientific knowledge base. Quantitative research also provides 'generalizable' findings and is characterized by hypothesis testing, using large samples, standardized measures, a deductive approach, and rigorously structured data collection instruments.

Ethical considerations.

The ethical permit was approved by the Dean's Office of the Faculty of Health, "Ismail Qemali" University of Vlora with No. Prot 173/1, dated 04/07/2023 and the Regional Hospital of Vlora with No. Prot 3431, dated 06/09/2023. All aspects of this study were conducted in accordance with the Declaration of Helsinki on ethical standards. Based on ethical considerations, we informed the participants about the purpose of this study, privacy and confidentiality, ensuring that the questionnaire was anonymous and the data would not be identifiable. The explanation was given verbally and was clearly written on the first page of the

Original research

questionnaire. All participants gave oral informed consent/consent (verbally) for their participation and they had the right to withdraw at any time.

Results

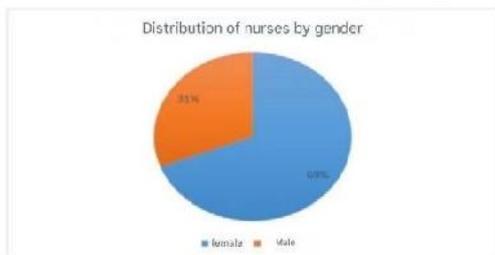
The study included 120 nurses at the Vlora Regional Hospital, who were surveyed regarding ethical dilemmas in healthcare. The nurses were analyzed according to sociodemographic indicators

Table 1 Distribution of nurses according to sociodemographic indicators.

Sociodemographic Indicators	Distribution	Number	% (n=120)
Gender	Female	83	69.2
	Male	37	30.8
Age	Up to 25 years old	24	20.0
	26-30 years old	34	28.3
	31-40 years old	30	25.0
	41-50 years old	23	19.2
	Over 50 years	9	7.5
Place of Birth	City	101	84.2
	Village	19	15.8
Educational Level	Bachelor	48	40.0
	Master	46	38.3
	Other	26	21.7
Specialization	Cardiology	30	25.0
	Internal Medicine	24	20.0
	Emergency	18	15.0
	Neurology	3	2.5
	Other	7	5.8
Education	PhD	1	0.8
	Master	56	46.7
	Bachelor	40	33.3
	Other	3	2.5
	Postgraduate	16	13.3
	Graduate	24	20.0
	High School	3	2.5

From Table 1 it is observed that: The majority of the surveyed nurses are female, about 69% and 31% are male. Graph 1 presents this distribution.

Chart 1 Distribution of nurses by gender



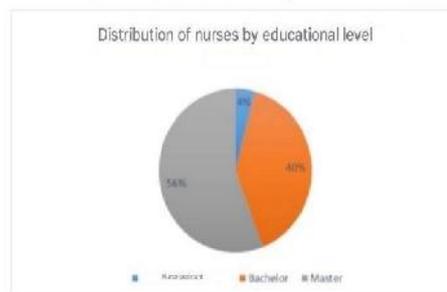
From Table 1 it is observed that: The interviewees are classified into 5 groups, according to their age: The majority of nurses, about 28%, are in the age group "26-30 years old". About 25% are in the age group "31-40 years old", 20% in the age group "Up to 25 years old", about 19% are in the age group "41-50 years old" and about 8% are in the age group "Over 50 years old". Graph 2 presents this distribution.

Table 2 Age of nurses

The data of age of nurses	N	Minimum	Maximum	The average	Dev.Standard
	120	23.0	65.0	34.6	10.0997

From Table 2 it is observed that: The average age of the interviewed nurses is 34.6 years, minimum age = 23 years, maximum age = 65 years and Standard Deviation = 10.0997 years. From Table 1 it is observed that: • 84% of the nurses live in the city and 16% live in the village. The interviewees are classified into 3 groups, according to their educational level, "Bachelor", "Master" and "Nursing Assistant". The majority of the nurses, about 56%, have completed "Master" studies, 40% "Bachelor" studies and 4% other studies that classify them as Nursing Assistant. Graph 4 presents this distribution.

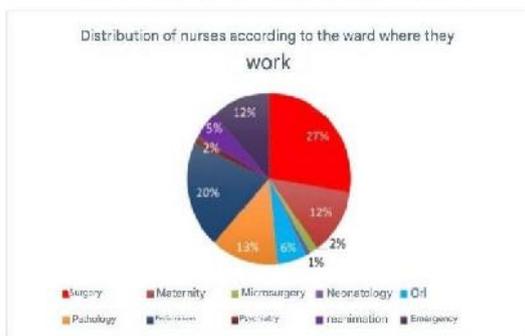
Chart 4 Distribution of nurses by educational level



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From Table 1 it is observed that: The interviewees are classified into 4 groups, according to their seniority in the profession. The majority of nurses, about 47% of them, have seniority in work of "1-5 years", about 17% with seniority "5-10 years", about 20% with seniority "10-20 years" and about 16% "Over 20 years".
From Table 1 we observe that: The interviewees are distributed according to the ward where they work, in 11 wards: Surgery (27%), Microsurgery (2%), Maternity (12%), ENT (6%), Pediatrics (20%), Psychiatry (2%), Neonatology (1%), Pathology (13%), Resuscitation (5%) and Emergency (12%). Graph 6 presents this distribution.

Chart 6 Distribution of nurses by ward where they work



Knowledge of the code of ethics in the nursing profession

In this section, nurses were interviewed regarding the Code of Ethics in their profession, their knowledge and opinions on its implementation. Table 3 presents the distribution of nurses according to their responses to the question: "How stressful do you consider your profession?"

Table 3 Distribution of nurses according to occupational stress

How stressful do you consider your profession?	Number	%
On special occasions	92	76.7
No stress at all	7	5.8
Almost always	21	17.5
Total	120	100.0

From Table 3 it is observed that: The majority of nurses, about 77%, considered stress in their profession "On special occasions", but about 17% of nurses considered their profession "Almost always" stressful and only 6% declared "Not at all stressful". Figure 7 presents this distribution.

Figure 7 Distribution of nurses according to occupational stress assessment

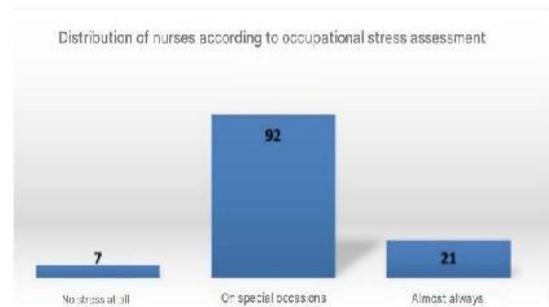


Table 4 presents the distribution of nurses according to their responses to the question: "The professional ethics applied in the nursing profession are...".

Table 4 Distribution of nurses according to responses on professional ethics applied in the nursing profession

The professional ethics applied in the nursing profession are:	Number	%
Deontology	15	12.5
*A tool for creating an integral vision of man and his relationships with him	18	15.0
*Vision of man as a whole	23	19.2
*Ideological vision of nursing work	64	53.3
Total	120	100.0

Table 5 presents the distribution of nurses according to their responses to the question: "Which of the following situations can be considered a violation."

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Table 5. Distribution of nurses according to their responses on situations of violations of the ethical code.

Which of the following situations can be considered a violation?	number	%
• Reports to the next shift nurse about the seropositivity of a child who needs to get vaccinated	1	0.8
• Tells colleague about HIV patient	6	5.0
• Tells the patient's relatives about the patient with HIV	41	34.2
• Tells his relatives about the HIV patient	72	60.0
Total	120	100.0

About 68% of nurses consider the application of euthanasia as a patient's right to a peaceful and painless death. About 32% of nurses consider euthanasia as an application against human principles. About 68% of nurses would agree with the application of euthanasia in Albania and 32% About 69% of nurses think that a patient suffering from an incurable disease should not be informed about his condition. Only 31% think that the patient has the right to be informed about his condition even though it is incurable and would not agree.

The majority of nurses, about 62%, claim that they feel worried at work by the psychological pressure of patients' families, about 26% are worried by misunderstandings with the doctor and 12% by disagreements with colleagues.

Discussion:

Moral distress as a phenomenon can be difficult to study with quantitative parameters. However, this study represents reliable data with a high participation rate (n=120) and a heterogeneous sample from different nursing disciplines. The implications of the study can be used in different

healthcare workplaces. The study findings are well presented and summarized.

- About 77% considered stress in their profession "On special occasions", but about 17% of nurses considered it "Almost always with stress in their profession.

- About 12.5% of nurses know Deontology. • About 95% of nurses know the basic principles of the Code of Ethics.

- About 92% of nurses think that professional secrecy is regulated by the Code of Ethics.

- About 60% of nurses have assessed as a violation when the nurse "Tells his/her relatives about the patient with HIV", about 34% when "Tells the patient's relatives about HIV", about 5% when "Tells a colleague about the patient with HIV" and about 1% when "Reports to the next shift about the seropositivity of a child who needs to be vaccinated". • About 91% have read about the Code of Ethics of nurses.

- About 60% of nurses do not have information about the Ethics Committee in the hospital.

- About 98% did not answer the question about the composition of the Ethics Committee in the hospital.

- Only 12.5% of nurses correctly recognize the role of the nurse in the Ethics Committee as "Expressing opinions on the problems raised".

- Only 34% of nurses know the meaning of Empathy. • About 70% of nurses have had ethical conflicts in the workplace.

- About 94% of nurses who have had ethical conflicts at work have resolved them "With discussion among colleagues" and only 6% have resolved them by taking them to the Ethics Committee.

- About 90% of nurses evaluate the patient's understanding as a help in accordance with deontological principles.

- About 68% of nurses consider the application of euthanasia as a patient's right to a peaceful and painless death and 32% as an application against human principles.

- About 68% of nurses would agree with • About 16% of nurses claim to feel anxious at work, about 78% are anxious "Occasionally" and only 6% do not feel anxious.

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- About 62% claim to feel anxious at work due to psychological pressure from patients' families, about 26% due to misunderstandings with the doctor and 12% due to disagreements with colleagues.
- Nurses who have "Almost always" stress in their profession belong to the Emergency Department (29%) and Pediatrics (29%).
- Most of the nurses who correctly defined "Deontology" (67%) have completed "Master" studies and belong to the Pathology Department (53%).
- Most of the nurses who know the principles of the Code of Ethics at work have "Master" studies (57%) and "1-5 years" of experience (47%).
- Nurses who have most accurately expressed the meaning of Empathy are mostly women (90%) compared to men, living in the city (80%) compared to those living in the countryside and with work experience of "1-5 years" (44%) compared to other categories.
- Male nurses have had more ethical conflicts at work (84%) compared to women (64%).
- Nurses who have had concerns at work are more in the Pediatrics ward (47%) and then in Surgery (21%).
- Nurses who have had the most concerns at work, citing psychological pressure from family members as the biggest concern of all nurses, are more likely to be under the age of 30, who constitute 54% of the number of nurses. 72 Our finding that nurses have difficulty implementing their ethical decisions in more challenging situations, especially those situations with Kohlberg's fourth stage, confirms that contextual and environmental factors tend to guide nurses in their ethical practice.

Belgian studies conducted between 1993 and 2001 [23] [24] revealed the same pattern of ethical reasoning and practice, indicating the existence of conventional practice in recent years. Swiss, American and Japanese studies showed a similar conventional pattern of ethical responses, suggesting that conventional practice is not a specific Flemish or Belgian problem, but is an international phenomenon in nursing.

These findings have important implications for everyday nursing practice.

Our results help us understand why nurses experience environmental factors as barriers to ethical practice. Given the increasing influence of the clinical environment, and more specifically on the dominance of economic and rational values in the provision of nursing care, it is of paramount importance that nurses are able to practice pursuing the highest ethical reasoning to bring about the greatest benefit to patients. This requires nurses to have ethical maturity, as cognitively described in Kohlberg's postconventional moral level [22].

Conclusions

The study began with a hypothesis that ethical decision-making and moral distress are related in nursing practice. The other hypothesis was that moral distress can be reduced and possibly prevented by some actions. There appears to be strong evidence that ethical decision-making and moral distress are strongly related in the daily practice of nurses. Also, moral distress can be reduced and prevented by many actions within the nursing profession. This thesis increases nurses' knowledge of ethical decision-making situations that cause moral distress.

Awareness of these situations can increase understanding and help nurses alleviate symptoms of moral distress. Nursing administration can use these findings and make organizational changes to create functional multiprofessional teams in hospitals. This thesis encourages discussion about ethical issues and moral concerns and creates a more open environment for concerns in health care. Future nurses can be better prepared for ethical decision-making by having knowledge of related factors and potential adverse events. This thesis demonstrates its utility with high generalizability.

Although the literature review was conducted with nurses in the lead role, the implications are also applicable to other professions, particularly in the healthcare field. One of the main themes, multi-professional collaborations, is relevant to every healthcare professional, not just nurses

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Recommendations

Clear guidelines should be developed for nursing staff to serve as aids in ethical decision-making and, furthermore, to combine cost-effective activities with high quality care.

- Implementation and involvement of nurses to create a strong and common basis for ethical thinking throughout nursing practice and management.
- Organization of training for nurses to cope with and manage stress and psychological pressure in the work environment.
- Further studies are needed that can provide a more accurate description of ethical problems related to the quality of resources and care, as well as other issues. Second, the basis and mechanisms of ethical decision-making in nursing management are not well known. More research is needed to find the values, principles or codes that guide the solutions to ethical problems.

Reference

1. Canzan F, Saiani L, Mortari L, Ambrosi E. *Quando i pazienti parlano di cura: uno studio qualitativo fenomenologico*. *Assist Inferm Ric*. 2013;32:205-12.
2. International Council of Nurses. *The ICN Code of Ethics for Nurses* [Internet]. Geneva: ICN; 2012 [cited 2025 Jan 10]. Available from: <https://www.icn.ch>
3. Corley MC, Elswick RK, Gorman M, Clor T. *Development and evaluation of a moral distress scale*. *J Adv Nurs*. 2001;33(2):250-6.
4. Cossetta A. *Civic service: Liguria on a course for Europe*. Liguria; 2010.
5. Epstein B, Turner M. *The nursing code of ethics: its value, its history*. *Online J Issues Nurs*. 2015 May 31;20(2):4.
6. World Health Organization, Regional Office for Europe. *The Vienna Recommendation on Health Promoting Hospitals*. Copenhagen: WHO; 1997.
7. Holt J, Convey H. *Ethical practice in nursing care*. *Nurs Stand*. 2012;27(13):51-6.
8. University of Applied Sciences and Arts of Southern Switzerland (SUPSI). *News and events* [Internet]. 2011 [cited 2025 Jan 10]. Available from: <https://www.supsi.ch>
9. Federazione Nazionale Collegi IPASVI. *Codice deontologico dell'infermiere* [Internet]. Rome: IPASVI; 2009 [cited 2025 Jan 10]. Available from: <http://www.ipasvi.it>
10. McCarthy J, Deady R. *Moral distress reconsidered*. *Nurs Ethics*. 2008;15(2):254-62.
11. Morrell TJ, Konda S, Grant-Kels JM. *Response to a letter to the editor regarding "The ethical issue of cherry picking patients"*. *J Am Acad Dermatol*. 2019 May;80(5):e127.
12. Östman L, Näsman Y, Eriksson K, Nyström L. *Ethos: the heart of ethics and health*. *Nurs Ethics*. 2019;26(1):26-36.
13. Parse RR. *Nursing science: the transformation of practice*. *J Adv Nurs*. 1999;30(6):1383-7.
14. Pelikan J. *Il contributo del progetto HPH per l'affermazione della strategia della promozione della salute*. In: *Atti della 4ª Conferenza Italiana degli Ospedali per la Promozione della Salute*; 2000 Nov 16-17; Reggio Emilia. p. 77.
15. Polit DF, Beck CT. *Nursing research: generating and assessing evidence for nursing practice*. Philadelphia: Lippincott Williams & Wilkins; 2012.
16. Royal College of Nursing. *Our history* [Internet]. Edinburgh: RCN; 2015 [cited 2015 Aug 8]. Available from: <https://www.rcn.org.uk>
17. Silva L, Marins P, Nobre T, Frazão I, Santa Rosa D. *Ethical implications and decision making in care education process*. *Investig Educ Enferm*. 2014;32(2):236-43.
18. Suen KK. *Ethical implications of population ageing in the intensive care unit*. *Ir J Med Sci*. 2019;188(2):699-702.
19. Tiruneh MA, Ayele BT. *Practice of code of ethics and associated factors among medical doctors in Addis Ababa, Ethiopia*. *PLoS One*. 2018;13(8):e0201020.
20. Trobec I, Starcic AI. *Developing nursing ethical competences online versus in the traditional classroom*. *Nurs Ethics*. 2015;22(3):352-66.

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21. Wilson MA, Goettemoeller DM, Bevan NA, McCord JM. *Moral distress: levels, coping and*
22. Kohlberg L. *The philosophy of moral development. San Francisco: Harper & Row; 1981.*
23. De Casterlé BD, Izumi S, Godfrey NS, Denhaerynck K. *Nurses' responses to ethical dilemmas in nursing practice: a meta-analysis JAdv Nurs 2008;63(6):540-9.*
24. Davis AJ. *Ethical dilemmas in nursing: a survey. West J Nurs Res. 1981;3(4):397-407.*

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Professional Relationships Between Nurses and Doctors at Vlora Regional Hospital : A Cross-Sectional Study

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Abstract

The success of the nursing profession, as a key indicator of high-quality healthcare institutions, depends on efficient patient care and effective collaboration among nurses and with medical staff [1, 2]. This study aimed to identify the professional relationships of nurses and the factors influencing them. A cross-sectional study was carried out at Vlora Regional Hospital between June 9 and September 1, 2025, involving 116 nurses and 44 doctors randomly selected from multiple departments. Two questionnaires were used: a questionnaire for doctors and a questionnaire for nurses through linguistic validation in Albanian of the questionnaires Nurse-Doctor Relationship in Rwanda: A Questionnaire Survey IOSR Journal of Nursing and Health Science (IOSR-JNHS). Statistical analysis was performed with the SPSS 19 package. Nurse-nurse relationships were rated at a moderate level, with a mean score of 6.53 (SD = 1.88). Most nurses (61.21%) reported

that these relationships need improvement, reflecting moderate levels of professional behavior and ethics. The nurse-doctor relationship was similarly rated as moderate by 70.69% of participants, though 23.28% evaluated it as very good. Communication issues were identified by 23.81% of doctors as a key factor affecting nurses' professional conduct. The most challenging interactions involved both nurse-nurse and nurse-doctor relationships (57.52%). Hierarchy (43.1%), communication problems among staff (37.1%), and insufficient adherence to ethical standards (21.6%) were identified as major sources of difficulty in nurse-doctor collaboration. Conclusions: Professional relationships at Vlora Hospital remain at an average level and require improvement, particularly in communication, mutual respect, and ethical behavior. Recommendations: Strengthen professional performance, ensure effective communication using appropriate

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medical terminology, reinforce ethical conduct, and promote cohesive teamwork.

