Cluj University Journal

Interdisciplinary: Social Sciences and Huminites

no.3-4

Volume 3/2025

ISSN 3008-4849

Bogdan Vodă University Press

CLUJ UNIVERSITY JOURNAL. INTERDISCIPLINARY: SOCIAL SCIENCES AND HUMANITIES

*This journal is published **4 times a year** by Bogdan Vodă University of Cluj-Napoca. All articles submitted are double-blind peer-reviewed by the Scientific Committee. The journal is financed by Bogdan Vodă University and coordinated by its Centre of Interdisciplinary Research.*

Bogdan Vodă University Press – *zip code: 400285, Cluj-Napoca, România*
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ISSN 3008-4849 (Print) ISSN 3008-4822 (Online) ISSN-L 3008-4822

Contact: e-mail:** journal@ubv.ro; **Tel. +40264431628 – int. 201
Indexation: CEEOL, CrossRef, Google Scholar, HeinOnline

INTRODUCTION

National-international student scientific sessions, colloquia, workshops and debates of case studies in fields related to bachelor's and master's degree programs, respectively law, economics, physical education and sports, etc., have become a constant in the activity of students within our university but also of students of the national and international partnership network.

In the academic year 2024-2025 and 2025-2026, international scientific sessions took place, respectively for students of law, economics, physical education and sports and the International Scientific Conference on November 14-15, 2025, which was attended by teaching staff, researchers, students from the country and abroad.

This last international scientific conference THE WORLD WE LIVE IN enjoyed a prestigious national and international presence, which is why this issue 3/2025 of the CLUJ UNIVERSITY JOURNAL is dedicated exclusively to the scientific achievements of students.

We note that some of our students occupy important positions in diplomacy in the legal, diplomatic sphere in the country or abroad. Their contributions, on the one hand, reflect an academic-scientific collaboration with teaching staff from our university or partner universities, and many of the scientific contributions are parts of undergraduate or dissertation theses of scientific level, which once again demonstrate concerns and involvement.

We wish the students success and gratefully appreciate their scientific contributions to the aforementioned sessions and look forward to seeing them in future issues to capitalize on their future research.

Editorial Board

CONTENTS

ISSUE NO. 3-4
Volume 3 / 2025

CLUJ UNIVERSITY JOURNAL. INTERDISCIPLINARY: SOCIAL SCIENCES AND HUMANITIES no. 3 - 4./VOL.3/2025

PSYCHO-BEHAVIORAL PROFILE OF THE CRIMINAL WHO PREMEDITATES THEIR OFFENSE

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ABSTRACT

In a social context where forms of criminality are becoming increasingly diverse and sophisticated, the study of the psycho-behavioral profile of the criminal who premeditates their offense gains major importance both for the legal and psychological fields. While some acts are committed impulsively, in anger or frustration, others result from cold, deliberate thinking, in which the offender anticipates consequences and meticulously organizes their actions. This category of offenders, characterized by rationality, self-control, and lack of empathy, raises complex issues of interpretation from the perspective of culpability and social dangerousness.

KEYWORDS

Premeditation, self-control, lack of empathy, moral rationalization, criminogenic personality, criminal planning, discernment, aggravated murder, criminal liability, criminological profile, behavioral analysis.

J.E.L. Classifications: K42, K14, Z13

1. INTRODUCTION

In Romanian criminal law, premeditation constitutes an aggravated form of direct intent, being associated with a high degree of social danger. It implies the existence of a time interval between the moment of decision and the commission of the act, during which the offender reflects, plans, and consolidates their criminal intent.

This paper aims to analyze, from an interdisciplinary perspective, the personality traits, cognitive processes, and motivations underlying premeditated behavior, while also highlighting how these elements influence legal classification and the assessment of the degree of culpability. The main objective is to demonstrate that understanding the psycho-behavioral profile of the criminal has not only theoretical value but also significant practical utility in

judicial and investigative activities, as well as in developing strategies for preventing premeditated offenses.

2. THE LEGAL CONCEPT OF PREMEDITATION

To understand the complexity of premeditated criminal behavior, it is necessary to start with the analysis of the concept of premeditation from the perspective of Romanian criminal law. Only by clearly delimiting the legal elements — intent, form of culpability, and reflection period — can the theoretical framework in which psychological analysis intervenes be outlined.

Premeditation represents one of the most important forms of manifestation of direct intent in result-based offenses, particularly in cases of aggravated murder. According to Article 189 para. (1) letter a) of the Romanian Criminal Code, murder committed "with premeditation" constitutes an aggravated variant, justified by the high social dangerousness of an offender who acts with lucidity, reflection, and calculation. Romanian criminal doctrine has consistently defined premeditation as "an intent formed with a time interval prior to the commission of the act, an interval that allows the offender to reflect on the act, conceive it, and organize its execution" (Dobrinoiu & Neagu, 2023). The essential element is the existence of time for contemplation — a moment of detachment in which the criminal decision is consolidated, and the action is not the result of a spontaneous emotional state.

In judicial practice, the High Court of Cassation and Justice has ruled that "premeditation implies not only a prior decision but also persistence in its execution, demonstrating perseverance and planning" (Decision no. 3505/2008, Penal Section). Thus, mere passage of time is not sufficient; it must be evident that the defendant acted with cold-bloodedness and calculated anticipation.

From a criminal law perspective, the existence of premeditation constitutes an aggravating circumstance, leading to the classification of the act as an aggravated variant and the imposition of more severe penalties. According to Article 189 of the Criminal Code, murder committed with premeditation is punishable by life imprisonment or imprisonment from 15 to 25 years. This sanction reflects not only the severity of the result but especially the moral dangerousness of the author, who consciously assumes the suppression of a human life.

3. RELEVANT JURISPRUDENCE

M. Udroiu (2024) emphasizes that the rationale for aggravation lies in "the psychological imbalance of the offender, who, although having time to restrain impulses, deliberately chooses to follow them." Society perceives premeditation as a form of malice superior to impulsivity, and criminal law reacts accordingly.

In Decision no. 2979/2009, the High Court of Cassation and Justice confirmed the existence of premeditation in a case where the defendant, after a prior quarrel, followed the

victim for several days, procured a weapon, determined the moment of action, and executed the plan without hesitation. The court held that "the offender had the necessary time to reflect and desist, but chose to act, demonstrating a will clearly oriented toward committing the offense."

4. ANALYSIS OF THE PREMEDITATED CRIMINAL'S BEHAVIOR

4.1. Psychological and cognitive characteristics

Analysis of premeditated criminal behavior reveals a series of psychological and cognitive particularities that significantly differentiate them from impulsive offenders. While the latter are dominated by affective, spontaneous, uncontrolled reactions, the premeditated criminal's action results from rational, cold, strategic thinking aimed at achieving a precise goal. According to Emilian Stancu (Judicial Psychology, 2023), the premeditated criminal exhibits high levels of self-control, planning capacity, and a tendency to rationalize antisocial behavior. They justify their actions with seemingly logical motives ("they deserved it," "I had no other choice"), indicating cognitive distortions typical of egocentric and manipulative personalities.

4.2. Psychological profile

The psychological profile of the premeditated criminal is often associated with above-average intelligence, egocentrism, lack of empathy, and high self-control. According to Robert D. Hare (Without Conscience, 2011), such individuals may exhibit psychopathic tendencies, capable of mimicking emotions, manipulating others, and acting with apparent social normality. The absence of remorse and empathy allows them to treat the act as a rational means of achieving a personal objective.

Cristina Butoi (Profilul criminalului, 2020) emphasizes that the premeditated offender does not act under emotional pressure but from the belief that they have the right or power to decide over others' lives. This personality type demonstrates narcissism, dominance, and concealment abilities, attributes that facilitate executing the criminal plan without hesitation.

4.3. Cognitive process

The premeditated criminal undergoes a complex cognitive process, involving situation analysis, anticipation of the victim's reactions, and strategic action planning. Typical stages include:

1. Identification of the goal (revenge, profit, power);
2. Analysis of means to achieve it (choice of place, time, method);
3. Anticipation of consequences and risk reduction;
4. Execution of the plan calmly and precisely.

Affectively, the premeditated criminal exhibits evident emotional detachment. The lack of empathy and guilt is compensated by defense mechanisms such as rationalization and projection of guilt onto the victim ("they provoked me," "they deserved the punishment").

The main motivations of the premeditated criminal are related to power, control, revenge, or personal reward. Unlike the impulsive offender, who acts under immediate pressure, the premeditated offender pursues a strategic, sometimes symbolic or material, benefit.

4.4. Stages of the premeditated process

1. Decision-making – conception of the act, moral rationalization;
2. Planning – analyzing optimal conditions and evaluating risks;
3. Concrete preparation – acquiring means, following the victim, creating an alibi;
4. Execution – carrying out the act calmly and precisely;
5. Post-act behavior – destroying evidence, manipulating others, concealing guilt.

Example: the "Brașov Killer" case (2018), where the perpetrator planned the murder several days in advance, demonstrating discernment and narcissistic traits.

5. PREMEDITATION AND CRIMINAL LIABILITY

From a psychological perspective, premeditation presupposes intact discernment. The offender understands the nature of the act, anticipates consequences, and adjusts behavior to avoid punishment. The rationality of the action and the reflection period justify the application of a more severe penalty, according to Article 189 of the Criminal Code.

Judicial psychological expertise allows the determination of the offender's psycho-behavioral profile, motivations, self-control capacity, and level of empathy. According to Cristina Butoi (2020), the evaluation of premeditated behavior must follow four main dimensions: cognitive, affective, moral, and behavioral.

6. CONCLUSIONS

Premeditation represents the supreme expression of conscious criminal intent, reflecting rationality used for antisocial purposes. The psychological profile of the premeditated criminal is essential for individualizing punishment, assessing the degree of culpability, establishing criminal liability, and understanding the risk of recidivism. An interdisciplinary approach — legal, psychological, and criminological — ensures fair and balanced justice.

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LEGAL ASPECTS OF THE LISBON TREATY ON THE EUROPEAN SINGLE MARKET AND IMPLICATIONS FOR CROSS-BORDER COOPERATION

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ABSTRACT

The Lisbon Treaty is one of the most significant pieces of legislation to bolster the legal systems of the EU, as it enhanced institutional channels and deepened economic integration. The Single Market was deepened through new stipulations on territorial cohesion, judicial cooperation, and the increasing role of the European Parliament and the Court of Justice of the European Union, building on the principle of the four freedoms of movement (goods, services, persons, and capital). The core legal questions and their implementation in the context of the Single Market are the focus of this paper that analyzes the Lisbon Treaty in this context. The analysis is structured across three levels: national—through the adaptation of domestic legislation to European norms; supranational—by examining the role of EU institutions in ensuring legal uniformity; and shared—through the study of multi-level governance instruments that support the functioning of the Single Market. Moreover, the paper will deal with today's challenges: a fragmented system of regulation, non-tariff barriers and implications for border areas. The conclusions highlight that the Lisbon Treaty is of particular use for driving economic integration and the establishment of sustainable channels for cross-border cooperation, more specifically in Central and Eastern Europe.

KEYWORDS: *Lisbon Treaty; Single Market; EU Law; Cross-Border Cooperation; Territorial Cohesion*

J.E.L. Classifications: K33, F15, H77

1. INTRODUCTION

The Single Market of the European Union has been seen as an anchor of European integration for a long time by reflecting the basic principles of free exchange of goods, services, persons and capital (Barnard, 2019). Based on the idea of a world without regional borders, the Single Market emerges not just as an economic initiative, it also encompasses a legal and political framework for promoting cohesion, competitiveness and well-being in the Member States. Its construction has been achieved in stages based on several agreements, numerous legislative acts and continually strengthened by the Court of Justice of the European Union (CJEU) (Craig & de Búrca, 2021).