Keywords: professional relationships, nurses, doctors, communication, ethics, collaboration, hierarchy, performance, healthcare teamwork.

Introduction

The success of the nursing profession as a defining component of high-quality healthcare institutions depends on effective patient care and strong professional collaboration among nurses and between nurses and medical staff [1,2]. A functional nurse–doctor relationship is a critical determinant of patient safety, quality of care, and healthcare efficiency.

Clear role definition, appropriate task allocation, accurate information exchange, mutual respect, and collaborative decision-making form the foundation of effective interprofessional relationships [1,3,4]. However, factors such as hierarchical structures, shift-based work models, occupational stress, and lack of professional support may negatively affect collaboration and communication [5,6].

Deficiencies in professional relationships are associated with increased clinical errors, rehospitalization rates, and higher mortality [4,7]. Therefore, assessing professional relationships and identifying the factors influencing them is essential for improving healthcare delivery and organizational performance.

Study Objective: To identify the professional relationships of nurses, as well as the factors and Objectives:

- To assess the professional relationship between nurses.
- To assess the professional relationship between nurses and doctors.
- To identify factors influencing professional relationships.

To determine the most difficult professional relationship perceived by healthcare staff.

Methodology:

Study Design: This study employed a cross-sectional design.

Study Setting and Period: The study was conducted at Vlora Regional Hospital from 09.06.2025 to 01.09.2025, with the involvement of academic staff.

Study Population: The study included 116 nurses and 44 doctors randomly selected from various hospital departments. Participation was voluntary, and informed consent was obtained. Each participant completed the questionnaire only once. Statistical analysis was performed with the SPSS 19 package.

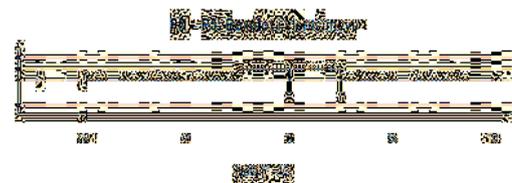
Inclusion and Exclusion Criteria

Inclusion: Nursing and medical staff employed at Vlora Regional Hospital.

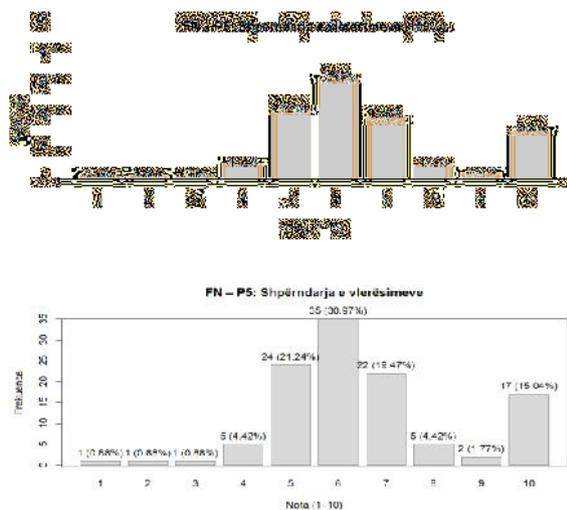
Exclusion: Other hospital employees not professionally classified as nurses or doctors.

Instruments: Two questionnaires (one for nurses and one for doctors), linguistically validated in Albanian, were used. These instruments were adapted from the Nurse–Doctor Relationship survey previously published in the IOSR Journal of Nursing and Health Science.

Results: Nurse–Nurse Professional Relationship



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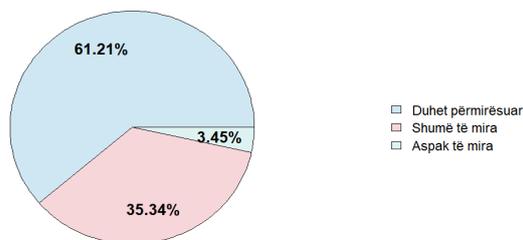


Graph 1: Distribution of Ratings for the Nurse–Nurse Professional Relationship

The nurse–nurse professional relationship was rated at a moderate level. The most frequent ratings were 6 points (30.97%), 5 points (21.24%), and 7 points (19.47%). A total of 61.21% of nurses reported that this relationship needs improvement, indicating moderate levels of professional behavior and ethics.

Mean = 6.53 (SD = 1.88)
Median = 6.00
Min–Max = 1–10
IQR = [5.00; 7.00]

FN – P6: Marrëdhëniet me kolegët (strukturë)



Graph 2: Structure of Ratings for the Nurse–Nurse Professional Relationship

The most frequent evaluation indicates that the nurse–nurse relationship needs improvement (n = 71, 61.21%), showing that professional behavior and ethics are at moderate levels. A total of 41 nurses (35.34%) rated their relationship with fellow nurses as very good, reflecting a highly satisfactory level of professional behavior among colleagues, which contributes to the provision of high-quality and professional care. Only 3.45% of nurses rated the professional relationship among colleagues as poor.

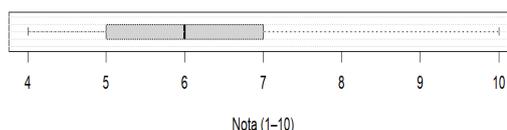
Nurse–Doctor Professional Relationship



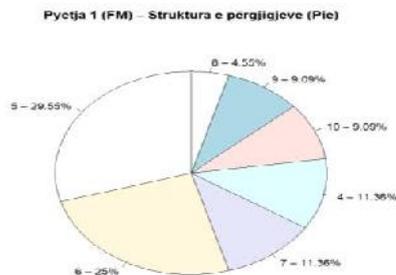
Graph 3: Structure of Ratings for the Nurse–Doctor Professional Relationship

The nurse–doctor relationship was also perceived as moderate. Approximately 70.69% of participants indicated that this relationship needs improvement, while 23.28% rated it as very good. Doctors' evaluations of nurses' professional behavior resulted in a mean score of 6.32 (SD = 1.81). This reflects an average level of professional ethics and highlights issues of inadequate respect for the doctor's role by nurses and for the nurse's role by doctors.

Pyetja 1 (FM) – Boxplot i vlerësimeve



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Graph 4: Structure of Responses (Pie Chart) for the 1–10 Rating of the Nurse’s Professional Relationship with the Medical Staff

Assessment of the Nurse’s Professional Relationship with the Medical Staff (1–10 Rating):

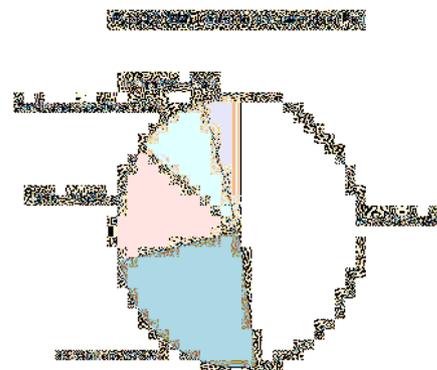
The nurse–doctor professional relationship was perceived as average, with the following distribution of ratings: 5 points (29.55%), 6 points (25%), 7 points (11.36%), 8 points (4.55%), 9 points (9.09%), and 10 points (9.09%), reflecting doctors’ evaluation of nurses’ ethical and professional behavior.

Mean = 6.32 (SD = 1.81; min = 4, max = 10; median = 6; IQR = [5; 7])

95% Confidence Interval for the mean: [5.77; 6.87]

Most frequent rating: 5 (Frequency = 13; 29.55% of responses)

Identification of Factors and Causes Affecting the Professional Relationship



Graph 5: Structure of Responses (Pie Chart) for the Identification of Factors and Causes Affecting the Professional Relationship

Professional relationships are built on open communication, mutual respect, and effective collaboration among healthcare personnel. However, a number of factors and causes can either positively or negatively affect professional relationships. According to doctors’ feedback regarding nurses’ behavior, 47.62% of doctors reported that there is nothing that bothers them, indicating effective professional collaboration between medical and nursing staff, where each knows their role and responsibilities.

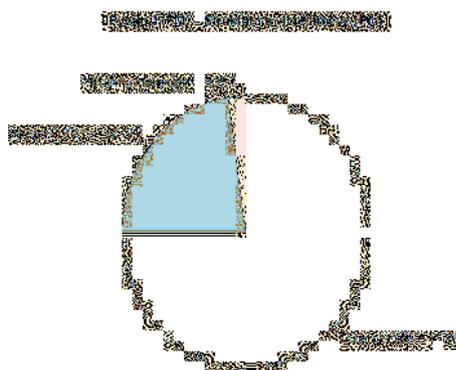
Communication was cited by 23.81% of doctors as a factor that disturbs them in nurses’ professional behavior. This can lead to misunderstandings, interpersonal tensions, and clinical errors, affecting the quality of the professional relationship. Three other causes that disturb doctors regarding nurses’ professional behavior and that influence the development of ethical, stable relationships and a healthy work environment for high-quality service are:

Behavior: cited by 14.29% of doctors

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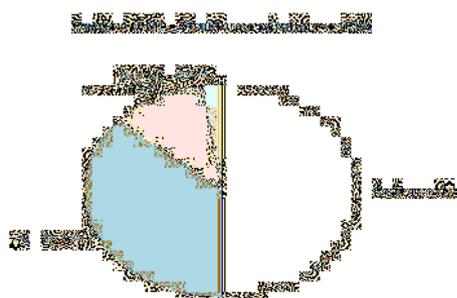
Decisions without consultation: cited by 9.52% of doctors

Indifference: cited by 4.76% of doctors



Graph 6: Structure of Responses (Pie Chart) for the Identification of Factors and Causes Affecting the Professional Relationship According to Doctors

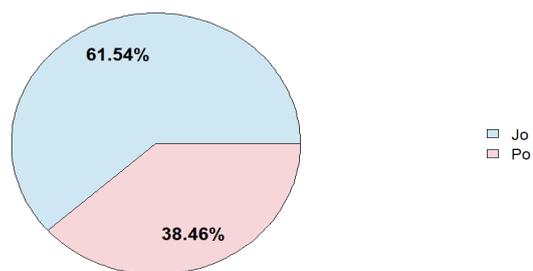
According to doctors' feedback regarding the evaluation of nurses' communication with staff, communication needs improvement (75.00%). Communication is a fundamental component of nursing ethics and practice, and poor communication undermines professional relationships and patient care. No problems were reported by 22.73%, indicating that these relationships are characterized by mutual respect, open communication, trust, shared responsibility in fulfilling professional duties, and work efficiency. Overstepping of competencies was reported by 2.27%, representing a deviation from the professional boundaries of each member of the healthcare team, which directly affects patient safety, the quality of care, and professional relationships.



Graph 7: Structure of Responses (Pie Chart) Regarding the Content of the Code of Ethics by Nurses

According to doctors' feedback regarding nurses' adherence to the code of ethics, sporadic compliance was reported by 50.00%, while non-compliance was reported by 11.36%. The code of ethics serves as an ethical guide for every professional decision made by nursing staff, and failure to follow or violation of it constitutes not only a disciplinary issue but also a legal responsibility. A portion of doctors (36.36%) reported that nurses demonstrated professional responsibility, respect for patients' rights, collaboration with colleagues, and provision of quality care to patients.

FN – P9: Ndiheni të ofenduar/përulur?



Graph 8: Structure of Responses (Pie Chart) Regarding Nurses' Adherence to the Code of Ethics

Workplace harassment violates the Ethical Codes and Disciplinary Regulations governing the nursing profession and constitutes a breach of employee rights. Every healthcare institution has the duty to protect the integrity of its staff. According to nurses' feedback, 61.54% reported that they do not feel harassed at work, indicating a safe and respectful work environment. In contrast, 38.46% reported feeling harassed at work, which represents a serious problem that negatively affects not only emotional and professional well-being but also the quality of healthcare services provided to patients.

The Most Difficult Relationship According to Healthcare Staff

Original research

About 7.96% reported that none of the relationships were difficult, indicating a healthy relationship among healthcare professionals and mutual respect for each other's roles.



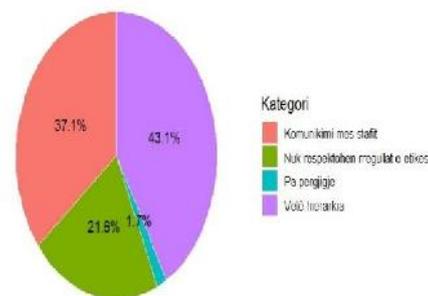
Graph 9: Structure of Responses Regarding the Most Difficult Professional Relationship

Interprofessional relationships are essential for providing high-quality and comprehensive patient care, but in some cases, these relationships can be challenging. The most difficult relationship reported was the combined nurse-nurse and nurse-doctor relationship (57.52%), followed by nurse-doctor (23.01%) and nurse-nurse (11.50%) relationships. These difficulties were mainly associated with unclear communication, lack of mutual respect, and insufficient role recognition. This directly affects patient care quality, causing treatment delays, inaccurate clinical communication, and reduced efficiency of doctors and nurses as a professional team.

Vertical relationships: nurse-doctor (23.01%) – difficulties are due to professional hierarchy, where one party feels undervalued or excluded from decision-making.

Horizontal relationships: nurse-nurse (11.50%) – challenges arise from ineffective communication, lack of collaboration, professional rivalry, disrespect for colleagues' roles and experience, and feelings of being undervalued. This lowers staff morale and negatively affects patient care quality.

Q8a – Shkaqet që e vështirësojnë marrëdhënien (Pie)



Graph 10: Structure of Responses (Pie Chart) Regarding the Causes That Complicate the Nurse-Doctor Professional Relationship.

Three main factors are perceived as sources of difficulty in the nurse-doctor relationship:

Hierarchy (43.1%) – indicating that vertical structures and power relations remain a major obstacle.

Staff communication (37.1%) – suggesting that lack of clarity and appropriate information exchange creates tensions.

Non-compliance with ethical rules (21.6%) – highlighting concerns about professional behavior. Responses indicating multiple causes most often combine *communication + ethics*, suggesting that communication problems are frequently perceived as linked to adherence to ethical norms.

Discussion

The study highlighted that professional relationships at Vlore Hospital are at an average level, indicating the presence of communication and collaboration, but leaving room for further interventions aimed at standardizing the delivery of healthcare. These values are higher compared to a 2022 study in Ethiopia, which found that

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43.3% of respondents experienced ineffective collaboration among professionals, showing that two in five professionals reported cooperation problems, underlining an average level of professional relationships and the need for improvement [8].

In our study, more than half of the nurses reported deficiencies in communication and professional ethics, while two-thirds of doctors reported their relationships with nurses as average due to hierarchical constraints and role limitations that reduce collaboration. However, a 2024 study in Jordan showed a positive correlation between nurse-doctor collaboration and perceived quality of healthcare services provided to patients [9].

The findings indicate that professional relationships at Vlora Regional Hospital are at a moderate level. More than half of the nurses and approximately two-thirds of the doctors reported deficiencies in communication and professional ethics, largely influenced by hierarchical constraints and role limitations.

These findings are consistent with international studies reporting moderate levels of nurse-doctor collaboration and the need for improvement [8–10]. In contrast, studies conducted in Turkey and other European countries have reported higher levels of nurse-nurse collaboration, highlighting the importance of organizational culture and institutional support [11,12].

Approximately one-third of doctors and over 50% of nurses reported deficiencies in communication and mutual respect, which later manifested in misunderstandings and work-related stress. Similar results were observed in a 2023 study in Korea, where 20% of nurses had a low level of collaboration, 50% had a medium level, and 30% had a high level of collaboration [10]. In Turkey, a study showed that nearly all nurses reported nurse-nurse collaboration as accepted and at a high level within their units [11].

Similar findings were reported in studies conducted in Brazil and Germany, involving populations of doctors and nurses. In these

studies, participants in focus groups identified opportunities and barriers arising from Primary Healthcare models used in their respective countries. In both countries, nurses' contributions to Primary Healthcare were mainly linked to meeting complex health needs; however, promoting nurse engagement was challenged by the dominance of doctors in healthcare policies and practices.

Regarding future trends in expanding nursing practices in collaboration with doctors, all participants in Brazil supported a complementary approach focused on increasing nurse autonomy in Primary Healthcare. In Germany, opinions were mixed, with medical stakeholders and some general practitioners advocating a delegation-based approach [12].

Conclusions

Professional relationships between nurses and their colleagues, as well as with doctors, were rated as average. Both nurse-nurse and nurse-doctor relationships require improvement, particularly in communication, mutual respect, and adherence to professional ethics.

The most difficult relationships were reported as combined nurse-nurse and nurse-doctor relationships, reflecting systemic challenges in teamwork and role recognition. Hierarchy, communication issues, and non-compliance with ethical rules were identified as the main factors affecting professional collaboration.

Recommendations:

Strengthen professional communication through continuous training and standardized medical terminology.

Promote strict adherence to professional and ethical standards.

Encourage interprofessional collaboration through team-based patient care models.

Clearly define and respect professional roles and competencies.

Reduce hierarchical barriers to improve collaboration and healthcare quality.

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References:

1. André B, Frigstad SA, Nøst TH, Sjøvold E. Exploring nursing staff communication in stressful and non-stressful situations. *J Nurs Manag.* 2016;24(2):E175–E182.
2. Hamed D, Soliman E. Evaluate nurse–physician relationship and its impact on their perception of nurse role. *Mansoura Nurs J.* 2019;6(2):127–137.
3. Ma C, Stimpfel AW. The association between nurse shift patterns and nurse–nurse and nurse–physician collaboration in acute care hospital units. *J Nurs Adm.* 2018;48(6):335–341.
4. Al-Bustanji MF, Rayan A, Eshah NF, Masa'deh R, Baqeas MH, Rayyan N, et al. Nurses' perceptions of nurse–physician collaboration and quality of care in public hospitals. *SAGE Open Nurs.* 2024;10:23779608241286767. doi:10.1177/23779608241286767
5. El-Hanafy EY. Nurse–physician work-related relationship as perceived by both of them. *Egypt Nurs J.* 2018;15(2):188–195.
6. Mercan Baspinar M, Birer Z, Demiray S, Basar H, Adas GT. A hospital-based nursing study on intention to leave job and nurse–physician collaboration. *Nurs Forum.* 2024;2024(1):9503988, doi:10.1155/2024/9503988
7. O'Daniel M, Rosenstein AH. Professional communication and team collaboration. In: Hughes RG, editor. *Patient safety and quality: an evidence-based handbook for nurses.* Rockville (MD): Agency for Healthcare Research and Quality; 2005. Chapter 33.
8. Degu T, Amsalu E, Kebede A, et al. Inter-professional collaboration and associated factors among nurses and physicians in specialized public hospitals in northwest Ethiopia: a mixed-method multicentered cross-sectional study. *BMC Health Serv Res.* 2023;23:286. doi:10.1186/s12913-023-09200-5
9. Wang Y, Wan Q, Guo J, Jin X, Zhou W, Feng X, Shang S. The influence of effective communication, perceived respect and willingness to collaborate on nurses' perceptions of nurse-physician collaboration in China. *Appl Nurs Res.* 2018 Jun;41:73-79. doi: 10.1016/j.apnr.2018.04.005. Epub 2018 Apr 22. PMID: 29853219.
10. Baek H, Han K, Cho H, et al. Nursing teamwork is essential in promoting patient-centered care: a cross-sectional study. *BMC Nurs.* 2023;22:433. doi:10.1186/s12912-023-01592-3
11. Avci Y, Yılmaz D. Examining the level of collaboration among nurses working in intensive care units. *J Nurs Sci.* 2022;5(2):84–93. doi:10.54189/hbd.1116121
12. Franco CM, Bula D, Toso BRG, et al. Nurse–physician interprofessional collaboration in the context of expanding nursing practice in primary health care: a comparative qualitative study of Brazil and Germany. *BMC Nurs.* 2025;24:259. doi:10.1186/s12912-025-02885-5

Original research

The Risk of Cardiovascular Diseases and Obesity

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Abstract

More people die from cardiovascular diseases (CVDs) than from any other cause. Over three quarters of heart disease and stroke related deaths occur in low- and middle-income countries (WHO 2020). Obesity has emerged as one of the most important modifiable risk factors for cardiovascular disease. Aim is to verify the relationship between obesity and cardiovascular diseases through the analysis of blood biochemical indicators (total cholesterol, triglycerides, and glycemia), as well as to highlight the role of nursing care in primary health care.

This cross-sectional study included 199 patients' charts followed at Primary Health Care Center No. 4 in the city of Vlora. Data were analyzed according to age, sex, weight, height, smoking and alcohol consumption, as well as blood analysis indicators (glycemia, hypertension, and triglycerides). Statistical analysis was performed using SPSS version 21. Absolute and relative frequencies (%) were used for qualitative

variables, while means and standard deviations were calculated for quantitative variables. Group differences were tested using the chi-square test, with statistical significance set at $p < 0.05$. The mean age of participants was 53.7 years ($SD \pm 12.8$), with a minimum age of 35 years and a maximum of 83 years; the highest proportion belonged to the age group over 60 years (32%). The mean body mass index was 27.2 ± 3.16 kg/m^2 ; 48.2% of patients had normal weight, 37.7% were overweight, and 13.1% were obese. A statistically significant association was found between obesity and elevated levels of cholesterol, triglycerides, and glycemia ($p < 0.05$). Obese patients showed a markedly higher probability of pathological triglyceride levels ($OR = 266$), glycemia ($OR = 19.9$ for diabetes), and cholesterol compared with patients of normal weight. Higher levels of these indicators were also observed in patients over 60 years of age, smokers, and alcohol consumers.

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The study confirmed a strong and statistically significant association between obesity and the risk of developing cardiovascular diseases. Increasing BMI is associated with a substantial increase in the probability of hypercholesterolemia, hypertriglyceridemia, and glycemic disorders. These findings emphasize the importance of the nurse's role in primary health care for cardiovascular risk assessment, patient education, and the implementation of evidence-based preventive interventions.

Keywords: Obesity, glycemia, hypercholesterolemia, hypertriglyceridemia, cardiovascular disease risk, nursing primary health care.

Introduction

Cardiovascular diseases (CVDs) remain the leading cause of morbidity and mortality worldwide, accounting for approximately 32% of all global deaths (WHO, 2023). More people die from cardiovascular diseases (CVDs) than from any other cause. Over three quarters of heart disease and stroke related deaths occur in low- and middle-income countries (WHO 2020). Obesity has emerged as one of the most important modifiable risk factors for cardiovascular disease. Despite significant advances in prevention and treatment, the burden of CVDs continues to rise, particularly in low and middle-income countries, where demographic aging and lifestyle-related risk factors are increasingly prevalent (Roth et al., 2020).

Obesity has emerged as one of the most important modifiable risk factors for cardiovascular disease. Defined by an excessive accumulation of body fat, obesity is strongly associated with metabolic abnormalities such as dyslipidemia, insulin resistance, impaired glucose tolerance, and chronic low-grade inflammation, all of which contribute to the development and progression of atherosclerosis (Eckel et al., 2005; Grundy, 2016). Epidemiological evidence consistently demonstrates that individuals with obesity have a substantially higher risk of hypertension, type

2 diabetes mellitus, and coronary heart disease compared to individuals with normal body weight (Lavie et al., 2018).

Alterations in lipid metabolism, particularly elevated levels of total cholesterol and triglycerides, represent key pathways linking obesity to cardiovascular risk. Similarly, disturbances in glucose metabolism, including hyperglycemia and diabetes, further exacerbate endothelial dysfunction and vascular damage (Reaven, 2011). These metabolic derangements tend to worsen with increasing age and are often amplified by unhealthy lifestyle behaviors such as smoking and alcohol consumption (Ambrose & Barua, 2004; Rehm et al., 2017).

Primary health care plays a pivotal role in the prevention and early management of cardiovascular risk factors. Within this setting, nurses are uniquely positioned to conduct systematic risk assessment, monitor anthropometric and biochemical indicators, and deliver evidence-based health education aimed at lifestyle modification (Stanhope & Lancaster, 2020). Nurse-led interventions focusing on weight management, smoking cessation, and dietary counseling have been shown to effectively reduce cardiovascular risk and improve long-term health outcomes (Smith et al., 2016; Joo & Liu, 2021). Despite the growing international evidence, data examining the association between obesity and cardiovascular risk indicators in primary health care populations in Southeast Europe remain limited. Understanding these relationships at the local level is essential for developing targeted, nurse-led preventive strategies. Therefore, the present study aims to assess the relationship between obesity and key cardiovascular risk indicators—total cholesterol, triglycerides, and glycemia—and to highlight the role of nursing care in primary health care in the prevention of cardiovascular diseases.

Methodology

This study was designed as a cross-sectional descriptive analysis and included 199 patients' charts at Primary Health Care Center No. 4 in the

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city of Vlora during 2024. In order to conduct this study, we had the ethical permission approved from the Faculty of Health and the Health Operator of Vlora District. We ensured the staff that the data collected would be confidential and used only for the purposes of the study, without revealing the identity of the patients. We worked with the patients' charts in the check-up area, where the data is current and detailed. Data were analyzed according to age, sex, weight, height, smoking and alcohol consumption, as well as blood analysis indicators (glycemia, total cholesterol, and triglycerides).

Statistical analysis was performed using SPSS version 21. Absolute and relative frequencies (%) were used for qualitative variables, while means and standard deviations were calculated for quantitative variables. Differences between groups were tested using the chi-square test, with statistical significance set at $p < 0.05$. The association between blood analysis indicators (dependent variables) and obesity (based on BMI), as well as other influencing factors, was assessed using logistic regression analysis.

Results

Demographic and Anthropometric Characteristics

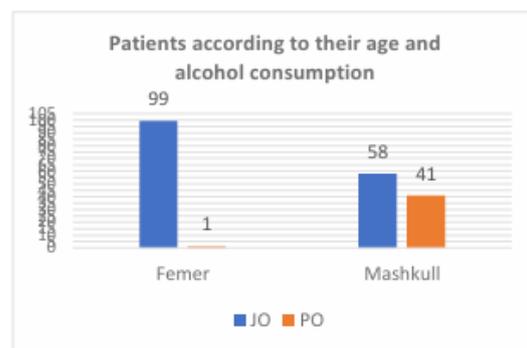
The mean age of the patients was 53.7 ± 12.8 years, with 32% of participants belonging to the age group over 60 years. Gender distribution was nearly equal, with 50.8% females and 49.2% males. The mean body mass index (BMI) was 27.2 ± 3.16 kg/cm². According to BMI classification we saw that 48.2% of the patients had normal weight, 37.7% were overweight, 13.1% were obese, 1.0% were underweight. The data is presented in table 1.

Table 1. Patient characteristics

Age	N	Minimum	Maximum	Mean	SD
	199	35	83	53.74	12.791
Weight	199	48	114	74.75	13.7
Height	199	153	190	170.21	8.626
BMI (kg/cm ²)	150	22.9	56.7	27.2	3.16

No statistically significant differences in BMI were observed according to age or gender ($p > 0.05$). The majority of patients did not consume alcohol (79%), while 21% did. No statistically significant differences were found between age groups regarding alcohol use. In contrast, a statistically significant difference was observed between sexes in relation to alcohol consumption, with 40% of men reporting alcohol use compared to only 1% of women. This difference was statistically significant, as indicated by the chi-square test ($p = 0.000$; $p < 0.05$). Graphic 1 presents this relation.

Graphic 1: The relation between gender and alcohol consumption



The data collected revealed that the majority of patients were smokers (55%). A statistically significant difference was observed between sexes with regard to smoking status, as indicated by the chi-square test ($p = 0.000$; $p < 0.05$). Smoking prevalence was higher among men (75%) compared to women (34%). See Table 2 below.

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Table 2. Distribution of patients according to smoking status and sex

Smokers	Sex		Total
	Women	Men	
NO	66	24	90
YES	34	75	109
Total	100	99	199

Biochemical Blood Indicators

The mean values of the analyzed biochemical indicators were:

- Total cholesterol: 218.6±46.7 mg/dl
- Triglycerides: 135.3±53.5 mg/dl
- Glycemia: 111.3±31.6 mg/dl

Table 3. Blood test results of the patients

Blood test	N	Mini mum	Maxim um	Means	Std. Devia tion
Cholesterol (mg/dl)	199	130.5	330.0	218.6	46.7
Triglyceride s (mg/dl)	199	53.5	280.6	135.3	53.5
Glycemia (mg/dl)	199	70.0	220.1	111.3	31.6

Table 4 presents the distribution of patients according to total cholesterol levels, based on the following classification:

- 145–220 mg/dl: Normal level
- 220–239 mg/dl: Upper borderline
- 240 mg/dl: High

The majority of patients (55%) had total cholesterol levels within the normal range. Approximately 37% had high total cholesterol levels, while 8% had cholesterol values within the upper borderline range.

Table 4. Distribution of patients according to total cholesterol levels

Cholesterol levels	Nr	%
High	73	36.7%
Upper borderline	16	8.0%
Normal level	110	55.3%
Total	199	100.0%

Table 5 presents the distribution of patients according to triglyceride levels, based on the following classification:

- 45–150 mg/dl: Normal
- 150–199 mg/dl: Upper borderline
- 200 mg/dl: High

From Table 5, it can be observed that 62.8% of patients had normal triglyceride levels. Approximately 16% had high triglyceride levels, while 22% had values within the upper borderline range.

Table 5. Distribution of patients according to triglyceride levels

Triglyceride levels	N	%
Upper borderline	43	21.6%
High	31	15.6%
Normal level	125	62.8%
Totali	199	100.0%

Table 6 presents the distribution of patients according to glycemia levels, based on the following classification:

- 70–115 mg/dl: Normal
- 115–125 mg/dl: Prediabetic
- 126 mg/dl: Diabetic

From Table 6, it can be observed that the majority of patients had normal glycemia levels. Approximately 9% of patients had prediabetic glycemia levels, while 23% were classified as diabetic.

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Table 6. Distribution of patients according to glycemia levels

Glycemia levels	N	%
Diabetic	46	23.1%
Normal	135	67.8%
Prediabetic	18	9.0%
Total	199	100.0%

Overall, about 37% of patients had high total cholesterol, 16% had high triglyceride levels, and 23% were classified as diabetic. The data indicate that men had higher levels of triglycerides and total cholesterol compared to women, whereas women exhibited higher glycemia levels compared to men.

Blood Indicators and Patient Age

Patients aged over 60 years presented higher levels of triglycerides, glycemia, and total cholesterol compared to other age groups. The highest mean triglyceride value was observed in the over 60 years age group (149.5 mg/dl), while the highest mean glycemia value was also found in this age group (118.1 mg/dl). In contrast, the highest mean total cholesterol value was observed in the 50–60 years age group (229.7 mg/dl).

Table 7. Mean values of blood indicators according to age

Ages		Triglycerides	Glycemia	Cholesterol
40-50	Mean	131.396	112.736	212.968
	Std. Deviation	54.1574	34.2464	46.2535
50-60	Mean	135.696	108.699	229.733
	Std. Deviation	50.1021	30.7627	46.3334
Deri 40	Mean	116.220	101.313	199.418
	Std. Deviation	50.8517	28.3700	48.3858
Over 60	Mean	149.524	118.089	225.978
	Std. Deviation	54.4945	31.1567	43.0308

Association Between Blood Indicators and Obesity

Obesity was associated with significantly higher levels of triglycerides, glycemia, and total cholesterol compared to other BMI groups ($p=0.000$). Obese patients exhibited a markedly higher prevalence of hypertriglyceridemia, with 92% having triglyceride levels above the normal range and 73% presenting high levels, compared with overweight patients (44% above normal) and patients with normal weight (15% above normal).

Similarly, obese patients showed higher glycemia levels, with 65% classified as diabetic, compared with overweight patients (25%) and those with normal weight (11%) ($p=0.000$).

Regarding total cholesterol, all obese patients had values above the normal range, and 99% presented high cholesterol levels. This prevalence was lower among overweight patients (48% with high cholesterol levels) and among patients with normal weight (12%) ($p=0.000$).

Table 8. Distribution of patients according to triglyceride, glycemia, and total cholesterol levels by obesity status

Triglyceride levels	Obesity		Total		
	Underweight	Normal	Overweight	Obese	
Normal	2	82	39	2	125
Upper borderline	0	11	27	5	43
High	0	3	9	19	31
Total	2	96	75	26	199
Glycemia levels	Obesity				Total
	Underweight	Normal	Overweight	Obese	
Diabetic	0	10	19	17	46
Normal	2	80	46	7	135
Prediabetic	0	6	10	2	18
Total	2	96	75	26	199
Cholesterol levels	Obesity				Total
	Underweight	Normal	Overweight	Obese	
High	0	12	36	25	73
Upper borderline	0	4	11	1	16
Normal	2	80	28	0	110
Total	2	96	75	26	199

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Regression analysis revealed a statistically significant association between obesity and all three blood analysis indicators ($p < 0.001$). Logistic regression analysis further demonstrated that:

- obese patients had a 266-fold higher probability of having high triglyceride levels compared to patients with normal body weight (Table 9).
- the probability of being diabetic was approximately 20 times higher, while the probability of being prediabetic was 4 times higher among obese patients.
- Furthermore, obese patients exhibited a very low probability of having normal total cholesterol levels, estimated at 1/1000, compared with patients of normal weight.

Table 9. Model Fitting Information

Parameter Estimates

TR ^a	B	Std. Error	Wald	df	Sig.	Exp(B)	95% Confidence Interval for Exp(B)		
							Lower Bound	Upper Bound	
Upper borderline	Intercept	-2.033	0.321	40.197	1	0			
	[Obese]	2.949	0.896	10.834	1	0.001	19.091	3.297	110.54
	[Overweight]	1.665	0.407	16.755	1	0	5.287	2.382	11.734
	[Normal]	0 ^b	.	.	0
High	Intercept	-3.332	0.588	32.162	1	0			
	[Obese]	5.583	0.948	34.722	1	0	266	41.526	1703.9
	[Overweight]	1.866	0.694	7.223	1	0.007	6.462	1.657	25.193
	[Normal]	0 ^b	.	.	0

a. The reference category is: Normal.

Patients aged over 60 years exhibited higher levels of total cholesterol, triglycerides, and glycemia compared to other age groups ($p < 0.05$).

Other Influencing Factors: Association Between Blood Indicators, Alcohol Consumption, and Smoking

Smoking and alcohol consumption were associated with higher levels of total cholesterol and triglycerides, whereas the effect of smoking on glycemia was not statistically significant. Patients who consumed alcohol more frequently exhibited high total cholesterol levels compared with non-consumers (67% vs. 28%; $p = 0.000$), as well as higher glycemia levels (45% vs. 28%; $p = 0.024$) and elevated triglyceride levels (above normal 57% and high 28% vs. 30% and 12%; $p = 0.001$).

Similarly, smokers showed a higher prevalence of high total cholesterol (52% vs. 18%; $p = 0.000$) and increased triglyceride levels (above normal 48% and high 21% vs. 26% and 9%; $p = 0.010$) compared with non-smokers. No statistically significant differences in glycemia levels were observed according to smoking status ($p = 0.085$).