The Lisbon Treaty, which came into force in 2009, marked a clear step in this process. By reinforcing the institutional architecture of the Union, extending the democratic legitimacy of decision-making, and incorporating a number of new legal provisions, the Treaty strengthened the building blocks of the Single Market (Weatherill, 2021). It notably reinforced territorial cohesion as an aim of the Union, something of particular relevance for cross-border regions (Treaty of Lisbon, 2007). In parallel with this, the Lisbon Treaty reinforced the roles of the European Parliament and the CJEU, thereby ensuring both broader democratic participation and more effective judicial oversight in the functioning of the Single Market (Chalmers, Davies, & Monti, 2019).

The relevance of this topic for cross-border cooperation is particularly evident in Central and Eastern Europe, where border regions often face structural challenges but also hold significant opportunities for integration and development. By shaping the legal framework for cooperation, the Lisbon Treaty facilitates not only the removal of barriers to trade and mobility, but also the creation of mechanisms that support regional growth, social cohesion, and institutional collaboration across national boundaries (Craig & de Búrca, 2021).

This article seeks to identify the legal framework related to the Single Market in accordance with the Lisbon Treaty, and then to describe its effect on cross-border cooperation. The analysis aims to work its way in three interrelated levels: the national level, where domestic legislation needs to reflect EU law, the supranational level, to which EU institutions' regulatory and supervisory actions need to appeal to EU law, and the shared level, to which governance is performed from multi-level cooperation between the Union, Member States and regional players. Methodologically, the paper will be a doctrinal legal analysis of treaty text and

jurisprudence as well as a contextual analysis of their effect on cross-border cooperation in Central and Eastern Europe.

2.THE EUROPEAN SINGLE MARKET: LEGAL FOUNDATIONS AND EVOLUTION

The European Single Market originated in the Treaty of Rome of 1957, which provided the legal foundation for the European Economic Community (EEC). The Treaty of Rome was fundamentally based on the creation of a "common market" (Treaty of Rome, 1957) through the gradual removal of customs barriers and the adoption of a common external tariff. While initially conceived as an economic arrangement, the common market also represented a step toward legal integration, as it required the harmonization of national laws and the development of supranational institutions capable of supervising compliance (Craig & de Búrca, 2021).

The next major breakthrough was represented through the adoption of the Single European Act (SEA) in 1986, which established the legal and political momentum for accomplishing the internal market by the end of 1992. The SEA brought in qualified majority voting into the Council for internal market legislation and, therefore, limited the potential of individual Member States to derail such legislation. It also enhanced the competences of the European Parliament, and in doing so promoted a more democratic legitimacy in the making of the law (Chalmers, Davies, & Monti, 2019). This pledge to eliminate physical, technical, and fiscal barriers was more profoundly enshrined in a broad program of legislative and regulatory measures designed to promote the free flow of goods, services, persons, and capital (Barnard, 2019).

The integration process was further advanced with the Maastricht Treaty of 1992, which officially established the European Union and brought in the idea of ''Union citizenship'' (Treaty on European Union, 1992). Not only did this new status grant people rights to political participation, it also reinforced their rights to free movement and residence within the Union. Maastricht also promoted economic integration since it provided the legal framework for Economic and Monetary Union that complemented the Single Market by aiming to ensure stability and uniformity in financial and monetary policy (Weatherill, 2021).

Central to the Single Market are the four freedoms. Free movement of goods ensures the removal of customs duties and quantitative barriers between Member States, and prevents

measures that have equivalent effect (Procureur du Roi v Dassonville, 1974). Due to its free movement of services, it permits the service provider to be a cross-border provider with equal treatment (Barnard, 2019). The free movement of persons — such as all workers and Union citizens — affords them rights such as mobility, residence, and equal treatment in host countries where they reside (Grzelczyk v CPAS, 2001). At last, the free movement of capital makes it possible for financial transactions and investment to be liberalised for all of the Union, and on a limited number of occasions, even third countries (Craig & de Búrca, 2021). Tied together, these freedoms form an economy of interconnected and integrated space, rooted in concrete provisions and secondary legislation.

As a result of its decisions, the Court of Justice of the European Union (CJEU) has performed a critical role in consolidating and extending these freedoms. The Court has, through its jurisprudence, been interpreting treaty provisions broadly, striking down national measures that impede integration and ensuring the primacy and direct effect of EU law (Van Gend en Loos, 1963; Costa v ENEL, 1964). Landmark rulings such as Dassonville (Case 8/74), establishing the broad definition of measures having equivalent effect, and Cassis de Dijon (Case 120/78), which articulated the principle of mutual recognition, have shaped the legal architecture of the Single Market. In a similar manner, in the area of free movement of persons the Court consistently reinforced and expanded the rights of Union citizens beyond the original scope established by treaties, as seen in Grzelczyk (Case C-184/99) and Baumbast (Case C-413/99).

The CJEU's jurisprudence over the years has turned the Single Market into a dynamic legal order in which individuals and economic operators can directly invoke their rights before national courts. This judicial activism has complemented legislative initiatives, ensuring that the Single Market remains not only a political aspiration but also a legally enforceable reality (Weatherill, 2021). The combination of treaty provisions, secondary legislation, and case law has thus created a robust and evolving framework that continues to shape the integration process within the European Union.

3.THE LISBON TREATY AND THE CONSOLIDATION OF THE SINGLE MARKET

The Lisbon Treaty, which entered into force in 2009, fundamentally transformed the institutional and legal framework of the European Union. It did not re-create the Single Market, but consolidated and intensified its function by reshaping the Union's governance structures,

strengthening judicial oversight, and broadening the scope of EU policies on which economic integration rests. The Treaty had its origins in an attempt to resolve both the internal problems of enlargement and external pressures of globalization, and its impact still lingers in daily operations of the Single Market (Craig & de Búrca, 2021).

The Lisbon Treaty's institutional reform was among one of its most important contributions. The Treaty gave the European Parliament greater powers, making it a co-legislator in nearly all aspects of the internal market by extending the ordinary legislative procedure (previously known as co-decision). It also put Parliament on an equal footing with the Council of the European Union in the process of adopting the legislation on the four freedoms and relevant regulatory fields (Chalmers, Davies, & Monti, 2019). The Council itself, for its part, also witnessed that its voting system gradually shifted towards qualified majority voting, limiting the ability of each state to block legislative initiatives. The European Commission could continue its central function of launching legislation and ensuring compliance but now had a clearer mandate for promoting the Union's general interest and overseeing the functioning of the Single Market (Barnard, 2019).

The Lisbon Treaty further reinforced the role of the European Council by enshrining it as an institution and establishing a permanent President. Although not directly involved in day-to- day market regulation, the European Council has a significant strategic role in framing the goals of the Single Market (such as the Europe 2020 strategy and the digital & green transitions follow-up) in the long run (European Commission, 2018).

A second aspect of Lisbon's contribution was the strengthening of the Court of Justice of the European Union (CJEU). The Treaty clarified the Court's jurisdiction and made certain that virtually all areas of EU law, including justice and home affairs, fell under its purview. Under the Single Market, the CJEU also strengthened the jurisdiction of the Court to hear cases in relation to the four freedoms, competition law, and harmonization measures, providing for consistency and legal certainty (Weatherill, 2021).

The Lisbon Treaty further enunciated the Charter of Fundamental Rights of the European Union as a legally binding instrument, with consequences for the performance of the Single Market. Thus, fundamental rights considerations are now a factor in the balancing of economic freedoms and social protections on labor mobility and service supply cases (Craig & de Búrca, 2021). This development underscores the Court's dual role in safeguarding both

economic integration and broader societal values.

Territorial cohesion was officially established as an aspect of the Lisbon Treaty (Article 3 TEU; Articles 174–178 TFEU). In addition to economic and social cohesion, territorial cohesion aims to achieve balanced development across the Union, with particular attention to disadvantaged regions, including border territories. This is critical for cross-border cooperation, since in border regions structural obstacles—inadequate infrastructure, administrative complexity, or differing national regulations—may make full Single Market participation difficult (European Commission, 2017).

By embedding territorial cohesion as a fundamental EU goal, Lisbon thus created the legal framework for measures such as the European Groupings of Territorial Cooperation (EGTCs), which were intended to promote joint projects across national frontiers. Emphasising territorial cohesion within the Treaty also supported funding instruments within the EU Cohesion Policy and initiatives like "Interreg" that directly promote cross-border, transnational, and interregional cooperation. For Central and Eastern Europe, where many new Member States share long external and internal borders, these instruments have become crucial in making available necessary tools of cross-border cooperation so that border regions realize the advantages of the Single Market (Barnard, 2019).

It was also the case that the Lisbon Treaty further consolidated the Single Market by increasing the Union's competences in complementary policy areas. In energy, Lisbon introduced a specific legal basis for a common energy policy (Article 194 TFEU), concerning the security of supply, interconnection of networks, and the promotion of renewable energy. According to Craig and de Búrca (2021), this has direct implications as it is vital for the functioning of the Single Market for energy security, as well as for the integration of national markets, for ensuring its competitiveness and sustainability.

As far as transport is concerned, the Treaty reinforced the Union's role in creating a trans- European transport network (TEN-T) to ensure mobility across borders and facilitate both movement of goods and labour. Developing transport infrastructure has been particularly important for border regions. It has enabled them to overcome physical barriers and integrate into the Single Market more effectively (European Commission, 2018).

The Lisbon Treaty also paved the way for the Digital Single Market — now one of the EU's flagship initiatives. The Treaty also created a clearer legal structure for the regulation of

information society services and telecommunications so that the Union could tackle roadblocks related to online trade, data flows, and digital services (Chalmers, Davies, & Monti, 2019). The Digital Agenda — the EU's attempt to shape the Single Market to suit 21st-century realities — also covers digital technologies and innovation.

The Lisbon Treaty contributed to the unification of the Single Market legal framework by institutional reform, judicial power building, and the enlargement of the policy scope. This embedding of goals including territorial cohesion, and the enhancement of EU energy, transport, and digital competences, made the Single Market a much more holistic and sustainable union-building scheme and not just another economic agenda for Member States. This holistic approach has been especially important for border areas, where the provisions of the Treaty also have permitted legal harmonization and practical cooperation, consolidating as much as possible the Union's general objective to achieve greater integration.

4.CROSS-BORDER COOPERATION IN THE LISBON CONTEXT: THREE LEVELS OF ANALYSIS

The Lisbon Treaty reinforced the institutional base of the Single Market and formed a structure for dealing with long-standing disparities and gaps in Member States and their border regions. The principle of territorial cohesion enshrined in the Treaty of Lisbon provides a need for balanced development and for reducing the obstacles to integration. This framework is especially useful for collaboration spanning borders, which operates on three interlinked levels of governance: national, supranational, and shared.

At the national level, Member States have to harmonize their national legislation with the demands of the Single Market. This process involves transposing EU directives into national law, ensuring the direct application of EU regulations, and adapting administrative and judicial practices to comply with European legal standards (Craig & de Búrca, 2021). Failing to adhere can lead to a European Commission infringement action and, in turn, a judgment from the Court of Justice of the European Union (CJEU).

Romania presents an example of the problems and the prospects of legislative adaptation. Romania has made considerable reforms to competition law, consumer protection, and public procurement, in accordance with the Single Market rules, since its accession in 2007

(Chalmers, Davies, & Monti, 2019). Border management reform is crucial for Romania as it plays a leading role in allowing the integration of states in the region across borders, especially because of its vast frontiers with both EU and non-EU states. To improve integration and to allow the border regions to take advantage of Single Market opportunities, harmonization of customs procedures, liberalisation of transport services, as well as developing cross-border infrastructure, such as those corresponding with Hungary and Bulgaria, have been, at present, at the core (European Commission, 2018).

Nevertheless, challenges remain. Romania continues to face difficulties in reducing administrative burdens, ensuring consistent application of EU norms at local levels, and bridging socio-economic gaps between core and border regions. These issues demonstrate that national adaptation is not merely a legal exercise but also a matter of governance capacity and institutional effectiveness.