Discussion

The findings of this study confirm that obesity constitutes a major risk factor for the development of cardiometabolic disorders, being associated with significantly higher levels of total cholesterol, triglycerides, and glycemia. These results are consistent with international evidence identifying obesity as a key determinant of cardiovascular risk through mechanisms such as dyslipidemia, insulin resistance, and chronic low-grade inflammation (Eckel et al., 2005; Grundy, 2016).

In this study, obese patients demonstrated markedly higher probabilities of pathological triglyceride and glycemia levels, reflecting a more severe metabolic profile. International literature indicates that the accumulation of visceral adipose tissue directly contributes to increased production of atherogenic lipoproteins and impaired insulin sensitivity, substantially increasing the risk of type 2 diabetes mellitus and cardiovascular diseases (Lavie et al., 2018; Reaven, 2011).

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An important finding of this study was the effect of age, as patients over 60 years exhibited higher levels of cholesterol, triglycerides, and glycemia compared with other age groups. This finding aligns with epidemiological studies showing that cardiovascular risk increases progressively with age due to physiological changes, prolonged exposure to risk factors, and reduced metabolic capacity (Yusuf et al., 2004; Roth et al., 2020).

Furthermore, the study demonstrated that alcohol consumption and smoking are closely associated with higher levels of cholesterol and triglycerides, while the effect of smoking on glycemia was not statistically significant. These findings are consistent with the literature indicating that alcohol and tobacco use contribute to dyslipidemia and oxidative stress, thereby accelerating atherosclerotic processes (Ambrose & Barua, 2004; Rehm et al., 2017).

From a nursing perspective, these findings highlight the central role of nurses in primary health care in the systematic assessment of cardiovascular risk, monitoring of anthropometric and biochemical parameters, and patient education aimed at sustainable lifestyle changes. International studies have shown that nurse-led interventions—particularly those focused on weight management, smoking cessation, and reduction of alcohol consumption—are effective in reducing cardiovascular risk in primary care settings (Smith et al., 2016; Joo & Liu, 2021).

In this context, nurses in primary health care play a key role in:

- systematic assessment of cardiovascular risk;
- monitoring of biochemical indicators;
- patient education for sustainable lifestyle modifications;
- coordination of multidisciplinary care.

Conclusions

This study demonstrates a strong association between obesity and the risk of developing cardiovascular diseases. Obese patients exhibit a significantly higher probability of

hypercholesterolemia, hypertriglyceridemia, and glycemic disorders. The findings underscore the importance of strengthening the role of nurses in primary health care as a key strategy for cardiovascular disease prevention and for enhancing evidence-based, nurse-led preventive programs as an integral component of public health strategies.

Recommendations

The development and implementation of structured nurse-led programs aimed at the prevention of obesity and cardiovascular risk are recommended, focusing on early risk assessment, lifestyle modification, and long-term patient follow-up.

The authors declare no conflict of interest

References

1. HEARTS technical package for cardiovascular disease management in primary health care: risk based CVD management. Geneva: World Health Organization; 2020. Licence: CC BY-NC-SA 3.0 IGO <https://www.who.int/publications/i/item/9789240001367>
2. Roth, G. A., Mensah, G. A., Johnson, C. O., et al. (2020). Global burden of cardiovascular diseases. *Journal of the American College of Cardiology*, 76(25), 2982–3021.
3. Eckel, R. H., Grundy, S. M., & Zimmet, P. Z. (2005). The metabolic syndrome. *The Lancet*, 365(9468), 1415–1428.
4. Grundy, S. M. (2016). Metabolic syndrome update. *Circulation*, 133(17), 1694–1699.
5. Lavie, C. J., Arena, R., Alpert, M. A., et al. (2018). Management of cardiovascular diseases in obesity. *Progress in Cardiovascular Diseases*, 61(2), 103–111.
6. Reaven, G. M. (2011). Insulin resistance. *Diabetes*, 37(12), 1595–1607.
7. Ambrose, J. A., & Barua, R. S. (2004). The pathophysiology of cigarette smoking and cardiovascular disease. *Journal of the American College of Cardiology*, 43(10), 1731–1737.

Original research

8. Rehm, J., Roerecke, M., et al. (2017). Alcohol consumption and cardiovascular disease. *The Lancet*, 389(10086), 151–164.
9. Stanhope, M., & Lancaster, J. (2020). *Public health nursing (10th ed.)*. Elsevier.
10. World Health Organization. (2023). *Cardiovascular diseases (CVDs)*. WHO.
11. Smith, S. M., Wallace, E., et al. (2016). Nurse-led interventions for chronic disease management. *Cochrane Database of Systematic Reviews*, CD011401.
12. Joo, J. Y., & Liu, M. F. (2021). Nurse-led lifestyle interventions. *Journal of Advanced Nursing*, 77(1), 357–370.
13. Yusuf, S., Hawken, S., Ōunpuu, S., et al. (2004). Effect of potentially modifiable risk factors associated with myocardial infarction. *The Lancet*, 364(9438), 937–952.
14. Roth, G. A., Mensah, G. A., Johnson, C. O., et al. (2020). Global burden of cardiovascular diseases. *Journal of the American College of Cardiology*, 76(25), 2982–3021.
15. Smith, S. M., Wallace, E., et al. (2016). Nurse-led interventions for chronic disease management. *Cochrane Database of Systematic Reviews*, CD011401.
16. Centers for Disease Control and Prevention. (2022, June 3). About adult BMI. Centers for Disease Control and Prevention. https://www.cdc.gov/healthyweight/assessing/bmi/adult_bmi/index.html
17. Centers for Disease Control and Prevention. (2022b, June 3). Defining adult overweight & obesity. Centers for Disease Control and Prevention. <https://www.cdc.gov/obesity/basics/adult-defining.html#>

Review

TECHNICAL AND NATURAL SCIENCES

Original research

Assessment of CO₂ Levels in Some Kindergartens and Nurseries in the Cities of Fier and Vlora

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Abstract

The issue of air quality in schools, kindergartens, and nurseries is a growing concern with direct implications for children's health and development. According to global directives, including those of the World Health Organization [16] polluted indoor air in educational settings can cause respiratory diseases, allergies, and breathing difficulties, and may adversely affect children's learning abilities. Monitoring carbon dioxide (CO₂) levels in nurseries and kindergartens represents an important step toward ensuring a healthy environment for children—particularly in cities such as Vlora and Fier, which may face air pollution challenges due to urban transport activities [10]. This study aims to evaluate the air quality in educational environments of nurseries, kindergartens, and preschools in the cities of Fier and Vlora by continuously monitoring carbon dioxide concentrations and ecological factors that directly influence CO₂ levels. In total, 16 institutions (10 public and 6 private) were monitored in both cities

between May and October 2025. For each institution, measurements were conducted in a single classroom, with children aged from 8 months to 6 years. CO₂, temperature, and relative humidity values were recorded using a drager instrument (gas detector). Analysis of air quality monitoring results indicated overall good air quality, as CO₂ concentrations in all public and private institutions remained within the normal range (400–800 ppm). Statistical tests (One-Way ANOVA) conducted using SPSS software revealed significant differences between the cities of Fier and Vlora, as well as between public and private institutions, regarding the average CO₂ concentrations measured in the monitored nurseries, kindergartens, and preschools.

Keywords: CO₂, temperature, humidity, air quality, kindergarten, nursery

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Introduction

The issue of air quality in schools, kindergartens, and nurseries is a matter of increasing concern, with direct implications for children's health and development. According to global guidelines, including those of the World Health Organization [16], polluted indoor air within educational settings can cause respiratory diseases, allergies, and breathing difficulties, and may negatively affect children's learning abilities. The harmful effects of air pollutants—such as dust, nitrogen oxides, carbon dioxide, and other chemical substances—are particularly pronounced in enclosed environments where ventilation is insufficient and children spend most of their time.

Monitoring CO levels in nurseries and kindergartens is an essential step toward ensuring a healthy environment for children. Elevated indoor CO levels can adversely affect children's health, leading to fatigue, poor concentration, and breathing difficulties. Children are especially vulnerable to air pollution due to their ongoing physiological development, which may contribute to the spread and exacerbation of respiratory diseases [6], [19]. Consequently, air pollution in schools and nurseries may pose an increased risk of developing long-term health problems.

Furthermore, air pollution impacts children's neurological development and cognitive performance and has been linked to cardiovascular diseases and even cancer [6]. Therefore, continuous monitoring of CO levels can help prevent the deterioration of indoor air quality and ensure that oxygen levels remain suitable for children's daily activities. Based on numerous studies, one of the key indicators of indoor air quality in kindergartens and nurseries is the concentration of carbon dioxide (CO₂), whose value reflects the effectiveness of indoor ventilation [17]. The most commonly recommended and simplest ventilation method is natural ventilation [14], in which indoor air with a higher concentration of carbon dioxide is exchanged with outdoor air containing lower CO

levels. However, this may not always be effective in cities such as Fier and Vlora, which are characterized by significant levels of urban pollution (as reported by the National Environmental Agency).

It is also important to emphasize that with natural ventilation through window openings, it is not possible to precisely control the rate of air exchange according to the current indoor conditions. In such cases, the frequency and duration of ventilation depend entirely on individuals who may adapt quickly to the surrounding environment [14]. Therefore, ensuring adequate ventilation through windows becomes problematic if the space is not equipped with sensors to measure indoor environmental quality.

According to many international best practices, if a room is designed to be ventilated naturally through windows, it should be equipped with sensors to assess the safety and quality of indoor air—namely, sensors for CO concentration or for other pollutants such as volatile organic compounds (VOCs). Temperature and relative humidity sensors are also suitable for monitoring thermal comfort.

By installing air quality monitoring systems in schools and kindergartens, immediate measures can be taken whenever CO levels become elevated [14]. Moreover, improving ventilation and implementing air filtration systems in these institutions can help reduce concentrations of pollutants and CO₂ [2]. Another essential step is the promotion of public transportation and the establishment of green spaces to enhance air quality in the mentioned cities [16].

According to reports from the National Environmental Agency, the Institute of Public Health, and the Environmental Inspectorate, cities such as Vlora and Fier face air pollution challenges primarily due to urban transport activities. Addressing the issue of air quality in such contexts requires an integrated approach. This can be achieved through the installation of air quality monitoring systems in schools and kindergartens, which would allow for immediate corrective actions when CO levels rise.

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Additionally, improving ventilation and adopting air filtration technologies in these institutions can effectively lower pollutant and CO concentrations. Further more, promoting public transportation and developing urban green spaces contribute to improving air quality in these cities. The collaboration between local authorities and educational institutions is crucial for ensuring a safer and healthier environment for children.

Materials and methods

This article is a product of the project (PKZHUV, 2025) at the Department of Biology, UV, on the topic: Monitoring CO₂ levels in kindergartens and nurseries in the cities of Fier and Vlora [4]. The objective of this study is to evaluate air quality in the learning environments of nurseries, kindergartens, and preschools in the cities of Fier and Vlora through continuous monitoring of carbon dioxide (CO₂) concentrations. To achieve this objective, a total of 16 institutions (10 public and 6 private) were monitored across both cities during the period from May to October 2025. For each institution, monitoring was conducted in one classroom, with children aged from 8 months to 6 years.

In the nursery institutions, the monitored classrooms included an average of 8 children aged between 8 months and 3 years. In kindergartens and preschools, the monitored classrooms included an average of 20 children aged between 3 and 6 years. These classrooms had wall heights exceeding 3 meters and windows oriented toward the south or southeast. The available floor area per child in these institutions averaged approximately 2.5 m². Measurements of CO₂ concentration, temperature, and relative humidity were carried out using a Dräger instrument at three different positions within each classroom: near the window, near the door, and at the center of the room. Data were collected during the morning hours as well as at midday, prior to the children's departure. According to the user manual, the Dräger instrument employed in this study is

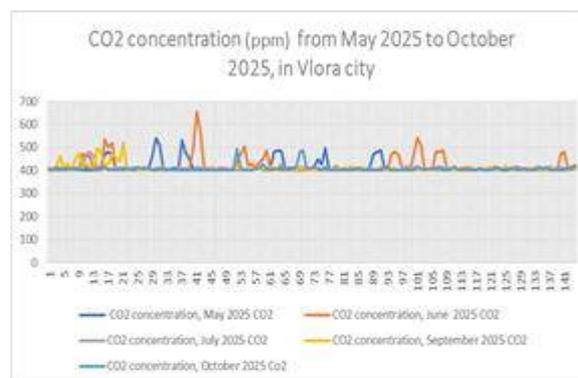
standardized in accordance with international standards. The device is equipped with an alarm system that activates whenever CO levels indicate that the environment has reached a high pollution threshold. For this reason, all potential alarm events were carefully recorded during the monitoring process.

CO measurements were conducted in each classroom at regular intervals, five days per week, for a period of one week each month, capturing potential variations throughout the day. The measurements were performed during children's active hours (08:00–13:00), as this period has the greatest influence on CO levels. Data on CO monitoring parameters and ecological factors in the classrooms included in this project were summarized in the corresponding tables and processed using SPSS and Microsoft Excel software.

Results

Based on the monitoring process carried out in public and non-public schools in the cities of Fier and Vlora, within the framework of the project: "Monitoring the level of CO₂ in kindergartens and nurseries in the cities of Fier and Vlora", the data obtained were processed through statistical programs (Excel and SPSS) presented in Figure 1-6.

Figure 1. CO₂ concentration (ppm) from May 2025 to October 2025, in Vlora city



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Figure 2. CO₂ concentration(ppm) from May 2025 to October 2025, in Fier city

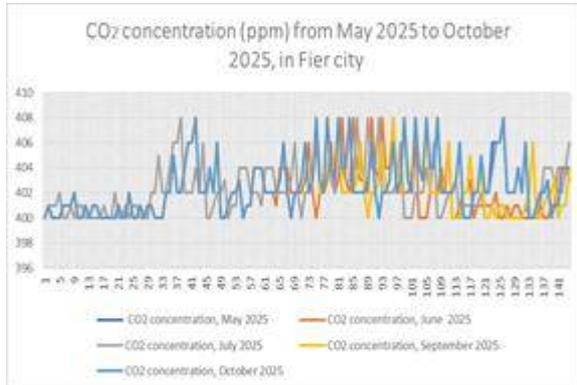


Figure 3. Humidity values (%) from May 2025 to October 2025, in Vlora city

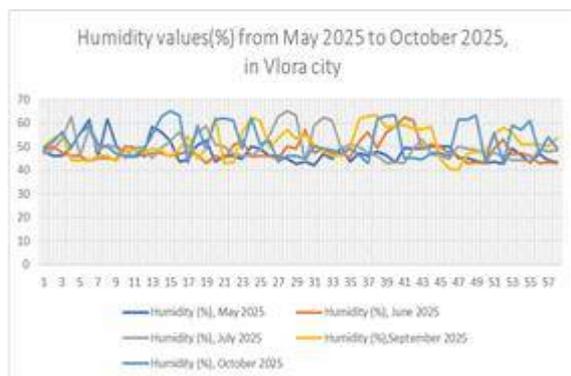


Figure 4. Humidity values (%) from May 2025 to October 2025, in Fier city

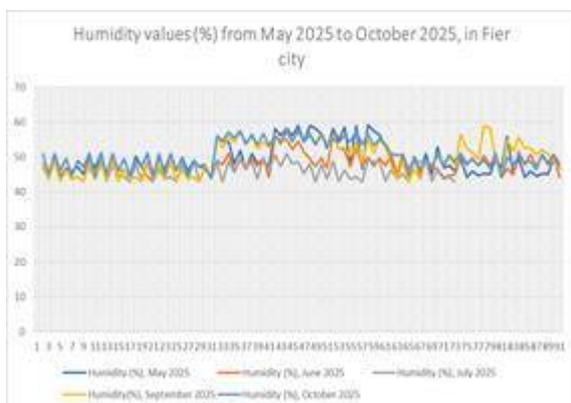


Figure 5. Temperature values (°C) from May 2025 to October 2025, in Vlora city

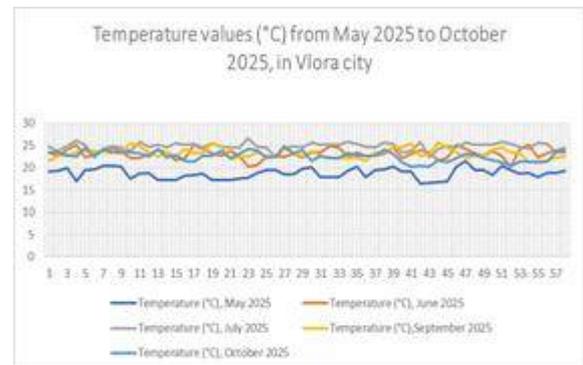
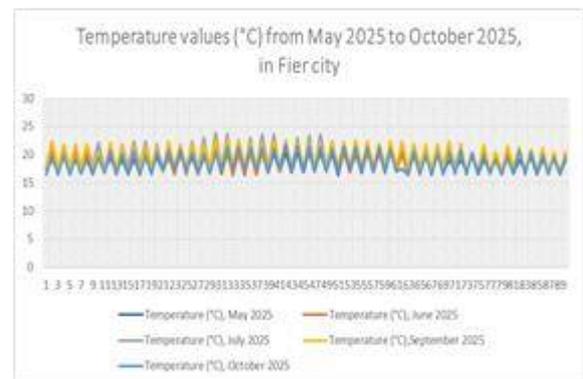


Figure 6. Temperature values (°C) from May 2025 to October 2025, in Fier city



Based on these results, during the five-month monitoring period (May 2025–October 2025), the minimum recorded CO concentration was 400 ppm, while the maximum recorded value was 656 ppm. These values fall within the normal range for indoor CO concentrations in kindergartens and nurseries.

The minimum recorded temperature was 16.5°C, and the maximum temperature reached 30°C. These values show slight fluctuations outside the typical range for indoor temperature in kindergartens and nurseries (16°C–22°C).

The minimum recorded relative humidity was 40%, and the maximum recorded value was 66%, indicating small deviations from the normal range of relative humidity in indoor kindergarten and nursery environments (40%–60%).

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The data recorded during the monitoring period were analyzed using the One-Way ANOVA statistical test, which was applied to compare the mean CO concentration levels between two groups in the city of Vlora (public vs. private institutions). The results indicated a statistically significant difference [$F(1, 862) = 12.81, p < 0.001$] between public and private institutions based on the measured CO levels. In contrast, for the city of Fier (public vs. private institutions), the results showed no statistically significant difference in the measured CO concentrations ($F(1, 862) = 1.881, p = 0.170$). The CO concentration data were also analyzed to assess potential significant differences between the two cities, Vlora and Fier. The One-Way ANOVA test revealed statistically significant differences between the two cities ($F = 160.360, df = 1, df = 2095, p < 0.001$) in terms of the average CO concentration levels.

Discussion

The recorded data for the classrooms included in this project confirm compliance with the guidelines established under Law No. 7643, dated 02.12.1992, as amended by Law No. 99/2024, dated 12.09.2024, and updated on 03.03.2025, "On Sanitary Inspection" [1]. The study also adheres to the Hygienic-Sanitary Regulation No. 359, dated 30.05.1995, "On the construction and operation of kindergartens" [8], and Hygienic-Sanitary Regulation No. 4, dated 06.01.1995, "On the construction and operation of nurseries" [9].

The monitoring device used in this study is capable of signaling when air pollution exceeds abnormal levels. However, no such alarm signals were observed during any of the measurements conducted across all public and private institutions in the cities of Fier and Vlora. This finding indicates that these institutions ensure adequate ventilation in the classrooms where children stay, achieved through the regular opening of windows and skylights several times a day for periods of 10–15 minutes. The lowest recorded CO concentration in both cities was

400 ppm, while the highest value, 656 ppm, was measured in a public institution in the city of Vlora. In Fier city, no CO concentrations exceeding 408 ppm were recorded. This may be related to the fact that relative humidity values in Fier remained within the normal range for indoor environments in kindergartens and nurseries (42.2%–59.7%), whereas in Vlora city, deviations from the normal range (40%–66%) were observed. A similar trend was observed for temperature values in both cities, with deviations from the upper limit of the normal temperature range (22°C) for indoor kindergarten and nursery environments. In Fier, the measured temperatures generally remained within the normal range, with minor variations in both public and private institutions (16.5°C–24.5°C). In contrast, Vlora city exhibited greater fluctuations (16.5°C–30°C), with the highest temperatures recorded in several public institutions—specifically those where higher relative humidity levels were also observed.

According to numerous studies, these deviations in temperature and relative humidity values may contribute to elevated CO concentrations in indoor kindergarten and nursery environments, thereby explaining the maximum recorded CO value of 656 ppm. The months characterized by the greatest fluctuations in temperature and relative humidity were July, September, and October, which correspond with the typically higher environmental temperatures recorded in the cities of Fier and Vlora during these months. Based on multiple studies and local climatic characteristics, the city of Vlora is considered to be warmer and more humid than Fier. This represents another factor contributing to the greater variability of these parameters observed in the kindergartens and nurseries of Vlora city.

Conclusions

Based on the main objective of this study — *"Assessment of air quality in the learning environments of nurseries, kindergartens, and preschools in the cities of Fier and Vlora through continuous monitoring of carbon dioxide (CO)*

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concentrations — this study successfully evaluated the air quality in educational environments of nurseries, kindergartens, and preschools in both cities by continuously monitoring carbon dioxide levels, along with key ecological parameters such as temperature and relative humidity. According to numerous studies, CO concentration is a reliable indicator of indoor air quality, as it reflects the effectiveness of ventilation systems and the overall air circulation within these spaces. This study analyzed how CO concentrations varied across different public and private institutions in the cities of Fier and Vlora, through systematic monitoring conducted over the period May–October 2025. The analysis of the results for the classroom parameters included in this project demonstrated compliance with the relevant guidelines established under Law No. 7643, dated 02.12.1992, as amended by Law No. 99/2024, dated 12.09.2024, and updated on 03.03.2025, “On Sanitary Inspection” [1]. The findings are also in accordance with Hygienic-Sanitary Regulation No. 359, dated 30.05.1995, “On the construction and operation of kindergartens” [8], and Hygienic-Sanitary Regulation No. 4, dated 06.01.1995, “On the construction and operation of nurseries” [9].

Recommendations

It is recommended that this type of project be continued to monitor air quality during the winter period as well. Furthermore, future studies should include a larger number of public and private institutions, particularly those attended by children in the early stages of childhood. This age group is directly affected by variations in air quality, which can significantly influence their health and overall quality of life.

References

1. Albanian Law No. 7643, dated 2.12.1992, amended by Law No. 99/2024, dated 12.9.2024, updated on 03.03.2025: “On Sanitary Inspection”.
2. American Society of Heating, Refrigerating and Air-Conditioning Engineers. (2022). *ASHRAE position document on indoor carbon dioxide*.
3. Anake, W. U., & Nnamani, J. O. (2023). *Indoor air quality in day-care centres: A global review*. *Children*, 10(1), 1–15.
4. Laze, B., Saçaj, K., obaj, G., Shehu, M., Kodhelaj, M., Nasto, I., Lushnjari, K. (2025). *Monitoring the level of CO₂ in kindergartens and nurseries in the cities of Fier and Vlora. PKZHUV 2025 project*.
5. EN 15251(2019): *Criteria for the Indoor Environment Including Thermal, Indoor Air Quality, Light and Noise*; CEN: Brussels, Belgium.
6. *Health Effects Institute Annual Report (2022)*. <https://www.healtheffects.org/annual-report-2022>
7. Hou, Y., Liu, J., Li, J. (2015). *Investigation of Indoor Air Quality in Primary School Classrooms*. *Procedia Eng.*, 121, 830–837.
8. Hygienic and Sanitary Regulation No. 359, dated 30.05.1995: “On the construction and operation of kindergartens”.
9. Hygienic and Sanitary Regulation No. 4, dated 06.01.1995: *On the construction and operation of nurseries*
10. *Institute of Geosciences, Energy, Water and Environment. (2025). Monthly Climate Report for Albania 2025*. Tirana: IGJEUM.
11. ISO 16000-41: 2023, *Indoor air — Sampling strategy for carbon dioxide (CO₂)*
12. Mendell, M.J., Heath, G.A. (2005). *Do indoor pollutants and thermal conditions in schools influence student performance? A critical review of the literature*. *Indoor Air*, 15, 27–52.
13. Salthammer, T., Uhde, E., Schripp, T., Schieweck, A., Morawska, L., Mazaheri, M., Clifford, S., He, C., Buonanno, G., Querol, X., et al. (2016). *Children's well-being at schools: Impact of climatic conditions and air pollution*. *Environ. Int.*, 94, 196–210.
14. Stiborová, P. (2023). *Analysis of indoor air quality in a kindergarten*. *Slovak Journal of Civil Engineering*, 31(2), 1–8.

Original research

15. WHO Regional Office for Europe: Copenhagen, Denmark. (2015). *School Environment: Policies and Current Status*
16. WHO—World Health Organization. (2018, 2020, 2021). *Air Quality Standards database*. <https://www.who.int/tools/air-quality-standards>
17. Winsler, A., & Wallace, G.L. (2002). *Behavior problems and social skills in preschool children: Parent-teacher agreement and relations with classroom observations*. *Early Education & Development*, (13), 41-58.
18. World Health Organization. (2021). *Air quality and health*. Geneva: World Health Organization.
19. Zhang, X., Xia, M., Su, X., Yuan, P., Li, X., Zhou, C., Wan, Z., Zou, W. (2021). *Photolytic degradation elevated the toxicity of polylactic acid microplastics to developing zebrafish by triggering mitochondrial dysfunction and apoptosis*. *J Hazard Mater*, 5:413:125321. doi: 10.1016/j.jhazmat.2021.125321. PMID: 33582471.

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Exploring the Latent Dimensions of STEM Orientation among Albanian Upper-Secondary Students: An Exploratory–Confirmatory Factor Analysis Approach

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Abstract

This study investigated the latent dimensions underlying upper-secondary students' orientation toward STEM fields in the Fier-Vlora region of Albania. It aimed to identify the factorial structure underlying perceptions of cognitive, contextual, and sociocultural influences; assess the instrument's psychometric properties; and confirm its structural validity through confirmatory factor analysis.

A quantitative, cross-sectional design was applied using a structured SCCT-informed questionnaire administered to grade 11-12 students. Data suitability was verified via KMO and Bartlett's tests. Exploratory factor analysis (MINRES extraction, oblimin rotation) was conducted to identify the latent structure. Confirmatory factor analysis (WLSMV estimator) was then applied to assess factorial stability, with model fit evaluated using classical/robust CFI,

TLI, RMSEA, and SRMR indices. Reliability (Cronbach's α , KR-20), convergent validity (CR, AVE), and discriminant validity (Fornell–Larcker criterion) were examined.

Complete responses from 499 students were analyzed. The dataset showed excellent factorability (KMO = 0.94; Bartlett's $\lambda^2 < 0.001$). Exploratory analysis revealed a five-factor structure, and reducing the item set from 20 to 16 improved parsimony and inter-factor distinction. The refined model demonstrated satisfactory fit (Robust CFI = 0.945; Robust TLI = 0.929; Robust RMSEA = 0.079; SRMR = 0.037), with all standardized loadings significant. Reliability values ranged from 0.617 to 0.885, and convergent and discriminant validity criteria were met.

The study validated a coherent five-factor structure that captures: cognitive engagement

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with STEM; outcome expectations and career utility; behavioral exposure to STEM activities; social and family support; instructional and career guidance. The instrument demonstrates strong psychometric properties and provides a contextually grounded tool for assessing STEM-related orientations among Albanian upper-secondary students.

Keywords: STEM orientation; upper-secondary education; factor analysis; Social Cognitive Career Theory; psychometric validation; Albanian students

Introduction

The acronym STEM (science, technology, engineering, and mathematics) was introduced in the early 1990s. Blackley and Howell have examined the evolution of the STEM movement, highlighting both enabling and limiting factors [1], while in [2], Reeve provides a brief discussion of the components of STEM and STEM education, emphasizing their importance in a global context. Upper-secondary education in Albania (KNSA 3, ages 15-18) includes about 95% of students from basic education and is provided in gymnasiums, vocational schools, and institutions with a vocational focus. Due to declining birth rates and emigration, the population under 25 is expected to decrease by 10.74%, leading to a reorganization of the education system and more efficient restructuring of funding. According to the National Strategy for Education 2021-2026 and the Action Plan for its Implementation, higher education aims to be inclusive, aligned with international standards, and closely connected to the labor market. The promotion of STEM and interdisciplinary programs is viewed as a key tool for economic growth, preparing in-demand specialists and fostering digital, critical, managerial, and entrepreneurial skills [3]. Interest in STEM programs over the years is shown in Table 1, based on INSTAT data [4]. The fields of study are outlined in accordance with the manual "Fields of Education and Training ISCED-F 2013" [5].

The data indicate a marked and sustained decline in the field of "Natural sciences, mathematics and statistics" starting after the 2016-2017 academic year, alongside stability in ICT and continued growth in "Engineering, manufacturing, and construction". This trend highlights the need for further reflection on educational policies, as the weakening of this category may impact the future development of the other two fields within STEM. The 2023-2030 National Strategy prioritizes fostering a scientific culture by promoting research and integrating STEM into the pre-university curriculum (Objective 3.1) [6]. STEM-related subjects in upper-secondary education currently include mathematics, natural sciences (biology, physics, chemistry, earth sciences), and ICT [7].

Social Cognitive Career Theory (SCCT) [8], presented by Robert W. Lent, Steven D. Brown, and Gail Hackett in 1994, built on the foundation of Bandura's work [9], explains three connected aspects of career development: the formation and elaboration of career-relevant interests, selection of academic and career options, and performance and persistence in educational and occupational pursuits. Choosing a university major involves personal interests, high school experiences, teacher guidance, available information, and views on curriculum subjects. Career guidance coordinators in grades 10-12 play a key role by designing counseling plans that align students' choices with their interests and abilities [10]. Previous studies have shown that teaching methods [11], career guidance [12], and gender attitudes [13], [14], [15], influence STEM experiences.

To our knowledge, these dimensions have not yet been studied comprehensively in the Fier-Vlora region or in Albania. The present study aimed to explore and validate the latent structure underlying upper-secondary students' orientation toward STEM-related academic pathways in the Fier-Vlora region of Albania. Specifically, it sought to (i) identify the factorial dimensions that characterize students' perceptions of cognitive, contextual, cultural, and gender-related influences on STEM orientation;

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- (ii) assess the reliability, validity, and internal consistency of the measurement instrument;
- and (iii) confirm the factorial stability of the

Table 1 Interest in STEM university programs over the years, given by fields of study.

Academic year		2015-2016	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024
STEM fields of education	Natural sciences, mathematics, and statistics	6719	7816	6325	7060	5962	4924	4553	5056	2297
	Information and Communication Technologies (ICTs)	8260	7487	8228	10016	8883	8341	8458	9297	8964
	Engineering, manufacturing, and construction	18005	18480	18730	20019	20775	20537	22555	22834	23053
	STEM	32984	33783	33283	37095	35620	33802	35566	37187	34314
Total	All	148277	141410	131833	139043	130264	123797	123880	121352	116994
	% STEM	0.2224	0.2389	0.2525	0.2667	0.2734	0.2730	0.2871	0.3064	0.2934

reduced model through confirmatory factor analysis. By integrating exploratory and confirmatory procedures, this study contributes to the psychometric validation of a contextually adapted instrument for understanding STEM-related career orientation among Albanian upper-secondary students.

Methods

This study used a quantitative, cross-sectional, and psychometric research design to examine and validate the underlying dimensions of upper-secondary students' orientation toward STEM-related academic pathways. The methodological framework followed an exploratory-confirmatory sequence. Exploratory factor analysis (EFA) was used to identify the factorial structure, and confirmatory factor analysis (CFA) was used to evaluate its stability. The research was non-experimental and depended on self-reported data collected through a structured questionnaire administered at a single point in time.

A purposive, controlled sample ensured diversity by school type (public/private, general/vocational) and location (urban/rural)

across the Fier-Vlora region in southern Albania. The targeted sample size followed the guidelines proposed in [16], recommending at least 10 participants per item. Inclusion criteria included student enrollment in grade 11 or 12, providing informed consent, and completing the entire questionnaire. Data collection was coordinated with school administrators.

The questionnaire was based on the SCCT framework, guided by prior studies [11], [17], [18], [19], and expert consultation, to ensure content validity and relevance to the Albanian education context. Administered in classrooms in October 2025 in paper format, it comprised 32 items across four dimensions: demographics (11), cognitive factors (10), contextual factors (6), and cultural/gender factors (5) [12]. Most items used a 5-point Likert scale (1 = Strongly disagree to 5 = Strongly agree). Participants were informed about the study's aims, STEM definition, and academic use of the data. Informed consent was obtained through a required agreement confirming voluntary participation. As the questionnaire was anonymous, parental consent was not needed; however, teacher and administrator approval were secured. During data entry, binary items

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were coded (1 = Yes, 0 = No) and Likert items retained their 1-5 scale. Only data from students with informed consent were included in the R software [20] dataset for analysis.

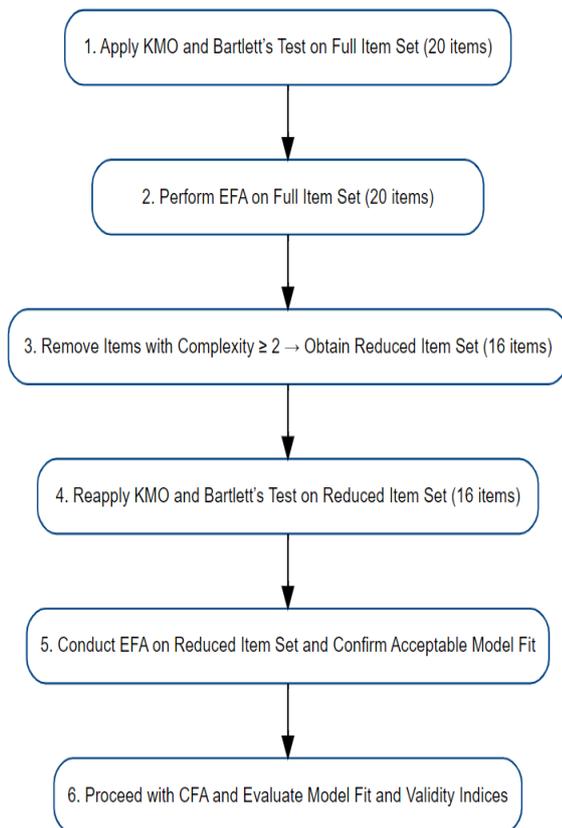


Figure 1 Analytical workflow from data suitability testing to exploratory and confirmatory factor analyses

Before conducting EFA, demographic items and the dependent variable (Q1-Q11; Q21; see Table 2) were excluded. The following study was conducted on the remaining 20 items. After confirming non-normality in the data distribution using the Anderson-Darling normality test [21], a Spearman correlation matrix was computed to assess inter-item associations.

Figure 1 presents the analytical workflow applied in this study. Initially, the full item set (20 items) was evaluated using the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy (MSA 0.80; acceptable threshold 0.50) [22], [23], [16] and Bartlett's test of sphericity ($p < 0.05$)

[24]. Given the mixture of ordinal and binary indicators, a mixed correlation matrix was calculated and used as the input for the parallel analysis to determine the optimal number of latent factors to retain.

The EFA was conducted using the `fa()` function from the `psych` package [25], applying the minimum residual (MINRES) extraction method and oblimin rotation to account for correlated factors. A loading threshold of 0.30 [16], [26] was adopted to interpret the factor structure. Items with high complexity (> 2) were flagged for further review, while items with communalities

0.50 and complexity less than two were retained [16]. Model fit for the EFA was evaluated using the root mean square error of approximation (RMSEA; acceptable 0.08, preferably 0.06; poor > 0.10) [27], [28], [29], the root mean square of the residuals (RMSR; 0.05), and the Tucker-Lewis index (TLI; adequate 0.90, preferably 0.95) [29]. The likelihood-ratio chi-square statistic [30], [31], and the empirical chi-square statistic [32] were used to test overall model fit and stability under resampling, respectively. The Bayesian Information Criterion (BIC) [33] was used to compare models, favoring those with better fit and lower complexity. Finally, mean item complexity [34] was used to evaluate factor simplicity, with lower values indicating more distinct item loadings on single factors.