At the supranational level, the EU exercises its competences through legislative instruments designed to ensure uniformity and legal certainty across Member States. Regulations are directly applicable in all Member States, creating a high degree of harmonization. Directives, by contrast, establish objectives that Member States must achieve while leaving them discretion on the form and methods of implementation. Together, these instruments ensure that cross- border cooperation takes place within a coherent legal framework (Barnard, 2019).

The Lisbon Treaty delineated the distribution of competences between the Union and the Member States. Article 3 of the Treaty on the Functioning of the European Union (TFEU) defines areas of exclusive competence (including competition rules for the internal market and customs union), where only the EU can legislate. Article 4 sets out areas of shared competence, including the internal market, transport, energy, and cohesion policy, where EU and Member States may act. Such distribution is key to cross-border cooperation, providing the legal framework for EU-wide policies while allowing Member States to deal with regional particularities (Weatherill, 2021).

The supranational framework avoids border areas being disadvantaged under different national regulations. The EU tried using different tools to balance economic freedoms with social protections, creating a level playing field for businesses and workers engaged in cross-border activities. These instruments show how supranational regulation achieves legal certainty,

promotes trust, and prevents the fragmentation of the Single Market.

The shared level of governance underpins the Lisbon Treaty's commitment to territorial cohesion and its acknowledgement that for cross-border cooperation to be effective, it is necessary to coordinate between the EU, Member States, and their regional or local partners. Indeed, since the advent of multi-level governance has become the hallmark of EU policy, it offers the possibility of bespoke interventions tailored for each border area's special circumstances (Chalmers, Davies, & Monti, 2019).

The key instrument in this area is the European Territorial Cooperation (ETC) policy, or "Interreg", through which thousands of cross-border projects have been supported since its launch. It is under Lisbon that Interreg was strengthened as a main plank of the Cohesion Policy, with dedicated funds for projects involving infrastructure, environmental protection, education, and innovation (European Commission, 2017).

Moreover, the Lisbon Treaty laid the legal groundwork for the European Grouping of Territorial Cooperation (EGTC), a new tool for regional and local governments of the various Member States to form joint entities with legal personality. EGTCs facilitate cross-border projects in such sectors as healthcare, transport, and energy, reducing administrative complexity while securing long-term cooperation (Barnard, 2019). EGTCs, for instance, along the Romanian - Hungarian border have established coordinated development of transport corridors and joint environmental resource management, showing the practical impact of shared governance.

The shared level, then, captures the spirit of the Lisbon Treaty: an integration not only at the level of legislation and policy but also via cooperation among institutions and communities. The EU has offered financial assistance complemented with legal instruments that have enabled border areas to meet structural challenges and to take the best of the Single Market.

Cooperation across borders, as perceived in the Lisbon context, implies stratified governance. At the national level, the responsibility for legislation and institution strengthening lies with the Member States, to create legislation that fulfills Single Market requirements. For the supranational level, the EU provides consistent EU rules, legal certainty, uniformity and fairness across countries in a harmonized way. Multi-level governance structure, and

instruments like Interreg and EGTC are examples of other common structures at the shared level, which grant regions the capacity to develop their own integration and development solutions. These levels together illustrate the enduring effect of the Lisbon Treaty: by embedding territorial cohesion into those objectives of the Union and by encouraging cooperation on several levels, it has contributed to the inclusiveness and sustainability of the Single Market, specifically in its border areas in Central and Eastern Europe.

5.CURRENT CHALLENGES AND PERSPECTIVES

Whereas the Lisbon Treaty laid down a strong legal and institutional underpinning to the Single Market and cross-border cooperation, the forces of dynamism of the 21st century challenge this ideal foundation, as well as the resilience of European integration. These challenges emerge in the regulatory, geopolitical, technological, and regional arenas that significantly affect the operation of the Single Market, as well as the cohesion of border regions. But the Lisbon Treaty and EU secondary legislation have pledged unified law, and we find regulatory fragmentation a long-term challenge. Differences in the implementation of directives, administrative practices, and enforcement across Member States all make up non-tariff barriers to the Single Market effectiveness (Barnard, 2019). Different standards in areas such as professional qualifications, consumer protection, and environmental regulation, for example, hinder the free provision of services across borders (Craig & de Búrca, 2021)

Although the Services Directive was designed to reduce some of these barriers, it has not been able to achieve the objectives of the Directive, as the Member States continue to impose restrictions justified on public interest grounds. This regulatory heterogeneity disproportionately affects small and medium-sized enterprises (SMEs), who are ill-equipped to deal with complex national law and has particular effects on border areas, where companies are highly dependent on cross-border commerce (European Commission, 2018).

Further geopolitical developments have led to a strain on the Single Market. Unprecedented legal and practical challenges were created, especially in the areas of customs, services, and labor mobility with the United Kingdom's withdrawal from the EU (Brexit) (Weatherill, 2021). Moreover, Russia's 2022 invasion of Ukraine has affected supply chains and exposed energy dependency vulnerabilities and raised security concerns at the Union's eastern borders (European Commission, 2022). These trends illustrate that free movement is

not free from external shocks. The return of border controls during crises, whether linked to migration, public health, or security, has tested the notion of a space without internal frontiers. Indeed, geopolitical instability has also led to higher security commitments and additional economic uncertainty, preventing border regions in Central and Eastern Europe from taking full advantage of the Single Market.

On the other hand, digitalization is growing rapidly, which opens opportunities and challenges for the Single Market. The Digital Single Market strategy, launched in 2015 and later complemented by subsequent initiatives, aims to remove barriers to online trade, harmonize rules on data protection, and foster innovation in areas such as artificial intelligence and cybersecurity (Chalmers, Davies, & Monti, 2019). Although great strides have been made, fragmented regulation of digital, from differing national approaches to taxation of digital services to inconsistent implementation of the General Data Protection Regulation (GDPR), remains a barrier to cross-border digital activity (Craig & de Búrca, 2021). In addition, digital divides continue to persist across Member States, with Central and Eastern European regions often lagging behind in infrastructure and digital skills, limiting their capacity to seize the benefits of this new wave of integration.

Central and Eastern European border areas have specific obstacles adapting to these more general trends. Structural economic inequalities, underdeveloped infrastructures, and bureaucratic complexities currently impede their full integration into the Single Market (European Commission, 2017). Although EU cohesion policy and instruments, including Interreg and EGTCs, provide dedicated assistance, the success of these initiatives relies on local governance capacity and trust between countries. In addition, border areas are most vulnerable to external shocks such as migration flows, security threats, and energy vulnerabilities. The war in Ukraine has exacerbated these challenges further, particularly for Romania, Poland, and others who are on the front lines, whose trans-border collaboration has had to respond quickly to humanitarian needs yet remain economically integrated.

In view of this, the Lisbon Treaty's emphasis on territorial cohesion certainly continues to have relevance, but there is also a need for further work aimed at ensuring the "peripheries" of the border regions transition into dynamic engines of integration. We need investment in infrastructure, digital connectivity, and institutional capacity to combat these imbalances and protect the inclusiveness of the Single Market.

6. CONCLUSIONS

The Lisbon Treaty has turned out to be the cornerstone of the EU's Single Market consolidation. The Treaty not only strengthened the institutional architecture of the Union, but also added legislative powers to the European Parliament and fortified oversight of the Court of Justice of the European Union (CJEU); therefore, to ensure territorial cohesion was realized.

This structural strengthening ensures that the Single Market will operate not only as an economic space, but also as a legal order, for the benefit of individuals and enterprises throughout the EU. The treaty's core contribution, perhaps, is to promote cooperation among the international community. By making territorial cohesion a goal of the Treaty and contributing to new instruments such as the European Grouping of Territorial Cooperation (EGTC) and the Interreg program, it also allowed those at the outskirts of the Union to participate more effectively in the benefits of integration. It did so while turning border regions from marginal areas to active participants in the Single Market and fostering social and economic development while giving European integration its credibility.

Looking to the future, the problems confronting the Single Market and cross-border cooperation demonstrate the Treaty's continued relevance. Fragmentation and geopolitical instability in regulation, and uneven digital transformation call for fresh action at the EU level as well as in Member States. The subsequent integration will probably be on the basis of creating more resilient, inclusive, and new legal mechanisms that adapt to new realities such as digitalization, energy security and environmental sustainability. The Lisbon Treaty cannot, therefore, be viewed as the conclusion of integration but as the starting point on which the Union needs to build. In the process, it strengthens the equilibrium amongst economic freedoms, social protections and territorial cohesion and becomes a guide to the development of the Single Market. Its lasting significance is due to both its flexible and comprehensive legal basis - one that facilitates cooperation across frontiers, encourages balanced development and guarantees continued evolution and forward-looking vision of European integration.

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DETERMINANTS OF HUMAN RESOURCE RETENTION IN THE HORECA SECTOR: THEORETICAL ANALYSIS AND CASE STUDY ON SAMSARA FOOD RESTAURANT

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ABSTRACT

Human resource retention represents a major challenge in the HoReCa industry, which is characterized by an intense work rhythm, high employee mobility, and continuous pressure on service quality. This article provides an integrated analysis of the key theoretical concepts associated with human resource management and employee turnover, in correlation with contemporary motivation and retention strategies. The applied section focuses on a case study of the Samsara Foodhouse Restaurant, in which the causes of turnover, team dynamics, and the measures implemented by management to increase employee stability were investigated. The research, based on interviews with employees and managers, highlights the essential role of organizational climate, communication, reward systems, and opportunities for professional development.

The results show that retention can be strengthened through coherent and personalized policies that address employees' needs in a differentiated manner, depending on age, experience, and professional aspirations. The conclusions support the importance of adopting integrated strategies oriented toward collaboration, recognition, and a balance between professional and personal life.

KEYWORDS: *employee retention, human resource management, motivation strategies, organizational climate, turnover*

J.E.L. Classifications: J63, J53, M54

1.INTRODUCTION

Employee retention represents one of the major challenges faced by contemporary organizations, particularly in the HoReCa sector, where staff turnover is significant and the intense pace of work results in reduced human resource stability. In a highly competitive environment, where differentiation is achieved through service quality and customer experience, human capital becomes the main source of competitive advantage. The specialized literature highlights that investing in people is essential not only for immediate performance but also for the long-term sustainability of the organization (Armstrong, 2017; Ulrich, 2020).
In organizational practice, employee turnover is generated by multiple factors: dissatisfaction with salaries, deficient management, lack of development opportunities, or an improper work climate. In the hospitality industry, these challenges are amplified by the seasonal nature of many positions, increased workload, and high customer expectations.
This article analyzes the main theoretical dimensions of employee retention and subsequently builds on the results of a case study conducted at Samsara Foodhouse Restaurant, focusing on the causes of turnover and the strategies that can contribute to employee loyalty. In this way, the research aims to provide an applied perspective on how human resource management tools can support organizational stability and performance.

2. THEORETICAL FOUNDATIONS OF HUMAN RESOURCE RETENTION

2.1. Human Resources and Their Strategic Role

Human resources are viewed as the central element of any organization, being responsible for transforming material and informational resources into economic value. A strong organizational culture, focused on shared values and goals, contributes decisively to team cohesion, employee motivation, and the development of an attractive employer brand. Human resource management, defined as the set of policies and practices regarding the recruitment, development, motivation, and retention of employees, aims to optimize performance by maintaining a balance between organizational objectives and individual goals (Nicolescu & Verboncu, 2017). In the current context, marked by digitalization and high professional mobility, retention strategies are gaining increasing importance.

2.2. Employee Turnover: Causes and Effects

Turnover refers to employees leaving the organization and is influenced by internal factors (management style, workload, lack of recognition, limited advancement opportunities) and external factors (legislative changes, economic trends, labor market opportunities). In the HoReCa sector, turnover is mainly driven by:

- demanding physical working conditions;
- uncompetitive salaries;
- unpredictable schedules;
- tense work climate;
- lack of a professional development strategy.

The effects of turnover are multiple: declining service quality, increasing recruitment and training costs, operational instability, and damage to the company's image.

2.3. Employee Retention Strategies

The literature identifies a series of effective strategies for improving retention:

- fair and performance-based compensation systems;
- provision of non-financial benefits (insurance, wellness programs, flexibility);
- continuous training programs tailored to employee needs;
- real promotion opportunities and career plans;
- recognition of employee contributions, both financial and symbolic;
- improving the organizational climate and manager–employee relationships;
- involving employees in decision-making, which enhances their sense of belonging.

Overall, retention is facilitated by fair leadership oriented toward collaboration, respect, and transparent communication.

3. CASE STUDY: HUMAN RESOURCE RETENTION AT SAMSARA FOODHOUSE RESTAURANT

3.1. Methodology

The applied research aimed to identify the causes that determine employee turnover and to formulate solutions adapted to the specific characteristics of the organization.
To collect data, interviews were conducted with employees and managers, focusing on perceptions regarding the work climate, development opportunities, the relationship with management, and salary satisfaction.
The numerical evolution of the staff between 2004–2025 was also monitored, alongside the impact of strategies implemented in recent years on team stability.

3.2. Evolution of Human Resources within the Organization

The restaurant has experienced a gradual increase in the number of employees, especially after 2020, driven by service expansion and a more diverse clientele. While the initial period was characterized by a small team and high turnover, the years 2020–2025 show significant stabilization resulting from investments in recruitment, training, and motivation.
In the early years, high turnover had direct consequences on service quality, particularly among waiters and bartenders, where the lack of experience of new employees affected the restaurant's image. Later, through more structured recruitment and retention strategies, a stable core team was formed, capable of integrating and training new members.

3.3. Identified Factors of Turnover

The interviews revealed the following main factors:

- the relationship with management — a decisive element in employees' perception of the work climate;
- salary level and benefits, sometimes perceived as insufficient in relation to workload;
- lack of promotion opportunities in certain periods;
- high stress levels, characteristic of the HoReCa industry;

- insufficient initial training for new employees.

An interesting aspect highlighted by age-group analysis is the difference in preferences: employees under 35 value non-financial recognition and flexibility, while those over 35 prioritize salary stability and predictability.

3.4. Implemented Strategies and Their Effects

Management has implemented several measures to increase retention:

- expanding the benefits package (medical insurance, sports facilities, vacations);
- professionalizing the recruitment process;
- internal training and development programs;
- promoting open communication and fair treatment;
- improving working conditions and scheduling;
- linking rewards to performance.

These interventions have led to a noticeable decrease in the number of resignations and to an increase in employee satisfaction. Additionally, the team has become more cohesive, reflected in greater operational stability and positive customer feedback.

4. DISCUSSIONS

The results of the case study confirm the importance of the directions identified in the specialized literature. Retention is influenced both by extrinsic factors (salary, benefits) and intrinsic factors (recognition, autonomy, work–life balance).
A particular aspect revealed by the restaurant analysis is the clear differentiation of motivations depending on age, which highlights the need for personalized human resource policies. Moreover, the relationship between employee and manager proves to be the main pivot of retention — a point supported by numerous recent studies on leadership in the HoReCa sector.

5. CONCLUSIONS

Human resource retention is a complex process that requires strategies adapted to the organizational context and the individual needs of employees. In the case of Samsara Foodhouse Restaurant, the analysis shows that an integrated approach—based on communication, recognition, and professional development—leads to reduced turnover and increased team cohesion.

Organizations in the HoReCa sector can improve retention by:

- building an organizational climate oriented toward fairness and collaboration;
- leveraging each employee's potential through training and continuous feedback;
- diversifying benefits packages and aligning them with performance;
- promoting a healthy balance between professional and personal life.

Creating a "win-win" partnership between employees and employers is the key to achieving real human resource stability and, consequently, sustainable performance.

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TRAINING NEEDS IN EDUCATION AND THE PROFESSIONAL ENVIRONMENT

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ABSTRACT

Training has become an essential component of both educational and professional development, functioning as a dynamic process through which individuals acquire knowledge and skills relevant to their academic or workplace responsibilities. Unlike traditional learning, training emphasizes applicability, adaptability, and interaction, enabling participants to integrate new competencies directly into practice. This paper explores the multidimensional nature of training needs, emphasizing the interconnected roles of trainers, learners, and learning environments. The analysis highlights that determining training requirements is influenced by factors such as teaching style, trainer expertise, participant age, educational background, and professional experience. A comprehensive typology of trainers—facilitators, speakers, and experts—is examined alongside distinctions between technical, human skills, and business-oriented trainers. The study also underlines the relevance of interaction styles, ranging from authoritarian to democratic and laissez-faire approaches. Participants play an equally significant role in shaping training needs. Homogeneous groups tend to support more effective learning, whereas mixed groups require trainers to demonstrate advanced adaptability, differentiated instruction, and increased engagement strategies. The findings show that effective trainers can reduce the need for repeated sessions, while inadequate facilitation may hinder learning outcomes and increase the demand for additional training. The paper concludes that training must be viewed as a continuous process rather than a singular event, especially in today's rapidly evolving educational and professional landscapes. Successful training programs depend on a balanced integration of trainer quality, participant characteristics, flexible teaching methodologies, and a sustained focus on real learning needs.

KEYWORDS: *adult learning, professional development, training methods, training needs, trainer competencies*

J.E.L. Classifications: I21, J24, M53

1.INTRODUCTION

Training, regardless of the form it takes, represents the process through which individuals acquire the knowledge and skills necessary for professional or academic activities. Unlike traditional learning, training emphasizes applicability, an adapted pace, and interaction, ensuring that participants not only understand information but also integrate it into their current practice.

One of the most widespread forms of training today is e-learning, carried out entirely online. Platforms provide access to theoretical materials, visual examples, and tests, while participants can assess their level of understanding in real time through quizzes or open-ended questions. E-learning is widely used both in universities and in the corporate environment due to its flexibility and accessibility.

For young people-especially children and adolescents-educational camps have become an alternative training method. Organized during the summer vacation and lasting from one week to a full month, these programs create an informal environment, far from the constraints of school. Participants learn through games, interactive activities, and exploration, discovering that education can be both useful and enjoyable. This type of non-formal learning complements classical education and develops skills such as communication, teamwork, and autonomy.

Students, on the other hand, often encounter educational training in the form of seminars, conferences, symposiums, or congresses. In this context, training takes on an academic dimension and is delivered by professors or specialized trainers. These events allow participants to develop critical thinking, gain exposure to new perspectives, and build professional connections in their field of interest.

In the professional environment, workplace training becomes essential, as the information transmitted is directly linked to job responsibilities. Whether we refer to face-to-face training sessions, hands-on courses in production settings, or exchange visits for best-practice learning, the emphasis is placed on quickly acquiring skills that can be applied immediately. In these contexts, the structure of the training and the trainer's competence directly influence the future performance of the employee.

2. THE NEED FOR TRAINING AND THE ROLE OF THE TRAINER

Determining training needs is not a static process but one influenced by a series of interconnected criteria. One of the central factors is the trainer, who is not merely a provider of information but a facilitator of the learning process. For this reason, trainer classifications remain essential for understanding how they contribute to the effectiveness of training.

From the perspective of teaching style, trainers can be facilitators, speakers, or experts.
The *facilitator trainer* guides participants toward discovery through exercises, discussions, and group activities. They do not offer direct solutions but help learners uncover them on their own.
The *speaker trainer*, by contrast, captures attention through an engaging presentation style, using expressive examples and explanations.
The *expert trainer* focuses on delivering technical knowledge in a clear and efficient manner, responding in detail to questions.
When considering classification by area of expertise, we distinguish between technical trainers, human skills trainers, and business trainers.
Technical trainers specialize in fields such as engineering, mechanics, or IT and provide concrete, skill-oriented instruction.
Human skills trainers focus on interpersonal abilities, communication, and emotional intelligence, while business trainers address topics such as management, marketing, or accounting.
Each category meets distinct needs, and selecting the appropriate trainer can significantly influence the outcomes of a training program.
Another relevant classification criterion is the interaction style with participants. Some trainers are more authoritarian, structured, and firmly in control of the process; others are democratic, encouraging active participation and group decision-making; while some adopt a laissez-faire style, intervening only when necessary in order not to limit group creativity.

Regardless of typology, an effective trainer must be able to identify the real needs of participants. While some trainers use quick tests at the beginning of a session to establish the initial level, others prefer more friendly approaches, such as group discussions, practical exercises, or participant-led

presentations. It is essential for the trainer to distinguish between declared needs and actual needs. Often, employees underestimate their need for training either due to lack of time or the perception that training is an inconvenience. This is why the trainer must demonstrate the usefulness of the process and motivate both employees and employers to engage actively.

Another important distinction concerns internal versus external trainers. Internal trainers have the advantage of detailed knowledge of the organization, its processes, and internal culture, which helps them adapt explanations effectively. However, situations may arise where subjectivity or excessive familiarity becomes a disadvantage. External trainers, on the other hand, bring objectivity and fresh perspectives, although they may require additional time to understand the company's specific context.

3. PARTICIPANTS AND THEIR IMPACT ON TRAINING NEEDS

In addition to the trainer, participants play a decisive role in determining training needs. Age, education level, and professional experience directly influence the learning pace, comprehension capacity, and the way information is retained. Research shows that younger individuals assimilate information more easily and are more familiar with technology, while older individuals may require additional explanations or a slower pace. Educational level also shapes expectations and learning styles.

To improve the efficiency of training, organizers aim to form homogeneous groups, where participants are similar in age and experience. However, this is not always possible, and in mixed groups, the trainer’s responsibility increases. The trainer must identify a common level accessible to all, without compromising the quality of the information. Here, the trainer’s ability to adjust the pace, explain concepts in multiple ways, and maintain group motivation becomes essential.

A passionate and well-prepared trainer can transform the training process into a positive and stimulating experience, reducing the need for repeated sessions on the same topic. Conversely, an uninterested or overly rigid trainer can hinder learning and increase the necessity for additional training.

4. CONCLUSIONS

The need for training is influenced by multiple variables—from the quality of the trainer, to participant characteristics, and the teaching methods employed. In a world that is constantly changing, professional development can no longer be viewed as a one-time event but as a continuous process. Adaptability, diversity of training formats, and attention to the real needs of participants are key elements for the success of any training program.

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METHODS AND TRAINING TECHNIQUES IN COMPETITIVE DANCE

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ABSTRACT

Competitive sport dance is a complex discipline that combines artistic expression with high physical demands, requiring structured training methods and well-defined pedagogical strategies. This paper analyzes the main training methods and techniques applied to young dancers aged 12–13 from Class "D" in the Latin section, within the context of a research program conducted at the Zalău Sports Club between January and April 2026. Sport dance, consisting of ten standardized dances divided into Standard and Latin sections, imposes strict rules for technique, posture, musical interpretation, and competition structure. The study emphasizes that effective training integrates dynamic games, mobility drills, running and coordination exercises, physical conditioning routines, and specialized choreographic practice.

Three categories of training were employed: group training (AG), private training (AP), and functional training (AF), each contributing differently to performance enhancement. Group sessions allowed balanced improvement and social interaction, private sessions ensured personalized guidance and technical correction, while functional training improved strength, mobility, and endurance without overtraining. The research highlights the importance of proper posture, joint mobility, muscle development, and psychological factors such as confidence, cooperation, and discipline. Results show that the training mesocycle produced specific physiological adaptations, improved motor qualities, and enhanced overall performance.

The study concludes that competitive dance positively influences physical and psychological development, serving as both a performance sport and a socialization factor for youth. Proper use of training methods and structured progression supports the creation of better dancers and contributes to the long-term growth of sport dance as a recognized athletic discipline.

KEYWORDS: *dance training, motor skills, posture development, sport performance, youth dance education*

J.E.L. Classifications: I21, I29, Z29

1. INTRODUCTION

Competitive dance is a partner-based sport in which a boy and a girl form a couple that performs various rhythms to music, using specific techniques. Depending on the character and origin of the dance, there are two main sections: the Standard or European section (slow waltz, tango, Viennese waltz, slow foxtrot, and quickstep) and the Latin American section (samba, cha-cha-cha, rumba, paso doble, and jive).