The CFA was performed using the `cfa()` function from the `lavaan` package [35]. Given the mixed measurement levels and non-normal data, the WLSMV estimator was used, and missing data were handled through pairwise deletion. CFA model fit was assessed using: the scaled chi-square test ($p > 0.05$) [36], comparative fit index (CFI; adequate 0.90, preferably 0.95) [29], TLI, RMSEA, and standardized root mean square residual (SRMR; good 0.08, acceptable 0.10) [31], [28], [29]. Robust versions of CFI, TLI, and RMSEA were also examined alongside the classical indices. Standardized factor loadings (> 0.50 = acceptable; > 0.70 = strong) and squared multiple correlations (> 0.50) were

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interpreted according to established psychometric conventions. Convergent validity was assessed using the average variance extracted (AVE; 0.50) [37] and composite reliability (CR; acceptable 0.60-0.70, preferable 0.70). Discriminant validity was evaluated via the Fornell-Larcker criterion. Internal consistency reliability was estimated using Cronbach's alpha ($\alpha > 0.70$ [38], [39], [40], though 0.60 may be acceptable) for ordinal constructs, and the Kuder-Richardson 20 (KR-20) coefficient for the binary factor.

Results

Participant Demographics and STEM Interest Distribution

Table 2 Distribution (n, %) of Q1-Q11 and Q21.

A total of 514 students from 14 upper-secondary schools in the Fier and Vlora regions (public (12)/private (2); general (11)/vocational (3); urban (11)/rural (3)) were invited to participate. Of these, 499 students in grades 11 and 12 provided voluntary, complete responses. Table 2 summarizes the distribution across key demographic variables (Q1-Q11) and the dependent variable Q21.

Exploratory Factor Analysis

Both the KMO and Bartlett's test confirmed the dataset's suitability for factor analysis. The full and reduced item sets (after the first round of EFA) showed excellent sampling adequacy. In both cases, Bartlett's test was highly significant, supporting the use of factor extraction. A summary of these results is presented in Table 3.

Item	Categories	n	%
Q1: Gender	Female	269	53.91
	Male	230	46.09
Q2: Grade	11 th	254	50.90
	12 th	245	49.10
Q3: Place of residence	Rural	115	23.05
	Urban	384	76.95
Q4: School location	Rural	50	10.02
	Urban	449	89.98
Q5: School type	Private	84	16.83
	Public	415	83.17
	Primary school	10	2.00
Q6: What is your mother's highest educational degree or certificate?	Lower-secondary school (8/9-years)	145	29.06
	Upper-secondary school	214	42.89
	Bachelor's degree (3 years)	36	7.21
	Master's degree (professional/scientific 4/5 years)	85	17.03
	PhD degree	9	1.80
Q7: What is your father's highest educational degree or certificate?	Primary school	15	3.01
	Lower-secondary school (8/9-years)	140	28.06
	Upper-secondary school	205	41.08
	Bachelor's degree (3 years)	66	13.23
	Master's degree (professional/scientific 4/5 years)	61	12.22
Q8: What is your father's current employment status?	PhD degree	12	2.40
	Full-time employee	293	58.72
	Part-time employee	40	8.02
	Business owner / Self-employed	116	23.25
	Unemployed, seeking a job	22	4.41
	Unemployed, not seeking a job	7	1.40
	Unable to work	7	1.40
	Retired	5	1.00
Q9: What is your mother's current employment status?	Deceased	9	1.80
	Full-time employee	261	52.30
	Part-time employee	31	6.21
	Business owner / Self-employed	56	11.22
	Unemployed, seeking a job	6	1.20
	Unemployed, not seeking a job	11	2.20
Q10: What is your father's main occupation?	Unable to work	3	0.60
	Retired	1	0.20
	Deceased	2	0.40
	Housewife	128	25.65
	STEM Field	176	35.27
	Non-STEM Field	323	64.73
	Q11: What is your mother's main occupation?	STEM Field	43
Non-STEM Field		309	61.92
Housewife		147	29.46
1- Strongly disagree		42	8.42
Q21: I'm interested in university studies related to a STEM career.	2- Disagree	36	7.21
	3- Neither	94	18.84
	4- Agree	142	28.46
	5- Strongly agree	185	37.07

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The first round of EFA, using all 20 items, identified four items (“Q15: I would feel comfortable talking to people who work in STEM careers.”, “Q16: I will work hard in my STEM classes.”, “Q31: I have enough access to information on careers related to STEM.”, “Q32: My gender influences my choice of a future career related to STEM.”) with high complexity. After their removal, the second EFA on the 16-item set confirmed the same five-factor structure, as shown in Figure 2. The reduced model showed improved parsimony and internal consistency. It was reflected in lower item complexity, higher communalities, and strong factor score reliability. Detailed results are presented in Table 4

Table 4 Comparison of factorability tests and parallel analysis results.

Indicator	Full item set	Reduced item set
KMO (Overall MSA)	0.94	0.92
KMO (Per-item range)	0.81–0.96	0.78–0.95
Bartlett’s test ²(df); p-value	4919.24 (190); < 0.001	3677.53 (120); < 0.001

After item reduction, correlations remained comparable but reflected greater balance and theoretical clarity. The reduced model exhibited less cross-factor contamination, particularly between MR2 and MR5. Furthermore, as shown

Figure 2 Scree plot and parallel analysis for factor retention

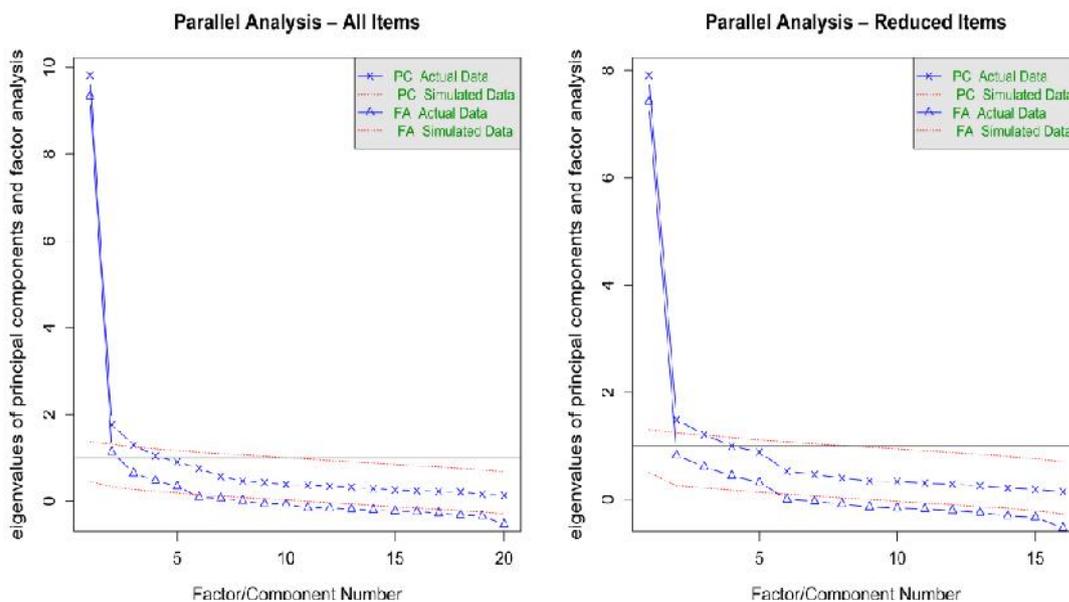


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in Table 6, the reduced model exhibited improved parsimony and better overall fit than the full model. Mean item complexity decreased, indicating more distinct factor loadings. TLI increased, and RMSEA slightly decreased. Stability of the RMSEA confidence intervals was observed. Both models showed consistently low RMSR values. Likelihood chi-square values were statistically significant in both models, reflecting substantial model-data divergence as expected in large samples. In contrast, empirical chi-square values were non-significant, suggesting an

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acceptable fit based on sample-adjusted residuals. Despite a slightly higher BIC, the reduced model achieved greater clarity with

fewer cross-loadings and a more coherent factor structure.

Table 5 displays the inter-factor correlations for both EFA models. The full model showed moderate associations, with some overlap between MR1-MR4 and MR1-MR5.

Table 6 Factor correlation matrices for full and reduced EFA models

Full model	MR4	MR1	MR2	MR5	MR3	Reduced model	MR1	MR4	MR3	MR5	MR2
MR4	1.00	0.66	0.47	0.51	0.31	MR1	1.00	0.66	0.52	0.60	0.29
MR1	0.66	1.00	0.50	0.59	0.29	MR4	0.66	1.00	0.50	0.56	0.35
MR2	0.47	0.50	1.00	0.53	0.40	MR3	0.52	0.50	1.00	0.53	0.40
MR5	0.51	0.59	0.53	1.00	0.29	MR5	0.60	0.56	0.53	1.00	0.27
MR3	0.31	0.29	0.40	0.29	1.00	MR2	0.29	0.35	0.40	0.27	1.00

Table 5 Results of EFA conducted in two stages: comparison between full and reduced models.

Factor	Item	MR4	MR1	MR2	MR5	MR3	λ^2	λ^2	Com	SS Loa.	Prop. of Var	r	Min r		
EFA full model	F1	Q13	0.83	-0.02	0.00	0.10	0.04	0.79	0.21	1.0	3.47	0.17	0.96	0.92	0.83
		Q14	0.79	0.04	0.06	0.02	0.00	0.74	0.26	1.0					
		Q12	0.71	0.08	0.12	-0.08	0.12	0.70	0.30	1.2					
		Q22	0.53	0.10	0.20	0.13	0.05	0.68	0.32	1.5					
		Q15	0.46	0.25	-0.01	0.26	-0.06	0.65	0.35	2.3*					
	F2	Q20	-0.14	0.86	0.12	0.01	0.07	0.76	0.24	1.1	3.46	0.17	0.96	0.92	0.84
		Q19	0.04	0.81	0.01	0.03	-0.04	0.73	0.27	1.0					
		Q18	0.21	0.68	0.02	0.03	-0.05	0.73	0.27	1.2					
		Q17	0.19	0.64	-0.07	0.11	0.11	0.75	0.25	1.3					
		Q16	0.44	0.48	0.01	0.01	0.07	0.76	0.24	2.0*					
	F3	Q28	0.04	0.01	0.78	-0.07	0.02	0.61	0.39	1.0	2.52	0.13	0.93	0.86	0.72
		Q29	0.01	0.09	0.74	0.04	-0.05	0.64	0.36	1.0					
Q30		0.08	-0.04	0.70	0.11	0.05	0.65	0.35	1.1						
Q31		0.07	0.10	0.41	0.26	0.13	0.59	0.41	2.2*						
Q32		-0.23	0.04	0.28	0.28	0.21	0.28	0.72	3.8*						
F4	Q24	-0.03	0.05	0.02	0.80	0.07	0.71	0.29	1.0	2.13	0.11	0.91	0.83	0.67	
	Q23	0.13	-0.06	0.07	0.66	-0.02	0.53	0.47	1.1						
	Q25	0.09	0.24	0.09	0.45	-0.12	0.49	0.51	1.9						
F5	Q27_num	-0.01	0.05	-0.10	0.06	0.80	0.63	0.37	1.1	1.55	0.08	0.90	0.81	0.62	
	Q26_num	0.07	-0.04	0.12	-0.05	0.78	0.70	0.30	1.1						
EFA reduced model	F1	Q20	-0.11	0.86	0.07	0.01	0.10	0.75	0.25	1.1	2.91	0.18	0.96	0.91	0.83
		Q19	0.02	0.83	-0.03	0.05	0.00	0.75	0.25	1.0					
		Q18	0.24	0.70	-0.06	0.01	0.01	0.74	0.26	1.2					
		Q17	0.21	0.65	0.10	0.08	-0.07	0.73	0.27	1.3					
		Q13	0.92	-0.02	0.01	0.08	-0.05	0.86	0.14	1.0					
	F2	Q14	0.75	0.06	-0.01	0.03	0.06	0.70	0.30	1.0	2.83	0.18	0.96	0.92	0.85
		Q12	0.71	0.10	0.09	-0.11	0.12	0.68	0.32	1.2					
		Q22	0.56	0.11	0.03	0.12	0.18	0.70	0.30	1.4					
		Q28	0.02	-0.01	0.04	-0.03	0.78	0.63	0.37	1.0					
		Q29	-0.02	0.07	-0.03	0.06	0.77	0.67	0.33	1.0					
	F3	Q30	0.10	-0.03	0.05	0.10	0.66	0.60	0.40	1.1	2.03	0.13	0.92	0.85	0.69
		Q23	0.07	-0.08	0.00	0.75	0.05	0.59	0.41	1.0					
Q24		-0.01	0.10	0.08	0.71	0.01	0.64	0.36	1.1						
Q25		0.00	0.24	-0.09	0.49	0.12	0.50	0.50	1.7						
Q26_num		0.02	-0.03	0.90	-0.02	0.07	0.85	0.15	1.0						
F4	Q27_num	-0.01	0.07	0.72	0.08	-0.10	0.53	0.47	1.1	1.46	0.09	0.94	0.88	0.75	

Note 1 SS Loa: Sum of squared loadings, λ^2 : communalities, λ^2 : unique variances, Com: item complexity, with * are marked those cases that are λ^2 ; r: correlation of regression scores with factors; λ^2 : multiple R-squared of scores with factors; Min r: Minimum correlation of possible factor scores

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Table 7 Comparative model fit statistics for full and reduced EFA models.

Fit index	EFA model	full	EFA reduced model
Mean item complexity	1.4		1.1
Likelihood χ^2 ; df; p-value	464.32; df = 100; p<2.6e-48		218.08; df = 50; p<7.2e-23
RMSR	0.02		0.02
TLI	0.899		0.922
RMSEA [90% CI]	0.085 [0.078–0.093]		0.082 [0.071–0.093]
BIC	-156.94		-92.55
Empirical χ^2 (p-value)	108.76 (< 0.26)		40.14 (< 0.84)

Confirmatory Factor Analysis

The CFA was conducted to validate the five-factor structure identified in the EFA. The reduced model demonstrated satisfactory fit, with all key robust indices meeting or exceeding conventional thresholds. Although the scaled chi-square statistic was statistically significant, which is a common outcome in large samples, all approximate fit indices, including the classical/robust CFI, TLI, RMSEA, and SRMR, indicated acceptable to good model fit. Table 7 presents the fit statistics.

Table 8 Summary of CFA results for the five-factor model

Model fit index	Value
Scaled χ^2 (df), p-value	294.51 (94), < 0.001
CFI / Robust CFI	0.979 / 0.945
TLI / Robust TLI	0.973 / 0.929
RMSEA [90% CI]	0.065 [0.057–0.074]
Robust RMSEA [90% CI]	0.079 [0.068–0.091]
SRMR	0.037
Latent factor correlations (range)	0.35–0.79

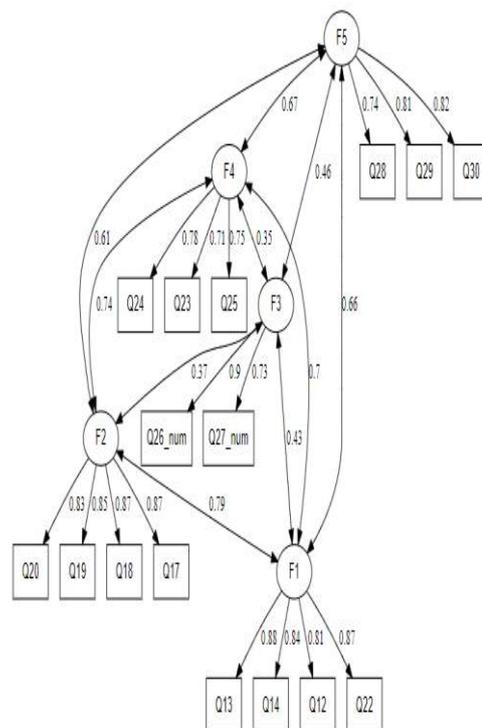
Standardized factor loadings for the five-factor CFA model were all statistically significant, indicating strong convergent validity. The squared multiple correlations (R^2) showed that individual items explained substantial portions

of their respective latent constructs. Inter-factor correlations suggested moderate associations while preserving discriminant validity. Full details are presented in Table 8 and visualized in Figure 3.

Table 9 Standardized factor loadings and squared multiple correlations (R^2) for the five-factor CFA model

Factor	Item	loading	R ²
F1	Q13	0.876	0.768
	Q14	0.835	0.698
	Q12	0.811	0.659
	Q22	0.869	0.755
F2	Q20	0.834	0.696
	Q19	0.849	0.721
	Q18	0.870	0.757
F3	Q17	0.868	0.754
	Q26_num	0.900	0.810
F4	Q27_num	0.733	0.538
	Q24	0.783	0.613
	Q23	0.710	0.505
F5	Q25	0.748	0.559
	Q28	0.740	0.548
	Q29	0.810	0.655
	Q30	0.816	0.665

Figure 3 Path diagram of the five-factor CFA model with standardized loadings and inter-factor correlations.



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As summarized in Table 9, internal consistency and convergent validity were examined for each

Table 11 Summary of internal consistency and construct validity across factors

Factor	Items	Type	Cronbach's α / KR-20	Mean inter-item correlation (r)	CR	AVE
F1	Q13, Q14, Q12, Q22	Ordinal	0.885	0.66	0.911	0.720
F2	Q20, Q19, Q18, Q17	Ordinal	0.884	0.66	0.916	0.732
F3	Q26_num, Q27_num	Binary	0.617 (KR-20)	0.45	0.804	0.674
F4	Q24, Q23, Q25	Ordinal	0.731	0.48	0.791	0.559
F5	Q28, Q29, Q30	Ordinal	0.794	0.56	0.832	0.623

Table 10 Discriminant validity assessment using the Fornell–Larcker criterion

Factor	F1	F2	F3	F4	F5
F1	0.848				
F2	0.788	0.856			
F3	0.434	0.372	0.821		
F4	0.695	0.738	0.351	0.748	
F5	0.660	0.606	0.459	0.670	0.789

Note 2 Diagonal elements represent the square roots of the average variance extracted (\sqrt{AVE}), while the off-diagonal elements indicate latent factor correlations

of the five latent constructs. Cronbach's alpha values demonstrated satisfactory to excellent reliability for the ordinal-item factors, and the KR-20 coefficient indicated acceptable reliability for the binary-item factor.