The physical effort involved in competitive dance includes both aerobic and anaerobic components, making it an effective method for preventing cardiovascular diseases or managing body weight (dancers can burn between 200 and 700 calories per hour). Dance also develops excellent posture and mobility, providing significant benefits to the musculoskeletal system.

2. MOTIVATION AND PURPOSE OF THE PAPER

In all branches of sport, the greatest importance is given to technical training. This involves mastering the fundamental movements and correcting deficiencies through physical exercises that enable performance. Systematic and continuous repetition of physical exercises is essential, as it contributes to forming stable motor patterns. All physical exercises, the energy of the sport, and the improvement of motor skills must be directed toward refining technique.

The choice of this topic is important because it helps us understand how to prepare both the physical and technical aspects of the body in order to execute movements and elements correctly during dance performance. In every sport discipline, technical preparation holds a central role and must be closely connected with physical preparation.

From the lowest to the highest competitive categories, all physical exercises must be structured and systematized in such a way that those included in one level serve as preparatory elements for the next. This ensures a much smoother progression from one category to another.

3. THE CONCEPT AND OBJECTIVES OF COMPETITIVE DANCE

Competitive dance emerged from the need for dancers on the dance floor to compare their skills and be evaluated according to objective criteria. The partners' desire to perfect each figure and each dance gradually led to the development of specific movements executed with increasing grace, both in terms of body movement and musicality. Competitive dance follows precise rules regarding the creation of choreographic structures, includes a defined number of dances in competitions, and applies clear classification categories.

It is a sport accessible to individuals aged between 6 and 60 and can be practiced as performance sport, recreational sport, a means of socialization, or as a form of relaxation and psychological recovery. In physical education, competitive dance is still rarely included in lessons due to a lack of specialists; however, where it is introduced as a sports discipline, it aligns with other branches of sport through shared objectives. Among the main objectives are:

- Improving, strengthening, and maintaining an optimal state of health and increasing the body's resistance to environmental factors and the demands of the activity;
- Harmonious physical development;
- Correct posture and artistic execution;
- Developing conditional capacities (strength, endurance, speed, agility) and coordinative abilities;
- Learning basic notions of music theory;
- Training the ability to perceive and reproduce rhythm, tempo, and the specific character of each studied dance;
- Encouraging dancers to independently practice exercises for corrective, recreational, and compensatory purposes.

Competitive dance consists of ten dances in total. These are divided into two sections according to their origin and musical rhythm:

1. Standard section
2. Latin American section

1. The Standard Section includes five dances:

- Slow Waltz, with a tempo of 29–30 beats per minute (bpm);
- Tango, with 33 bpm;
- Viennese Waltz, with 60 bpm;
- Slow Foxtrot, with 29–30 bpm;
- Quickstep, with 50 bpm.

Tempo represents the speed at which a musical fragment or melody is performed, expressed as the number of beats or pulses per minute. Musical tempo is strictly respected in dance competitions because all figures and movements are performed according to these musical criteria.

2. The Latin American Section also includes five dances:

- **Samba**, with a tempo of 50–52 bpm;
- **Cha-cha**, with 30–33 bpm;
- **Rumba**, with 25–27 bpm;
- **Paso Doble**, with 62 bpm;
- **Jive**, with 44 bpm.

The same musical tempo is maintained in this section as well. If the tempo is incorrect, the music is stopped and the organizer must select another track in accordance with the regulations.

Duration of choreographic execution

The length of each dance routine depends on the musical tempo and the character of the dance:

- minimum **1 minute and 30 seconds** for Slow Waltz, Tango, Slow Foxtrot, Quickstep, Samba, Cha-cha, and Rumba;
- minimum **two gipsy sections** for Paso Doble (up to the semifinals);
- minimum **1 minute and 15 seconds** for Viennese Waltz and Jive.

Character of the Dance

- The character of each dance is expressed through specific movement qualities determined by the music, which may be sharp and staccato, smooth and flowing, lively and bouncy, or grave and dramatic. Each dance has its own distinctive character, which dancers must interpret as accurately as possible in their choreography.

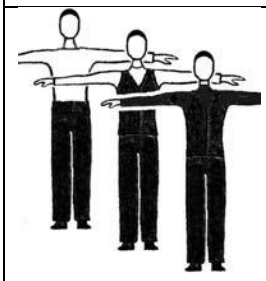
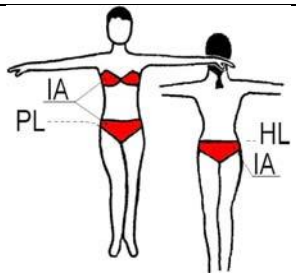
Dance Space

The dance floor must be rectangular and covered with a special parquet surface. Organizers are required to provide a minimum space of:

- **15 m²** for one couple aged 14–35,
- **10 m²** for one couple aged 6–13.

Awards

- At competitions organized in Romania, the following awards may be given: diplomas, trophies, medals, flowers, gifts, or cash prizes. Below is an example of competition attire for the 12–13 age category:

Class "D" Latin	
BOYS	**GIRLS**
	
Top – white long-sleeved shirt or black long-sleeved shirt ***Vest –*** optional, but the color must be black ***Pants –*** black, mandatory	***Competition dress*** any color except skin color; combinations of colors or materials with prints are permitted. ***Top and torso*** must not consist solely of a bra and bikini**.**

Not permitted: • shiny materials, fabrics with light effects, patterns, or prints (lace, etc.); • rolled-up sleeves; • any type of decorative element.	***Not permitted:*** base materials with light-reflecting or shiny effects; any type of luminous decorative elements.
Footwear – dance shoes with no restrictions ***Socks –*** black, mandatory ***Hairstyle –*** if the hair is long, it must be tied in a ponytail.	***Footwear –*** dance shoes with a heel of maximum 5 cm ***Socks or tights*** – short socks or skin-colored tights ***Hairstyle –*** decorative elements with shiny effects and colored hair spray are not permitted.

4. THE EFFECTS OF COMPETITIVE DANCE ON BODY POSTURE

Posture represents the position we adopt at a given moment and the actions that modify or influence the position of the body. The placement of the head and neck, the upper and lower limbs, and the trunk—as well as the way we stand or move—express a wide range of psychological states and influence us in either a positive or negative way.

In the instructional–educational process of physical education lessons, competitive dance aims to maintain good motor capacity; however, beyond this, young participants must also acquire:

- distinctive body posture;
- expressive motor skills;
- learning, improvement, and consolidation of the motor content specific to each dance;
- the development of general technical foundations;
- knowledge related to music and the musical genres that accompany competitive dance;
- civilized behavior, good manners, and appropriate interaction between genders;
- psychological balance, courage, perseverance, and self-control;
- the ability to evaluate the motor actions of others;
- the ability to evaluate their own motor actions;
- development of coordinative abilities;
- formation of correct body schema in various directions and planes.

The amplitude of movements determines the range of joint motion, and joints become more resistant in those who perform physical exercises regularly. Thus, dance contributes significantly

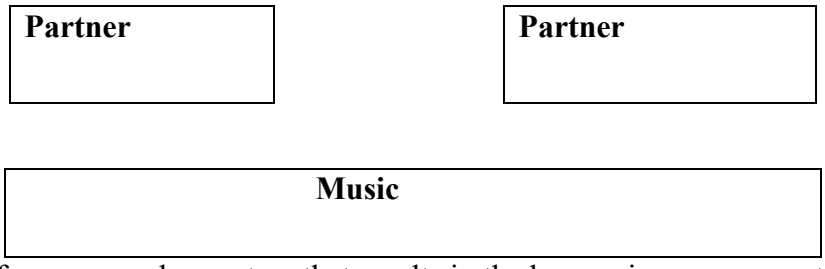
to strengthening joints—especially in the lower limbs, such as the ankle, knee, and hip joints. Joint and ligament mobility is maintained within normal parameters.

Both the muscular and skeletal systems are close to maturity during adolescence. At this age, young people increase muscle volume and develop greater strength capacity, making general and segmental strength development not only possible but recommended. Differences between males and females exist and are significant. Physical assessments comparing the two sexes have shown that:

- muscle tone is generally higher in males than in females;
- the strength of various muscle groups is lower in females—particularly in the shoulder girdle;
- muscle and ligament flexibility is higher in females and lower in males (Ionescu, A. & Mazilu, V., 1968).

5. COMPETITIVE DANCE AS A FACTOR OF COMMUNICATION AND SOCIALIZATION AMONG YOUNG PEOPLE

- For children and young people, dance is an educational activity with strict rules that must be respected in order for them to learn and progress successfully.
- By practicing competitive dance during physical education lessons, young people refine their senses, learn to form a mental representation of their physical body, develop observational skills, expand their knowledge base, strengthen their analytical and synthetic abilities, stimulate their thinking, learn to collaborate with others, and build self-confidence as well as trust in their partners. Dance is a combination of three essential elements:



These elements form a complex system that results in the harmonious movement of the two partners together with the music. Music is the determining factor in guiding the movements, as it triggers motor actions, influences attitude, and defines the character in which the steps must be performed.

6. PRESENTATION OF THE RESEARCH CONDITIONS

The research will take place at the "Zalău Sports Club" between January and April 2026. Within the Romanian Federation of Sport Dance, both Standard and Latin competitions are organized in the form of National Championships, Class National Championships, Formation National Championships, National Festivals, World Championships, the Romanian Cup, and Regional Cups. All athletes are registered with the Romanian Federation of Sport Dance and participate in competitions using their athlete identification booklets. There are also competitions for those who dance for pleasure in various clubs across the country, although these events are not part of the Federation's structure.

For the purpose of this study, I will work with 8 students from the "Avram Iancu" Sports High School in Zalău, who are members of the Zalău Sports Club and who, like myself, are registered with the Romanian Federation of Sport Dance and have participated in several national competitions.

The training program is determined by age category, dance class, and dance sections. I have chosen to work with 4 dance couples from Class "D," aged 12–13, in the Latin section. The study will consist of 19 weekly training sessions conducted in the dance studio, and when the weather allows, additional training sessions will be held in the courtyard.

Preparing the body for effort focuses on mobility and flexibility, with the hip joint (hip–femoral joint) being the most involved in all dances. The triple flexion (hip–knee–ankle) defines the character of each individual dance.

7. TRAINING METHODS AND TECHNIQUES

To achieve the objectives of this study, I will primarily use the following groups of exercises:

- **Dynamic games** (developing running skills, sudden stopping, easily changing running direction, etc.);
- **Walking variations:** walking on toes with arms raised, walking on heels with arms behind the back, "dwarf walk" with arms behind the back, "elephant walk" with extended legs, walking in lunges;
- **Running variations:** high-knee runs, heel-to-seat runs, crossover steps, side steps, skipping steps;

- **Physical exercises:** bending the head forward, backward, to the right, to the left; turning the head to the right and left; rotating the head left and right; raising the shoulders alternately and simultaneously; extending the shoulders; rotating the arms forward and backward, simultaneously and alternately; vertical and horizontal arm extensions; trunk extensions forward, backward, and sideways; trunk rotations to the right and left; lifting the legs forward, to the side, and backward (straight or bent); side, forward, and backward lunges.

Categories of Sports Dance Training

- **AG – Group Training.**

  This type of training was conducted with the 4 dance couples, focusing on a basic specific warm-up using various auxiliary tools (steppers, sticks, dumbbells, etc.). Different Latin dance figures are practiced. During this training, all couples work equally. Finals are organized, and the dances are performed at a higher level. Games are included to relax the athletes, dancers are rotated between partners, humorous choreographies are created, and aerobic exercises are performed at the end. The working time is **1.5 to 2 hours**.
- **AP – Private (Individual) Training.**

  In this session, the coach dedicates full attention to a single pair, allowing close observation of mistakes and refinement of performance. The working time is **1 to 3 hours**, during which choreographies are practiced and each dance figure is refined individually.
- **AF – Functional Training.**

  Functional training must include elements of fun or competition and can be performed outdoors or indoors, often in a race or timed format. Exercises involve free movements using primarily body weight. TRX Suspension equipment is also used. The working time is **1 to 2 hours**.

  Functional training is performed **only once per week**, generally on Saturdays, to prevent overtraining.

8. CONCLUSIONS

Within the Romanian Federation of Sport Dance, more than 5,000 dancers are officially registered, and over 5,000 others practice dance recreationally. In recent years, a significant increase in athletic performance has been observed, and training sessions are held at a much higher level.

The conclusions I aim to highlight regarding the methods and training techniques in competitive sport dance are the following:

1. Competitive dance is a sport that promotes a healthy, balanced, disciplined, and elegant lifestyle. More and more young people are fascinated by this sport, and performance improvements can be noticed after just a few competitions.
2. Sport dance contributes to the refinement of specific motor qualities, such as:
    - speed (execution speed, movement speed, and agility),
    - coordination (segmental coordination, balance, movement precision, and spatial–temporal orientation),
    - endurance (aerobic–anaerobic),
    - strength (in speed and flexibility-based contexts).
3. Following the proposed mesocycle, a specific adaptation of the subjects' bodies to performance effort was observed.
4. Accurate, concrete, and adequate knowledge of the group must guide the trainer toward effective action and intervention, in order to improve group activity and engage members in solving problems.

In conclusion, we hope that this research will achieve its intended purpose through the use of the methods and techniques discussed above. Contributions from experienced specialists are welcome, as they can help develop better dancers and, perhaps, support efforts for this sport to become part of the Olympic Games in the near future.

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SERVICE AND ATTACK HIT – BASIC GAME ACTIONS IN OBTAINING A POINT IN THE GAME OF VOLLEYBALL

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ABSTRACT

Volleyball is a globally popular team sport characterized by a high speed of play and a rapid alternation between offensive and defensive actions. In this context, the ability to efficiently finalize actions becomes decisive in obtaining points and, implicitly, in winning sets and matches. This paper aims to highlight the role of the service and the attacking hit as fundamental game actions in point acquisition, with particular emphasis on their efficiency as determinants of set outcomes. The study is grounded in a detailed theoretical analysis of the technical and biomechanical characteristics of service and attack procedures, viewed as the primary offensive actions in volleyball. The service is analyzed as the first attacking action, capable of directly generating points, while the attacking hit is approached as the finalization of collective team effort, completing the offensive game phase. The research focuses on the men's U19 volleyball team of CSȘ Zalău, monitored during official matches of the U19 Final Tournament held in May 2025. By considering the set as the functional unit of the game, the study seeks to verify the extent to which the efficiency of attack actions differs between won and lost sets. The results are expected to contribute to optimizing training methodologies and improving performance through a more effective management of offensive actions in volleyball.

KEYWORDS: *volleyball; service efficiency; attacking hit; offensive actions; set performance; team efficiency*

J.E.L. Classifications: Z20, Z29

1. INTRODUCTION

The game of volleyball is widely spread worldwide, enjoying great popularity in the most diverse environments regardless of age, sex, material conditions, socio-professional environment. The new provisions of the game regulations, as well as those expected for the near future, are intended to increase the spectacularity of this sports game and the rise of show

volleyball to new levels in the world top of sports, successes confirmed by the media and supported by the increase in the number of spectators, television viewers and passionate supporters. All of this also requires restructuring in the team training methodology, starting with work on children and juniors and ending with great performance. The final paper aims to highlight one of the determining priorities in obtaining the point – the concretization of the effort of the entire team through an efficient completion, without neglecting the importance of the service as the first attack action that can directly bring the point. We intend to verify to what extent the efficiency of the attack actions is decisive in winning the set, considering the set as the functional unit of the volleyball game. We are currently presenting part of the theoretical foundation of the future paper, with the research part to be started this fall. Unlike other team games, even those that have limited the attack time, in volleyball, by limiting the ball to 3(4) hits on a court, the transition from defense to attack and back to defense is done very quickly and very often, a link between the two compartments, being an action specific to the second hit, the lift. To achieve one of the two goals, there are two individual actions, with many execution procedures, the service and the attack hit. During the game, it happens that the attack hit cannot be performed, and the respective team sends the ball to the opponent due to a regulatory obligation. In these cases, passing the ball over the net is an easy pass, through procedures other than those specific to the attack hit or through a hit without a bounce, and achieving the two goals is practically unachievable (especially the first) but we consider that the respective team has made an attack or, more correctly, has missed an attack. This paper represents the theoretical foundation of my bachelor's thesis, namely**: "The efficiency of attack actions in the CSȘ Zalău-U19 volleyball team"**.

The paper aims to highlight one of the determining priorities in obtaining the point - the concretization of the effort of the entire team through an efficient completion, without neglecting the importance of the service as the first attack action that can directly bring the point. I intended to verify to what extent, the efficiency of the attack actions is decisive in winning the set, considering the set as the functional unit of the volleyball game.

2. THEORETICAL FOUNDATION OF THE PAPER

1. The service

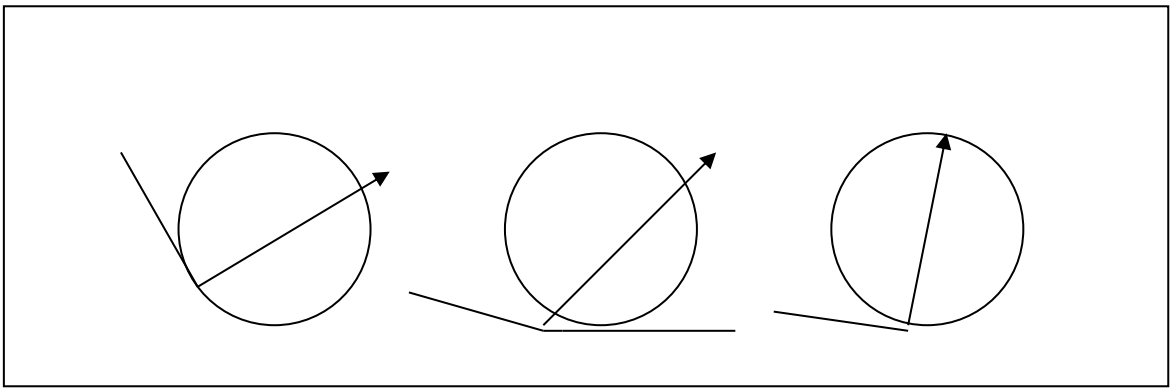
The service is an individual action, the first in a game cycle and it represents putting the ball into play according to the regulations, through specific execution procedures. The service is the only action of hitting the ball that is not influenced by the actions of the opponent or partners, the evolution of the execution procedures being closely related to the improvement of the takeover. The service is one of the actions that remind us that volleyball was also born from tennis. In the beginning, two attempts were used for a service, the first execution aiming at achieving a direct point, and the second, in case the first one was wrong, for passing the ball over the net anyway. In relation to these two attempts, two different execution procedures were used, among those that will be described below, and one of them resembles the tennis serve, this being the front top serve. (Mureşan,2000).

1.1 Front low serve

It is an easy procedure, both in execution and for reception, the execution as such aiming mainly at putting the ball in play and less, or even not at all, at achieving one of the two goals of the attack actions. P.I. – The performer is in the service area, near the end line, with his legs apart and semi-flexed, the leg opposite the hitting arm being further forward, the weight equally distributed on both legs. The torso is slightly bent forward, the shoulder line parallel to the net. The arm that supports the ball is bent at the elbow, the ball being held at the opposite hip, or even lower, and the hitting arm hangs relaxed.

E.P. – The ball is thrown very briefly (10 – 15 cm) upwards, with the kicking arm swinging backwards and the weight shifting to the back leg. While the ball is coming down, the back leg is pushed strongly, with a counterbalance of the kicking arm forward, which will hit the ball with the heel of the hand or with the closed fist, or with the "cuff" area, after which the weight shifts entirely to the front leg, and the player will step forward with the back leg, entering the court. In order to give the ball a correct trajectory, the contact on the ball must occur in its posterior – inferior portion,

the angle between the horizontal and the ball trajectory being around 45 degrees. Due to the lower height of the net, this angle may be smaller for girls.



P.F. – After the execution, the player is in a high position, almost on top and leaning forward, the arm that hit seems to follow the ball on its trajectory.

1.2. Side low serve

A variant of the side low serve is executed from the side, the performer standing with the side opposite the hitting arm towards the net. The swing of the hitting arm is done in front of the performer, with a slight twist of the torso, the shoulder line approaching a parallel to the net.
The execution is also from a lateral position to the net, but this time with the side of the hitting arm towards the court, the foot on the same side being further forward. The ball is thrown so that it falls in front of the shoulder of the hitting arm, the hit occurring tangentially to the ball and on its dorsal side, the execution as such also giving the ball a pronounced rotational movement, which also increases the effect. The hit is strong, the ball receiving a very high trajectory.

1.3. High front serve in force

It is a technique that lends itself to all levels of the game, from beginners to high performance and its effectiveness depends on the strength indicators of the performers, but also on their height and wingspan, which are very important in raising the point of impact of the ball and therefore, in shortening the ascending segment of the ball's trajectory.

P.I. – The performer's torso is straight, with the weight equally distributed on both legs, the leg opposite the hitting arm is one foot further forward, the soles parallel, and the line of the shoulders is either parallel to the net or with the shoulder of the hitting arm slightly backward.

The ball is held with the clumsy arm very slightly bent at the elbow, in front of the performer, at chest level, the striking arm either rests on the ball, or is bent at the elbow and thrown to the side, with the palm raised at head level and facing forward.

However, there are also players (especially male or female) who perform a kind of two-step lunge when throwing the ball, in order to impart greater force to the ball, given by the inertia of the body.

E.P. – By a small vertical swing of the arm with the ball, it is thrown upwards (approx. 50 cm) and towards the striking arm (for verification, the ball left in free fall on the ground must fall in front of the back leg). On this throw, an extension of the trunk takes place with a slight backward rotation of the shoulder of the striking arm and the transfer of weight to the back leg. From here, through a strong push from this leg, the impulse is gradually transmitted to the knee and hip joints.

P.F. – Finally the kicking arm descends towards the thigh of the opposite leg, and the back leg steps forward, the player entering the field. The force impressed on the ball will be in accordance with the level of force of the kicking arm and the amplitude of the extension and flexion movements described above.

2. ATTACKING HIT

The attacking hit is the most dangerous individual action for the opponent and is represented by the totality of the procedures for sending the ball into the opponent's court by hitting it with a hand above the net level by a player in a jump.

The attacking hit is the specific action through which a game cell is completed, in the 3rd or 4th hit, crowning the efforts of the entire team to build an attack through efficiency. (Mureşan,2005)

The complexity of the attacking hit is also given by the 4 phases of its execution, which are: the momentum, the beat, the flight or / and the actual hit and the landing. (Mureşan,2000)

Before moving on to the description of these 4 phases, it is important to remember that there is a waiting position and another starting position, the two, in certain situations, becoming confused.

P.A. – Perhaps, in a way, it is incorrect to call a waiting position what a shooter does before reaching the initial position, because most of the time the respective attacker is in motion, either retreating from the block or after a previous attack rejected by the opposing block, or stepping on

the spot to match his…moment steps. A… static waiting position can possibly appear, only in Structure 1, when an attack is "removed" from the takeover and awaits the result of the actions of the other teammates, so that, then, he can also enter the action.

P.I. – The initial position is the marking of the moment before the moment begins. In this position, the body has a natural verticality and is oriented with the face in the subsequent direction of the moment, the arms hanging loosely by the body, and the gaze being turned towards the ball. What differentiates one initial position from another is the alternative of fixing the more advanced leg (left or right), and this depends on the number of steps of the leap and the arm with which the ball is hit

E.P. – The actual execution begins with the leap and continues with the beat, hitting the ball and landing.