As shown in Table 10, discriminant validity was confirmed using the Fornell-Larcker criterion. For each factor, the square root of the average variance extracted exceeded the corresponding inter-factor correlations, indicating satisfactory discriminant validity across all constructs. Collectively, the evidence from model fit indices, standardized loadings, reliability coefficients, and validity assessments confirms that the reduced 16-item, five-factor model possesses strong psychometric properties. These findings provide robust support for the instrument's factorial structure and measurement quality

Discussion

This study established and validated a five-factor structure explaining upper-secondary students' orientation toward STEM pathways in the Albanian context. Confirmed through exploratory and confirmatory analyses, it was found to be coherent with SCCT (see Table 11).

The overall Cronbach's α was 0.91, confirming the internal coherence of the full scale. Composite reliability and average variance extracted values indicated convergent validity across all factors.

ll factors showed adequate internal consistency, and the instrument evidenced convergent and discriminant validity. These psychometric results are consistent with prior work that operationalizes SCCT in relation to STEM intentions. In particular, science motivation, conceptualized as self-efficacy, self-determination, intrinsic motivation, academic achievement, and career utility, has been linked to the formation of STEM aspirations [41].

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Context-sensitive components in the instrument capture mechanisms through which environments shape intentions. Findings for F5 align with evidence that hands-on instruction

stronger STEM self-concept, highlighting the need to cultivate self-belief while broadening awareness of attainable STEM occupations [42]. STEM cultural capital and perceived parental support are positively associated with

Table 12 Summary of factor interpretations.

Factor	Label	Items	SCCT Dimension	Interpretation
F1	Cognitive engagement with STEM	Q12: I like my STEM classes. Q13: I am able to get a good grade in my STEM classes. Q14: I am able to complete my STEM coursework/homework. Q22: I feel actively engaged during STEM classes.	Self-efficacy beliefs/learning experiences	It represents the cognitive–affective component of engagement, integrating perceptions of competence with motivation to learn.
F2	Outcome expectations and career utility	Q17: I plan to use STEM in my future career. Q18: If I do well in STEM classes, it will help me in my future career. Q19: The chances of finding a job with a satisfying income are higher in careers related to STEM. Q20: The chances of finding a job are higher in careers related to STEM.	Outcome expectations / perceived utility	This factor reflects instrumental motivation, in which STEM is perceived as a strategic pathway toward social mobility and financial stability.
F3	Behavioral exposure to STEM activities	Q26_num: In the last three years, I have participated in at least one STEM (related to physics, mathematics, biology, chemistry, TIK, or their applications) extracurricular activity organized within my school. Q27_num: In the last three years, I have participated in at least one STEM extracurricular activity organized outside my school.	Behavioral engagement / experiential learning	This factor adds behavioral depth to the model, linking self-perceptions and intentions to concrete experiences.
F4	Social and family support for STEM	Q23: I know someone in my family/social circle who uses STEM in their career. Q24: I have a role model in a STEM career. Q25: My parents would like it if I chose a STEM career.	Contextual supports and social modeling	This factor serves as a key enabler, transforming academic interest into career intention.
F5	Instructional and career guidance environment	Q28: My teachers use digital tools, experiments, and practical projects that make STEM understandable and more engaging. Q29: At least one of my teachers of STEM-related courses (physics, mathematics, biology, chemistry, TIK) have encouraged me at least once to choose a future career related to STEM. Q30: The career-guidance coordinator at my school provides effective guidance that helps me choose educational pathways	Environmental supports / institutional facilitation	This factor underscores the institutional dimension of STEM orientation.

and teacher-led experimentation foster engagement and career intentions [11]. Social influences in F4 further suggest that positive perceptions of STEM professionals and the presence of role models contribute to aspirations, especially among students with a

STEM-related hopes and goals, with parental support exerting both direct and indirect effects on career intentions [43].

In [44], it is reported that positive associations exist between learning experiences, self-efficacy, perceived career utility, participation in STEM

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activities inside and outside school, and interest in pursuing STEM in higher education.

Limitations and Future Research

While the study yielded strong psychometric evidence, several limitations must be noted. Its cross-sectional nature prevents causal interpretation of the relationships between the latent factors. The use of self-reported data may have introduced social desirability bias. Furthermore, although the sample was representative of the Fier-Vlora region, the findings may not generalize to the broader national population.

Future studies should apply longitudinal or multi-group confirmatory approaches to assess the model's stability across demographic groups such as gender, school type, or geographic location. Additionally, further research should model students' intentions to pursue university-level STEM studies as a dependent variable, examining how the current five latent constructs (F1-F5) and demographic variables shape educational and career trajectories.

Conclusion

This study identified and validated a five-factor latent structure that enhances the understanding of STEM orientation among upper-secondary students in Albania. The resulting structure aligns with key dimensions of Social Cognitive Career Theory and encompasses: cognitive engagement with STEM; outcome expectations and career utility; behavioral exposure to STEM activities; social and family support; and instructional and career guidance. The instrument demonstrated strong psychometric properties and provides a contextually grounded tool for assessing STEM-related orientations in this population. These findings offer a foundation for future research that models STEM-related intentions and career aspirations as dependent variables and explores how the identified latent dimensions interact with demographic

characteristics to shape students' educational trajectories.

Acknowledgments

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References

1. Blackley S, Howell J. A STEM narrative: 15 years in the making. *Aust J Teach Educ.* 2015;40(7). doi:10.14221/ajte.2015v40n7.8
2. Reeve EM. The need for STEM education: Now more than ever! *SE Asian J STEM Educ.* 2021;2(1):94-110. Available from: <https://seameo-stemed.org/wp-content/uploads/2023/12/Vol.2 No.1.pdf>
3. Këshilli i Ministrave. Vendim Nr. 621, datë 22.10.2021, për miratimin e Strategjisë Kombëtare për Arsimin 2021–2026 dhe të Planit të Veprimit. Tiranë: Qendra e Botimeve Zyrtare; 2021. Available from: https://www.qbz.gov.al/share/Gh_2jgX8SaCs-CeoQIYeOv
4. INSTAT. Studentë të regjistruar në arsimin e lartë sipas fushave të studimit. [Internet]. Tiranë: Instituti i Statistikave; [cited 2025 Jul 16]. Available from: <https://www.instat.gov.al/al/temat/tregu-i-pun%C3%ABs-dhe-arsimi/arsimi/#tab2>
5. UNESCO Institute for Statistics. *ISCED fields of education and training 2013 (ISCED-F 2013): manual to accompany the International Standard Classification of Education 2011.* Montreal (CA): UNESCO; 2014. doi:10.15220/978-92-9189-150-4-en
6. Këshilli i Ministrave. Vendim Nr. 542: Për miratimin e Strategjisë Kombëtare për Kërkimin Shkencor, Teknologjinë dhe Inovacionin 2023–2030 dhe të Planit të veprimit për zbatimin e saj. Tiranë: Qendra e Botimeve Zyrtare; 2023. Available from: https://www.qbz.gov.al/share/CziCAqPkQiW_qOq4TCnGR-g

Original research

7. *Ministria e Arsimit dhe Sportit. Korniza Kurrikulare e Arsimit Parauniversitar të Republikës së Shqipërisë. Tiranë: MAS; 2014. Available from: <https://ascap.edu.al/wp-content/uploads/2017/03/Korniza-Kurrikulare.pdf>*
8. Lent RW, Brown SD, Hackett G. *Toward a unifying social cognitive theory of career and academic interest, choice, and performance. J Vocat Behav.* 1994; 45: 79–122.
9. Bandura A. *Social foundations of thought and action: A social cognitive theory.* Englewood Cliffs (NJ): Prentice-Hall; 1986.
10. *Ministria e Arsimit dhe Sportit. Urdhër Nr. 463:Për përcaktimin e kriereve për miratimin e “Mësuesit koordinator për sigurimin e cilësisë” dhe të “Mësuesit koordinator të këshillimit të karrierës” në institucionet arsimore të arsimit parauniversitar. Tiranë: MAS; 2024. Available from: <https://zvapkurbini.edu.al/wp-content/uploads/2024/09/Urdher-nr.463-date-30.08.2024-Mesues-koordinator-per-sig.cilesie-dhe-keshillimi-karriere.pdf>*
11. Sellami AL, Al-Rakeb NA, Tok E. *Secondary school students' interest in STEM careers in Qatar. Educ Sci.* 2023;13(4):369. doi:10.3390/educsci13040369
12. ElSary A. *The influence of UAE schools initiatives on high-school students' STEM career aspirations. Eurasia J Math Sci Technol Educ.* 2023;19(2):em2225. doi:10.29333/ejmste/12913
13. Ribeirinha T, Baptista M, Correia M. *The impact of STEM activities on the interest and aspirations in STEM careers of 12th-grade Portuguese students in science and technology curriculum. Eur J STEM Educ.* 2024;9(1):21. doi:10.20897/ejsteme/15830
14. Tomperi P, Kvivesen M, Manshadi S, Uteng S, Shestova Y, Lyash O, et al. *Investigation of STEM subject and career aspirations of lower secondary school students in the North Calotte Region of Finland, Norway, and Russia. Educ Sci.* 2022;12:192. doi:10.3390/educsci12030192
15. Zhang Q, Chia HM, Chen K. *Examining students' perceptions of STEM subjects and career interests: An exploratory study among secondary students in Hong Kong. J Technol Educ.* 2022;33(2):4–19. doi:10.21061/jte.v33i2.a.1
16. Hair JF, Black WC, Babin BJ, Anderson RE. *Multivariate data analysis. 7th ed. Upper Saddle River (NJ): Pearson; 2009.*
17. Kier MW, Blanchard MR, Osborne JW, Albert JL. *The development of the STEM Career Interest Survey (STEM-CIS). Res Sci Educ.* 2014;44:461–81. doi:10.1007/s11165-013-9389-3
18. Sellami A, Santhosh ME, Siby N, Bhadra J, Ahmad Z. *High school students' perceptions of the role of social support in cultivating their interests in and aspirations to STEM degrees and careers — A Middle Eastern case study. Sustainability.* 2023;15(17):12960. doi:10.3390/su151712960
19. Sellami AL, Al-Ali A, Allouh A, Alhazbi S. *Student attitudes and interests in STEM in Qatar through the lens of the social cognitive theory. Sustainability.* 2023;15:7504. doi:10.3390/su15097504
20. R Core Team. *R: A language and environment for statistical computing [Internet]. Vienna: R Foundation for Statistical Computing; 2023. Available from: <https://www.R-project.org/>*
21. Anderson TW, Darling DA. *Asymptotic theory of certain "goodness of fit" criteria based on stochastic processes. Ann Math Stat.* 1952;23(2):193–212. Available from: <https://api.semanticscholar.org/CorpusID:120541257>
22. Kaiser HF. *An index of factorial simplicity. Psychometrika.* 1974;39(1):31–6. doi:10.1007/BF02291575
23. Kaiser HF. *A second generation Little Jiffy*. Psychometrika.* 1970;35(4):401–15.
24. Bartlett MS. *Tests of significance in factor analysis. Br J Math Stat Psychol.* 1950;3:77–85. doi:10.1111/j.2044-8317.1950.tb00285.x
25. Revelle W. *psych: Procedures for psychological, psychometric, and personality research [Internet]. Evanston (IL):*

Original research

- Northwestern University; 2024. Available from: <https://CRAN.R-project.org/package=psych>
26. Tabachnick BG, Fidell LS. *Using multivariate statistics*. 6th ed. Boston (MA): Pearson; 2014.
 27. Browne MW, Cudeck R. Alternative ways of assessing model fit. *Sociol Methods Res*. 1992;21:230-58. doi:10.1177/0049124192021002005
 28. Hu L, Bentler PM. Fit indices in covariance structure modeling: Sensitivity to underparameterized model misspecification. *Psychol Methods*. 1998;3(4):424-53.
 29. Hu L, Bentler PM. Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Struct Equ Modeling*. 1999;6:1-55.
 30. Fabrigar LR, Wegener DT. *Exploratory factor analysis [online ed.]*. Oxford: Oxford University Press; 2011. doi:10.1093/acprof:osobl/9780199734177.01.000
 31. Kline RB. *Principles and practice of structural equation modeling*. 2nd ed. New York: Guilford Press; 2011.
 32. Reise SP, Widaman KF. Assessing the fit of measurement models at the individual level. *Psychol Methods*. 1999;4(1):3-21. doi:10.1037/1082-989X.4.1.3
 33. Raftery AE. Bayesian model selection in social research. *Sociol Methodol*. 1995;25:111-63. doi:10.2307/271063
 34. Reise SP, Moore TM, Haviland MG. Bifactor models and rotations: Exploring the extent to which multidimensional data yield univocal scale scores. *JPers Assess*. 2010;92(6):544-59. doi:10.1080/00223891.2010.496477
 35. Rosseel Y. lavaan: An R package for structural equation modeling. *J Stat Softw*. 2012;48(2):1-36. doi:10.18637/jss.v048.i02
 36. Satorra A, Bentler PM. A scaled difference chi-square test statistic for moment structure analysis. *Psychometrika*. 2001;66(4):507-14. doi:10.1007/BF02296192
 37. Fornell C, Larcker DF. Evaluating structural equation models with unobservable variables and measurement error. *J Mark Res*. 1981;18(1):39-50. Available from: <http://www.jstor.org/stable/3151312>
 38. Nunnally JC. *Psychometric theory*. 2nd ed. New York: McGraw-Hill; 1978.
 39. DeVellis RF. *Scale development: Theory and applications*. Vol. 26. Thousand Oaks (CA): Sage; 2012.
 40. Cronbach LJ. Coefficient alpha and the internal structure of tests. *Psychometrika*. 1951;16(3):297-334.
 41. Razali F, Manaf UKA, Ayub AFM. STEM education in Malaysia towards developing a human capital through motivating science subject. *Int J Learn Teach Educ Res*. 2020;19(5):411-22. doi:10.26803/ijlter.19.5.25
 42. Chen Y, So WWM, Zhu J, Chiu SWK. STEM learning opportunities and career aspirations: the interactive effect of students' self-concept and perceptions of STEM professionals. *Int J STEM Educ*. 2024;11(1). doi:10.1186/s40594-024-00466-7
 43. Ulum H, Küçükaydın MA. Understanding Turkish students' STEM career aspirations and cultural capital: A path analysis. *STEM Educ*. 2024;4(4):364-80. doi:10.3934/steme.2024021
 44. Mitsopoulou AG, Pavlatou EA. Factors associated with the development of secondary school students' interest towards STEM studies. *Educ Sci*. 2021;11:746. doi:10.3390/educsci11110746

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Assessment of Difficulty Levels in Understanding Science Among Undergraduate Students Using the Rasch Analysis

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Abstract

The assessment of students' understanding of the difficulty levels in physics, provided by Rasch analysis, is carried out here using two different tests as measurement tools. We used a polytomous version of the standard FCI test by selecting items that maintain the core of this conceptual inventory. To do this, we randomly divided the 380 responses collected during a recent FCI analysis into five groups and then restructured six items into six separate evaluation scale items. At this stage, we carefully selected items to highlight the dominance of one common-sense error in mechanics. Next, we created our own test with items designed to cover six levels of difficulty, alternating simpler calculation steps within physics-based problems. For both cases, the threshold parameter was estimated using the polytomous Rasch model. The results were analysed and discussed

Keywords: Concept Inventory, Physics Knowledge, Index theory, The Rasch Model, Sociometric Measuring and Instruments

Introduction

The assessment of conceptual knowledge by using the Rasch model is a well-known and straightforward technique, see (Hestenes, 1992), (Planinic, 2010; 2019), etc. In the corresponding polytomous model, the threshold parameter measures the theoretical default level (Planinic, 2010) and can be seen as a key parameter of the conceptual knowledge. However, for a successful analysis, besides several statistical drawbacks for your system discussed in (Prenga et al, 2022), inevitable because of the heterogeneities in the

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system, a more general challenge consists of the difficulties in drafting a Concept Inventory question with more than a binary assessment opportunity. Let motioned for clarity view aspect of the Conceptual knowledge tests are known also as Concept Inventory (CI) test, which have been initiated with the Force Concept Inventory (FCI) by (Hestenes et al., 1992), and advanced through numerous applications and theoretical works, (Crooks et al., 2014), (Andrich, 2005), (Savinainen, 2002), etc. The original FCI test consists of a set of 30 multiple-choice items that are drafted in such a way as to measure the depth of knowledge in mechanics, contrasting to classical exercises that investigate students' understanding of a certain part of the subject (Prenga and Boçi, 2025). Also, the typical CI tests aim for investigating knowledge shortcomings, errors, and common-sense interpretation, and problems in learning and teaching in general, see (Hestenes et al., 1992) for the thorough analysis of the 'six common sense errors in mechanics, for example. Following those prerequisites, a polytomous variable in a Rasch model application must be based on a test constructed by a set of multiple-score items that can assess concept inventory knowledge and must include the potential for common sense errors. The first requirement can be concluded by setting up problems that involve students' critical thinking and active involvement, in terms of discussion in (Vilia et al., 2017), (Kim & Sunderman, 2005), (Kumar et al., 2023), etc. This is because we want to avoid calculations. After all, the problems would converge to a procedural exam, which is not typically conceptual knowledge. In this case, composing multiple-stage solution questions could be a choice, but in this case, we run into the problem of a knowledge report assimilation, because failing to pass a stage means a full failure, without having the chance to try to resolve the next step. This choice would contradict the CI idea that includes probability to resolve more difficult problems than students' abilities. Therefore, the realisation of a composite problem that keeps the CI is not a straightforward procedure. Instead, we might

gather for this purpose some CI responses that are contaminated distinctively with at least one common-sense error, to produce a clone-item with several scales of evaluation. For this process, we have considered our recent FCI measurements referred to (Prenga et al., 2023), (Kushta et al, 2023), (Hamolli & Prenga, 2024), which have been conducted in the framework of proper CI analysis. The other opportunity was the mixed CI and procedural version, which poses several difficulties, mostly as a subjective or uncertified instrument. For this case, we considered a pilot version and properly checked the CVR index by asking several colleagues to evaluate before concluding the useful draft.