2.1. The leap

The leap is a complex of movements and procedures that help to perform a jump or a throw (preceding them). The definition is also valid in the case of the attack shot, since it is a jump, moreover, the leap is a necessity, if we take into account that a leap jump is much higher than one from the spot.

Regarding the leap as a component of the attack shot, it presents several particularities that create other features of the diversity of this individual attack action. These are: the number of steps, the direction of the leap and its shape.

In volleyball, the leap is generally limited to 1 - 2 steps, rarely 3 and very rarely more, the speed with which the game phases are carried out constituting the main reason for a permanent "time crisis" for the attacker. Regarding the number of steps, we must recognize that in the case of the two-legged jump, at the end of the leap, a half-step is taken with the supporting leg before the last step, which means that the leap is made up of one and a half steps or two and a half steps, etc. Only in the case of the one-legged jump can we speak of a whole number of steps (3).

2.2. The jump

The jump or the take-off represents the shooter's last support on the ground before the jump and its role is to transform the speed of horizontal movement into ascent. However, it is clear that this depends very much on the size of the last leap step, which must ensure a backward tilt of the trunk, the vertical of the center of gravity falling behind the support base, when the first contact with the ground in the jump occurs.

We have thus arrived at the two types of kick:

- one-foot kick
- two-foot kick.

2.2.1 One-foot kick

One-foot kick was fashionable at the beginning of the use of the attack kick and is today brought back into the limelight with great efficiency, through an adapted procedure, in which the swing is close to the net.

This type of swing is necessary because blocking the body's advance on one foot is more difficult, and the performer has every chance of reaching the net, if the direction of the swing towards the net is maintained.

2.2.2 Two-foot kick

The two-foot kick is the most used and the most recommended, managing to fulfill the two tasks that I mentioned as well as possible, but this does not mean that it does not bear a series of comments.

First of all, the double-leg tap can be done in two ways:

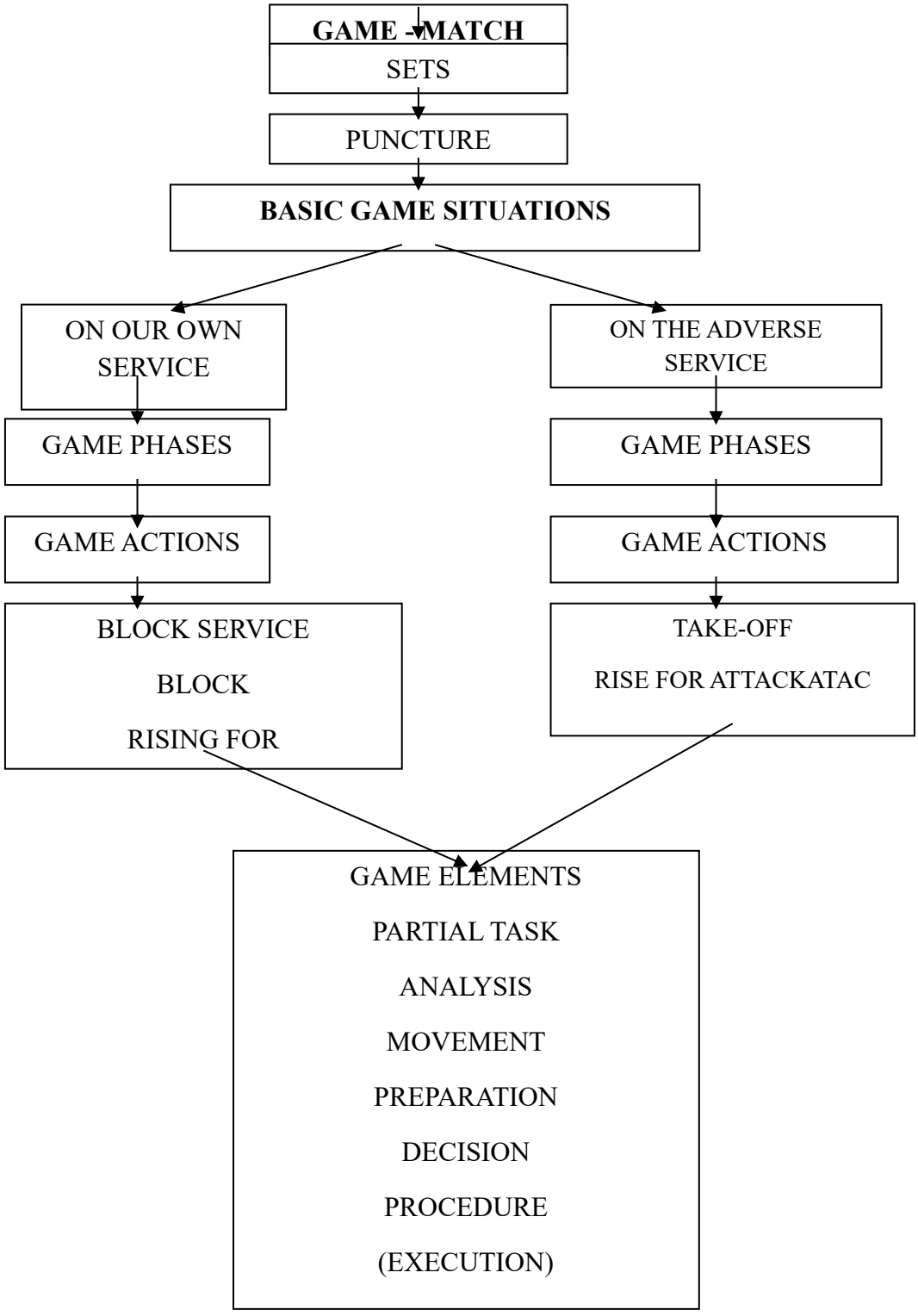
- simultaneously, which means that both feet touch the ground at the same time;
- consecutively, the two feet touch the ground one after the other, at intervals of fractions of a second.

2. THE MATCH OR MATCH

An official volleyball game can be played between two teams of the same sex and the same category, the fight between the two teams ending each time with a winner, this being the "team" that won the first 3 sets. This means that a game is played according to the "best of 5 sets" system, but there are competitions, especially tournaments with a large number of participants or beach volleyball, where the "best of 3 sets" system is also played. These tie-breaking systems for the winner come from tennis, a game with older stages than volleyball.

The notion of match is also represented by the notion of match, although in tennis the match designates a set, but in the "Small Encyclopedic Dictionary" the match designates "the complete development of a sports competition". (Small Encyclopedic Dictionary, 1999)

4. STRUCTURE OF THE VOLLEYBALL GAME



5. RESEARCH SUBJECTS

I will conduct the study on the U19 CSȘ Zalău men's volleyball team, following the U19 Final Tournament, which took place in Zalău between May 7-11, 2025. I registered this team in the official matches held during this final tournament.

6. CONCLUSIONS

Following the study that I will complete, I want to reach conclusions that demonstrate, among other things, that:

• Attack actions (service and attack shot) are more efficient in sets won than in sets lost.

• The efficiency of the service is conditioned by the individual action of each player, while the efficiency of the attack represents a concretization of the effort of the entire team through the game actions preceding the completion.

• The efficiency of the service is conditioned by the individual action of each player, while the efficiency of the attack represents a concretization of the effort of the entire team through the game actions preceding the completion.

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STUDY ON THE IMPORTANCE OF PHYSICAL EDUCATION LESSONS IN COMBATING OBESITY IN PRIMARY SCHOOL

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ABSTRACT

Childhood obesity has become a significant public health concern worldwide, with long-term implications for physical, psychological, and social well-being. This study examines the role of physical education (PE) lessons in primary schools as a strategic measure to prevent and combat obesity among young children. The research investigates current trends in childhood obesity, the benefits of regular physical activity, and the effectiveness of structured PE programs in promoting healthy lifestyles. A mixed-methods approach was used, combining quantitative data from student health assessments and physical activity levels with qualitative insights from teacher interviews and classroom observations. Findings indicate that regular and well-structured PE lessons significantly contribute to increased physical activity, improved fitness levels, and the development of positive attitudes towards a healthy lifestyle among primary school students. The study highlights the importance of integrating comprehensive physical education into school curricula as a proactive measure against obesity and emphasizes the need for collaboration between educators, parents, and policymakers to foster supportive environments for children's health.

KEYWORDS*: physical education, obesity, primary school*

J.E.L. Classifications: I12, I18, I21

1.INTRODUCTION

In contemporary society, characterized by a fast-paced lifestyle and increasing digitalization, children's physical activity has significantly decreased. Time spent in front of screens, unbalanced nutrition, and lack of movement contribute to a growing problem — childhood obesity. This issue is not merely aesthetic but primarily a public health concern, affecting the physical, psychological, and emotional development of the child.

In this context, physical education lessons play a fundamental role in shaping a positive attitude toward movement and promoting an active and healthy lifestyle. Through their organized structure, varied content, and adaptation to age-specific needs, physical education lessons serve as an effective tool in preventing and combating obesity. They contribute to the harmonious development of the body, increase physical endurance, improve motor coordination, and, importantly, foster habits of an active lifestyle.

The present study, entitled *"Study on the Importance of Physical Education Lessons in Combating Obesity in Primary School"*, aims to highlight the essential role of this subject in maintaining and improving students' health. The case study conducted on two primary school classes focuses primarily on observing how consistent participation in physical education lessons influences children's physical development and weight management.

The scientific approach seeks to analyze the impact of specific physical exercises on children's bodies and demonstrate that properly planned and engaging physical education lessons can significantly contribute to combating childhood obesity. Furthermore, the study emphasizes the role of the physical education teacher in motivating students and creating a positive environment that encourages movement and the adoption of healthy behaviors.

Through this research, the aim is to underline the importance of physical education not merely as a mandatory school subject but as a comprehensive educational tool capable of forming lasting movement habits, supporting children's psychological balance, and reducing the risks associated with sedentary behavior and poor nutrition. At the same time, the study draws attention to the necessity of parental and school community involvement to support educational efforts, ensuring an integrated approach to addressing obesity in early school-age children.

The choice of this topic was determined by the alarming increase in the number of children facing weight-related problems from an early age. In recent years, childhood obesity has become one of the greatest challenges of modern society, being regarded by the World Health Organization as a true "epidemic" of the 21st century. Lack of physical activity, high-calorie diets, and excessive time spent in front of screens contribute to physical and psychological imbalances, which can profoundly affect the harmonious development of the child.

Physical education, through lessons conducted at school, provides an ideal framework for developing and consolidating motor skills and fostering a positive attitude toward physical activity. Particularly at the primary school level, when a child is undergoing intense growth and development, physical education lessons play a major role in shaping healthy behaviors and promoting overall physical development.

Obesity is a pathological condition caused by the excessive accumulation of adipose tissue in the body, beyond the level required for normal physiological functioning. The World Health Organization (WHO) defines obesity as the result of an energy imbalance between caloric intake and caloric expenditure, which leads to the storage of excess energy in the form of fat.

In medical and educational practice, obesity is assessed using the Body Mass Index (BMI), a ratio of weight to height. In children, BMI interpretation is based on age and sex, using percentile (%) charts recommended by international health organizations, which allow for the early identification of excess body weight.

In children, obesity often results from a combination of unhealthy eating habits and low levels of physical activity, which is why educational interventions are essential.

Genetic factors – Genetic predisposition influences how the body regulates appetite, stores fat, and uses energy. Children from families with a history of obesity are at a higher risk of developing the condition. However, genetics do not act alone; their effects are more pronounced in the presence of a sedentary lifestyle and poor dietary habits.

Behavioral and dietary factors – Eating habits play a major role in the development of obesity:

- high consumption of foods rich in sugar, fat, and calories (fast food, sweets, snacks);
- oversized portions and irregular meals;
- insufficient intake of fruits and vegetables;
- frequent consumption of soft drinks or sweetened beverages;
- frequent snacking between meals.

In children, diet is largely influenced by the family, making the role of parents crucial in establishing healthy habits.