Data and Methods

Instrument Design and Content Validation

For drafting the test with n-score items, we have extended CI questions by asking basic calculations as well. We started initially with a 3-point evaluation for problems with very little effort, like the following

- A. Given spheres (1) and (2), leaving the roof with zero and nonzero initial horizontal velocity, after leaving the roof,
 - (a) sphere (1) will reach the floor earlier
 - (b) sphere (2) and (1) will reach the floor at the same time
 - (c) sphere (2) will reach the floor a little later, just because of the air resistance
 - (d) sphere (2) will reach the floor little earlier, because the air resistance will slow it down due to the initial velocity, when sphere (1) has moved somewhat vertically. and
- B. Answer and fill the needed missing conceptual word. Which force is strongest when two objects interact? We made a real situation in the scene as follows: Which one is correct?
 - (a) The Earth attracts the Moon with a stronger force, because the Earth weighs more (0 point)
 - (b) The attracting force Earth-Moon F_{12} is exactly $-F_{21}$. It is related to the fact that both

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bodies are closed systems, but being a closed system is not a precondition. (1)

- (c) The attracting force Earth-Moon F_{12} is exactly $-F_{21}$ because according to Newton's third law of motion, the forces of the action and reaction are (complete) (2)
- (d) The attracting force Earth-Moon F_{12} is exactly $-F_{21}$ because according to Newton's third law of motion, the forces of the action and reaction are always equal and opposite (2). As a closed system, both moon and earth are falling toward a common centre with acceleration (complete)
- (e) The attracting force Earth-Moon F_{12} is exactly $-F_{21}$ because according to Newton's third law of motion, the forces of the action and reaction are always equal and opposite (2). Therefore, the moon is falling toward Earth, and Earth is falling toward the Moon with (Specify) acceleration

Initially, we sent our ad-hoc test to a group of 11 colleagues made up of experienced teachers, university lecturers of general physics, and professors of didactics for evaluation. It was a low-scale check, but we decided to count their assessment on the proposed instrument. It resulted that the Content Validity Ratio calculated after their review was low, at 0.4. In this first attempt, we have realised 5 items like question A above and 5 similar question B, belonging to different scores per item. For the 5-level item's test, the CVR was lower than the item based on the 4-level item, like A. This suggests considering also the difficulty level of the question. In the meantime, we collected the remarks of our colleagues and realised an improved version of both types of tests for further check, this time by a group of teachers. In this case, we let the teacher suggest their own scores. The test has been sent to several teachers for evaluations, and we gathered responses from a couple of them, not statistically significant, but suitable for addressing the problem. In this stage, we realised that teachers assigned different scores to the alternatives of the items, and the situation was worse as the complexity of the items increased. We have highlighted the facts

that there are difficulties in reaching a consensus on how to distribute points in a CI-based question with multiple scores. It suggests that, aside from many factors, the general tendency of the moment would point to the practicality of teaching and learning, which is mirrored differently in different schools of the country. The heterogeneity of the evaluation indicates a heterogeneity in the conceptual knowledge focusing when teaching. Therefore, the assessment of conceptual knowledge with a polytomous variable based on an ad hoc test is quite unlikely to succeed for the moment. This is why we have tuned back to the recent idea suggested by (Prenga 2025) to produce a fictitious test based on recent FCI tests. In this application, we have considered a full FCI set of 380 answers and initially divided it into 5 groups. Next, we have analysed the taxonomy of common-sense error and identified the diamond error type based on the analysis and tables provided in (Hestenes, 1992). By randomly choosing six items of different errors, we produce a clone question of 6 difficulty levels in the sense that summing up the scores would range from 0-6. This clone question bears the ADN and philosophy of the FCI test. Collecting all clones produced so far, we reached 30 items to mimic the FCI size, but it was not necessary for sure. We believe that this last is adequate for measuring and consider it for final use.

Rasch Model and Statistical Analysis

The Rasch analysis is a well-known technique for analysing and calibrating sociometric measurement. Considering the result of the CI test consisting of conducted , initial answers are organised in a matrix $(I, A) = (0,1,2,3,4,5)$. The procedure of data elaboration is similar to the binary variable addressed in a large literature theoretically, see (Rasch, 1961), (Andrich, 2005), (Wright, 1982; 1977), and by measurements, see (Savinainen, aninic, 2010) etc.

So, students' success is calculated initially

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and similar is the easiness $\frac{1}{1-p}$ of the whole test, and next based on the IRT the probability of success given by the logistic function

$$P(i, \theta) = \frac{1}{1 + e^{-\theta}}$$

so the student's ability to resolve the test and item's difficulty for dichotomous variable are given by the following

$$\theta = \frac{p(i)}{1-p(i)} \ln \frac{1}{1-p(i)}; \quad \theta = \frac{1-p(j)}{p(j)} \ln \frac{1}{1-p(j)} \quad (1)$$

and therefore, the estimated probability:

$$P(i, \theta) = \frac{1}{1 + e^{-\theta}} \quad (2)$$

Similarly, but with some effort in defining difficulties and abilities that are now related also to the inner structure of the item alongside the whole test responses, the polytomous Rasch model analysis. The analogues of (2) above would evaluate the probability that a student would achieve the score level h , given the threshold parameter $\{ \}$ that measures the difficulty of obtaining scores h relative to $h-1$, by using the following estimate probability for success

$$P(h = | i, \theta, \tau) = \frac{[(\tau) - \tau] - \tau }{[(\tau) - \tau] - \tau } \quad (3)$$

Here in the model parameter τ it is very important because it presents the structure of knowledge of the population under study. If statistical prerequisites were fulfilled, the results are intriguing because they report the knowledge structure on a larger scale, indicating problems and challenges for the science education system itself. Being aware that our clone test merits some legitimacy arguments based on the discussion provided in (Prenga et al, 2025), etc, which we are not reproducing herein, the

following analysis reveals interesting findings and interpretations.

Results

After analysing the ability and optimising the histogram, we have observed that mostly there are 5-6 levels of the measured ability. In this logic, we estimated that also, perceived difficulties are also in the same structure. On the other side, we have decided the levels of difficulty would match the grades used in our system, so a choice of 5-6 levels of the default is logically supported. Also, we approached our system of knowledge evaluation based on ten grades, and considering that very low levels covering grades 1-4 might be assimilated in a unique level, the 6-level approach seems logical. Basically, we are based in this last idea to construct 6-score items for our test. Notice that for the whole set of FCI test results, we have found a large magnitude between difficulty levels $[-1.4450; 4.4269; 10.2989; 16.1708; 22.0427]$, which does not match with ability histogram, indicating additional problems with sampling. To shed some light on the heterogeneity indicated by this finding, we explored several sampling trails seeking significant signals regarding the consistency of the finding. It resulted that, at last, qualitatively, the results obtained were stable, Table 1.

Table 1. Threshold parameter measured by the FCI-cloned test

Difficulty threshold	Sample: 100 random records from 280 responders (2022)	Whole interviews, 280 Students	Sample: 100 random records from a set of 360 responses, (2023)	Sample: 180 students (2023)	Sample: 53 students (2024)
τ_0	0	0	0	0	0
τ_1	-3.1083	-4.1788	-2.9319	-3.2483	-3.3252
τ_2	-0.733	-0.4317	0.1203	-0.6582	-0.5847
τ_3	0.5574	1.53	1.4429	0.9692	1.6345
τ_4	3.2839	3.0804	1.3687	2.9373	2.2754

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We observed that for all groups selected, the first element of the threshold vector has a very high magnitude compared to the others, and so does the last one. The consistency of these features suggests that the measurement is acceptable and mirrors some representative characteristics of the whole system. By contemplating formal interpretation of the threshold difficulty on the polytomous Rasch model, we concluded that, from a general perspective, the effort needed to bring very basic students to the admissible level or to push good students to the excellent level is much higher than moving between other knowledge levels. Notice that this estimator is not the same as the difference between difficulty stages $\theta_{i+1} - \theta_i$, because the definition of the difficulty parameter on the polytomous model is local and depends on the overall estimation of each item, neglecting its subdivisions in n-levels. This said, natural levels of the overall knowledge must be determined by referring to the abilities measured, because one cannot make statistics with a very small number of items used for testing. As a result, natural difficulty levels do not represent the 10 grades or 55-gradesystem. By optimising corresponding histograms, we can analyse this feature following the same idea as in (Prenga, 2024), and occasionally those levels matched in our case, but the results are not interchangeably symmetrical, nor identical. This is basically a result of the nature of output quantities of the Rash model, where the θ_i would measure the perceived difficulty of the whole test made of 30- questions each of 6 levels in our case, whereas $\theta_{i+1} - \theta_i$ measures theoretical differences between two successive levels at coordinate (i). Coming back to Table 1, we also observe that the threshold levels are nearly symmetrical regarding the zero point. This mirrors the consistency of the test used, but we do not expect otherwise, as long as the values are gathered from a very standardised FCI test. Bot adding to that, the symmetry of the observed parameter is seen herein as an indicator of the correspondence in the whole system of the compression and education.

A comparative view of results and further discussion

By comparing these results with recent measurements conducted across several student groups, as presented in Table 2, we observe a similar qualitative pattern for the threshold parameter at the lowest proficiency level. It is worth noting that Table 2 employs a 4-level scale, which does not differ substantially from the 6-level scale used in the current analysis.

It appears that the first difficulty level is the most challenging, as reflected by the high amplitude of its corresponding threshold parameter. The findings presented in Table 2 are interpreted according to the standard definition of threshold difficulty in the Rasch model (see www.realstatistics.org for illustrative applications). Furthermore, the measured difficulty thresholds can be related to the practical effort required in teaching. Since the Rasch scale is standardized and linearized, the differences between successive thresholds serve as indicators of the relative effort needed to advance students by one conceptual level. By convention, these differences estimate the effort required to improve knowledge from one level to the next. They primarily reflect the relative effort for enhancing students' conceptual understanding, while also providing insight into the efficiency of instructional investment

Table 2. Threshold parameter for various groups of students

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6
0	0	0	0	0	0
-2.32	-2.23	-2.05	1.59	-1.87	-1.87
-0.86	-0.87	-0.83	0.58	-0.87	-0.94
0.51	0.31	0.85	0.37	0.49	0.58

So, when we acknowledge our absolute effort to change the knowledge situation, that is the vector $\theta = [\dots]$, we might compare those values to choose the opportune scenarios. Notice that we cannot exaggerate with the homogeneity and

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linearity of the difference parameters, but locally, we believe that the comparison is logically supported. Therefore, the new estimator ϵ_{i+1} - measure the differences between the effort for improving the knowledge by one unit, that is, the opportunity effort for working for improving level (i). A similar analysis of this parameter has been conducted by Prenga (2024). In general terms, it provides a measure of the homogeneity of the effort required to improve students' knowledge levels

While this metric is related to the concept of "effort," we have emphasized its interpretation for clarity. Table 3 presents the values of this new relative parameter. As indicated by the measured differences in threshold difficulties, the relative effort required to improve students at the lowest proficiency level is higher than that needed for students at intermediate levels. This finding highlights the unequal distribution of pedagogical effort across different knowledge levels and suggests that targeted strategies may be more efficient when focused on students with medium-level knowledge.

resources compared to interventions aimed at students in the medium range.

While acknowledging certain statistical limitations that prevent definitive generalizations, these findings should be considered indicative. We recommend that researchers and educators apply this approach, along with other IRT-based techniques, to inform evidence-based instructional practices and educational research.

Conclusions

The use of Concept Inventory (CI) tests can be successfully extended to assess specific features of conceptual knowledge. While the development of ad hoc CI instruments remains a viable and appealing approach, particular attention must be paid to the formal definition and consistency of scoring schemes. The present study indicates that combining dichotomous and polytomous scoring algorithms can help overcome several practical limitations, while maintaining students' engagement over extended testing sessions. In

Table 3. Relative absolute differences between threshold levels

Sample: 100 random records from 280 responders (2022)	Whole interviews, 280 Students	Sample: 100 random records 100 from a set of 360 responses, (2023)	Sample: 180 students (2023)	Sample: 53 students 2024	Sample: 100 random records from 280 responders, 2022
2.3753	3.7471	3.0522	2.5901	2.7405	2.90104
0.733	0.4317	0.1203	0.6582	0.5847	0.50558
0.5574	1.53	1.4429	0.9692	1.6345	1.2268
2.7265	1.5504	0.0742	1.9681	0.6409	1.39202

These results suggest that, from a pragmatic perspective of cost-efficiency in pedagogy, it may be more effective to focus educational strategies on students at intermediate proficiency levels, rather than attempting to elevate students with very low conceptual knowledge. Similarly, efforts to advance students at the highest proficiency levels require disproportionately more

this context, carefully designed CI-based. polytomous questionnaires may provide valuable tools for educational research.

Through direct measurement of latent traits associated with conceptual knowledge, we estimated threshold difficulty levels within a six-level scoring framework. The results show that these difficulty thresholds are not uniformly

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distributed, suggesting that larger-scale measurements would further strengthen the robustness of the findings. Our analysis highlights the Rasch threshold parameters as meaningful descriptors of the underlying difficulty structure of conceptual knowledge. Accordingly, the pedagogical effort required to promote learning gains is more efficiently directed toward students at intermediate proficiency levels, as the lowest and highest threshold transitions require substantially greater effort than transitions within the medium range. Given certain limitations in the statistical prerequisites for broad generalization, we encourage researchers to apply this approach, together with other Item Response Theory-based methods, for quantitative assessment and evidence-based inference in didactic and pedagogical research.

References

1. Andrich, D. (2005). *The Rasch model explained. Applied Rasch measurement: A book of exemplars: Papers in honour of John P. Keeves*, 27-59.
2. Crooks, N. M., & Alibali, M. W. (2014). *Defining and measuring conceptual knowledge in mathematics. Developmental Review* 34(4) 344–377.
3. Ding, L., Chabay, R., Sherwood, B., & Beichner, R. (2006). *Evaluating an electricity and magnetism assessment tool: Brief electricity and magnetism assessment. Physical Review Special Topics—Physics Education Research*, 2(1), 010105.
4. Hamolli, L. & Prenga, D. (2024). *Force concept inventory analysis by using indexes and the Rasch model. Journal of Natural Sciences*, 36, 210-230
5. Hestenes, D., Wells, M., & Swackhamer, G. (1992). *Force concept inventory. The physics teacher*, 30(3), 141-158
6. Jones, M. & Jones, G. (2016). *Biologjia 10-11. (A.Trebicka, E.Hamzaraj, Trans.) Pegi. (Original book "Cambridge IGCSE Biology Coursebook" 2016) ISBN 978-9928-200-94-5.*
7. Kim, J. S., & Sunderman, G. L. (2005). *Measuring Academic Proficiency under the No Child Left Behind Act: Implications for Educational Equity. Educational Researcher*, 34(8), 3–13. <http://www.jstor.org/stable/3699961>.
8. Klymkowsky, M. W., & Garvin-Doxas, K. (2020). *Concept inventories: Design, application, uses, limitations, and next steps. Active learning in college science: The case for evidence-based practice*, 775-790.
9. Kumar, P., Sahani, J., Rawat, N., Debele, S., Tiwari, A., Emygdio, A. P. M., ... & Pfautsch, S. (2023). *Using empirical science education in schools to improve climate change literacy. Renewable and Sustainable Energy Reviews*, 178, 113232.
10. Kushta, E., & Prenga, D. (2023). *Using Tests' Indexes to Improve the Assessment of the Conceptual Knowledge: a Case Study. International Journal of Education and Learning Systems*, 8.
11. . Planinic, M., Ivanjek, L., Susac, Ana. (2010). *Rasch Model-Based Analysis the Force Concept Inventory Physical Review Special Topics - Physics Education Research*, v6 n1.
12. Planinic, M., Boone, W. J., Susac, A., & Ivanjek, L. (2019). *Rasch analysis in physics education research: Why measurement matters. Physical Review Physics Education Research*, 15(2), 020111.
13. Pople, S. (2022). *Fizika 10-11. (Z. Mulaj, B.Murtaj, Trans. and Adapt.). Erik botime. (Original book "Complete Physics for Cambridge IGCSE student book" 1999) ISBN 978-9928-130-40-2*
14. Prenga, D., Kushta, E., & Musli, F. (2023). *Enhancing Concept Inventory Analysis by Using Indexes, Optimal Histogram Idea, and the Likert Analysis. Journal of Human, Earth, and Future*, 4(1), 103-120.
15. . Prenga, D. (2024). *A Thematic Review on the Combination of Statistical Tools and Measuring Instruments for Analyzing Knowledge and Students' Achievement in Science. European Modern Studies Journal*,

Original research

- 8(3), 687-706
16. Rasch, G. (1961). *On general laws and the meaning of measurement in psychology*.in *Proceedings of the Fourth Berkeley Symposium on Mathematical Statistics and Probability*, (Vol. 4, pp. 321-333). Berkeley, California: University of California Press.
 17. Savinainen, A., & Scott, P. (2002). *The Force Concept Inventory: a tool for monitoring student learning*. *Physics education* 37(1), 45.
 18. Vilia, P. N., Candeias, A. A., Neto, A. S., Franco, M. D. G. S., & Melo, M. (2017). *Academic achievement in physics-chemistry: the predictive effect of attitudes and reasoning abilities*. *Frontiers in psychology*, 8, 1064.
 19. Wright, B. D. (1977). *Solving measurement problems with the Rasch model*. *Journal of Educational Measurement*, 97-116
 20. Wright, B.D. & Masters, G.N. (1982). *Rating Scale Analysis*. Chicago: MESA Press. www.physport.org



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