Sedentary lifestyle – Reduced physical activity is one of the main contributing factors to obesity. Time spent in front of screens (phone, tablet, television, computer) replaces physical activity,

lowering daily energy expenditure. At the primary school level, sedentary behavior is often caused by:

- lack of outdoor play;
- preference for digital activities;
- insufficient involvement in organized sports.

Psychological factors – Stress, anxiety, boredom, and poor emotional control can lead to emotional eating in both adults and children. Children may seek comfort in foods high in sugar and fat, which promotes excessive calorie accumulation.

Socio-economic factors – Socio-economic status influences access to healthy foods, sports activities, and information about a balanced lifestyle. In some families:

- processed foods are more accessible than fresh foods;
- there is limited time or resources for organized physical activities;
- adult dietary habits are automatically adopted by children.

Environmental factors – The environment in which a child lives can either encourage or discourage an active lifestyle.
The lack of playgrounds, absence of community sports activities, or a weak culture of physical activity contributes to the development of obesity. On the other hand, an active school environment, with well-structured physical education lessons, can serve as an important protective factor.

Veronica Mocanu emphasizes that childhood obesity primarily arises from imbalances in eating behaviors and modern lifestyle patterns: children do not always eat regularly, follow diets based on processed foods, and lack proper hydration and physical activity habits. She argues that these unhealthy practices are exacerbated by an inappropriate lifestyle and can be prevented if addressed early in childhood through nutritional education and the establishment of healthy eating routines (Mocanu V., 2021).

2. MATERIAL AND METHOD

2.1. **Research Objectives**

The study aims to investigate the role of physical education lessons in preventing and combating obesity among primary school students, highlighting how regular physical activity influences children's health and overall development.

Specific objectives:

1. To identify the main factors contributing to the onset of obesity in children (dietary, behavioral, genetic, psychological, and socio-economic).
2. To analyze the effects of consistent participation in physical education lessons on physical development, motor coordination, and attitudes toward physical activity.
3. To evaluate the importance of strategies and methodologies applied in physical education lessons for promoting an active lifestyle.
4. To highlight the role of the teacher and the school environment in motivating students and creating a climate conducive to physical activity.
5. To emphasize the importance of parental and community involvement in supporting the practice of a healthy lifestyle.

2.2. **Research Methods**

In this study, several research methods were employed to investigate the role of physical education lessons in preventing and combating obesity among primary school students. The **documentation method** was used to review specialized literature, guidelines from the World Health Organization, and relevant studies on childhood obesity and the benefits of physical activity. The **statistical-mathematical method** allowed for the analysis of quantitative data, including body mass index (BMI) measurements and other physical parameters, to assess the impact of regular physical education on children's health. Additionally, the **observation method** was applied during physical education lessons to monitor students' participation, engagement, motor coordination, and overall physical activity levels. Together, these methods provided a comprehensive understanding of how structured physical education contributes to maintaining a healthy weight and promoting active lifestyles in primary school children.

2.3. Research Subjects

The children in this study are primary school students, in the 2nd grade, aged 8–9 years.

2.4. Research Hypothesis

Regular and consistent participation in physical education lessons significantly contributes to the prevention and reduction of obesity among primary school students by improving their level of physical activity, promoting harmonious physical development, and fostering positive attitudes toward a healthy lifestyle.

RESULTS AND DISCUSSIONS

The initial measurements provide us with additional information necessary for this study and help us better understand how we can support these students.

Table 1. Values of the main anthropometric indicators in boys and girls

Name	Age	Gender	Height	Weight	Pelvis circumference	Abdominal circumference	Thigh circumference
C.	8 ani	M	135 cm	41 kg	81 cm	72 cm	48 cm
T.	9 ani	M	145 cm	52 kg	88 cm	81 cm	50 cm
K.	8 ani	M	145 cm	52 kg	90 cm	82 cm	51 cm
D.	8 ani	M	132 cm	23 kg	68 cm	57 cm	34 cm
M.	8 ani	M	131 cm	26 kg	65 cm	59 cm	37 cm
G.	8 ani	F	137 cm	25 kg	66 cm	53 cm	39 cm
M.	8 ani	F	125 cm	32 kg	78 cm	70 cm	42 cm
D.	8 ani	M	127 cm	25 kg	68 cm	57 cm	38 cm
D.	9 ani	F	125 cm	31 kg	73 cm	66 cm	40 cm
I.	8 ani	M	130 cm	25 kg	72 cm	62 cm	39 cm

A.	9 ani	F	145 cm	32 kg	70 cm	59 cm	41 cm
V.	8 ani	M	138 cm	29 kg	72 cm	59 cm	37 cm
A.	9 ani	F	143 cm	42 kg	84 cm	74 cm	45 cm
A.	8 ani	F	138 cm	27 kg	67 cm	58 cm	38 cm
I.	8 ani	M	140 cm	38 kg	80 cm	69 cm	45 cm
P.	9 ani	M	141 cm	34 kg	82 cm	70 cm	47 cm
C.	8 ani	M	138 cm	32 kg	78 cm	60 cm	37 cm
R.	8 ani	F	142 cm	35 kg	81 cm	62 cm	38 cm
M.	9 ani	F	139 cm	33 kg	77 cm	56 cm	42 cm

The analysis of the data shows that several children have above-average weight for their age and height, suggesting a risk of overweight or childhood obesity. These children generally exhibit higher abdominal and pelvic circumferences, indicating central fat accumulation.

Relevant examples:

- **C.**, boy, 8 years old, 135 cm, 41 kg – pelvic circumference 81 cm, abdominal circumference 72 cm
- **T.**, boy, 9 years old, 145 cm, 52 kg – pelvic circumference 88 cm, abdominal circumference 81 cm
- **K.**, boy, 8 years old, 145 cm, 52 kg – pelvic circumference 90 cm, abdominal circumference 82 cm
- **A.**, girl, 9 years old, 143 cm, 42 kg – pelvic circumference 84 cm, abdominal circumference 74 cm
- **I.**, boy, 8 years old, 140 cm, 38 kg – pelvic circumference 80 cm, abdominal circumference 69 cm

These children have anthropometric values significantly higher than their peers of the same age, highlighting the need for individualized assessment and the implementation of preventive and educational measures regarding nutrition and physical activity.

The analysis of anthropometric data highlights a significant variability in weight and body circumferences among children of the same age, indicating the presence of both underweight and overweight children. This diversity underscores the need for individualized assessment of health status and the risk of childhood obesity.

Overweight children generally exhibit higher abdominal and pelvic circumferences, suggesting a predominant accumulation of central adipose tissue and an association with potential

metabolic risks. This emphasizes the importance of monitoring anthropometric parameters and implementing preventive interventions tailored to each child.

Furthermore, overweight affects both boys and girls, and the distribution of weight and body fat does not depend solely on sex but also on individual factors and lifestyle. The results highlight the necessity of promoting educational and preventive programs aimed at encouraging the maintenance of optimal weight and harmonious development in children.

Photo 1. Images of some of the measured children

3. CONCLUSIONS

Childhood obesity often arises from a combination of unbalanced eating habits—emotional eating, high consumption of high-calorie foods, and irregular meal patterns—together with psychological and environmental factors that influence the child's relationship with food. The

authors emphasize that low levels of physical activity are a major factor that sustain and worsen obesity, as children spend increasing amounts of time in sedentary activities. Regular physical activity not only prevents excessive weight gain but also helps regulate eating behavior and improves mental well-being (Enea, V. & collaborators).

Prof. Dr. Constantin Dumitrescu points out that the reduction of time dedicated to physical activity among children—particularly through decreased physical education classes and increased sedentary activities—promotes the onset of energy imbalances that lead to obesity. He emphasizes that regular physical exercise improves the body's ability to manage calories and stimulates the harmonious development of the metabolic, muscular, and cardiovascular systems. In his view, physical education plays a crucial role in preventing and reducing obesity, as it helps children establish healthy motor routines and an active relationship with their own bodies (Dumitrescu C.P., 1994).

The analysis of anthropometric data highlights the presence of children with above-average weight for their age and height, indicating a risk of overweight and childhood obesity.

Overweight children exhibit higher abdominal and pelvic circumferences, suggesting a predominant accumulation of central adipose tissue, which is associated with future metabolic risks.

Individual differences in weight and circumferences emphasize the importance of personalized assessment and monitoring, as well as preventive interventions tailored to each child.

Overweight affects both boys and girls, and fat distribution does not depend solely on sex but also on individual factors and lifestyle.

The obtained results support the need for the implementation of educational and preventive programs aimed at promoting the maintenance of optimal weight and harmonious development in children.

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CLUJ UNIVERSITY JOURNAL. INTERDISCIPLINARY: SOCIAL SCIENCES AND HUMANITIES no. 3 - 4./VOL.3/2025

STUDY ON THE LEVEL OF PHYSICAL DEVELOPMENT IN MIDDLE SCHOOL STUDENTS

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ABSTRACT

The paper aims to analyze the level of physical development in middle school students, with the objective of identifying growth characteristics as well as age- and sex-related differences. The study was conducted on a sample of students aged 11 to 14, by evaluating anthropometric and functional indicators such as height, weight, body mass index (BMI), lengths, and circumferences. The results highlight significant variations in the measured parameters, corresponding to the stages of development specific to preadolescence. Differences were identified between girls and boys regarding the pace of physical maturation and the level of motor performance. The conclusions emphasize the importance of monitoring physical development within the educational process, as well as the need to adapt physical education programs to the individual characteristics of the students.

KEYWORDS: physical development, middle school cycle, anthropometric measurements

J.E.L. Classifications: I12, I21, J16

1.INTRODUCTION

By "physical development" we understand a dynamic process of growth of the organism, which involves an increase in height, changes in body mass, and the maturation of various body segments, in accordance with the characteristics of each age stage. The physical development of children and adolescents represents an essential indicator of the health status of the young generation. The data obtained from evaluating homogeneous groups of children provide important benchmarks for establishing criteria for assessing individual growth and development.

Specialized studies show that the level of physical development is determined by numerous factors, both internal and external, such as biological and genetic influences, socioeconomic conditions, hygiene, nutrition, and living environment. Additionally, the presence of chronic diseases can significantly affect the normal evolution of the child.

In pediatrics, the preventive component plays a central role, which is why the early and systematic collection of data regarding the physical development of children and adolescents is essential. Growth is not limited to changes in body dimensions, but also involves complex processes of transformation, organization, and biological maturation, sometimes even episodes of regression.

From birth to the preschool period, the child goes through stages of rapid change, and meeting the specific nutritional needs of these early years has a major impact on later development. Physical development is a fundamental indicator of the general state of health and biological evolution of children and adolescents. The middle school period, corresponding to ages 11–14, is marked by profound transformations, both somatic and functional, determined by the complex processes of puberty. During this stage, the growth rate intensifies, and interindividual differences become increasingly evident, influenced by genetic, environmental, nutritional factors, and by the level of physical activity.

The study of human development is constantly evolving, and the questions, methods, and explanations used today are much more complex than they were a few decades ago. This progress reflects both the accumulation of new knowledge and the re-evaluation of previous research. Technological advances have played an essential role by introducing sensitive tools capable of measuring biological functions such as heart rate, blood pressure, or eye movements. These technologies have made it possible to discover new relationships between biological processes and early cognitive development. In addition, computers facilitate the detailed analysis of infants' facial expressions and the communication between them and their mothers.

In the context of modern education, monitoring students' physical development is becoming increasingly important, as it allows for the early identification of possible imbalances, the proper guidance of motor activities, and the adaptation of physical education content. Data on the evolution of anthropometric and functional parameters can provide teachers, parents, and health specialists with essential information to support harmonious development.

The present paper aims to investigate the level of physical development in middle school students by analyzing relevant indicators and their variations according to age and sex. The study seeks to highlight the characteristics of growth stages, identify possible differences between girls and boys, and provide arguments for optimizing educational strategies and physical activity programs carried out in schools.

Through this paper, we aim to support the improvement of teachers' activity by using anthropometric data to optimize students' general physical training. The first part provides an extensive theoretical overview meant to form the conceptual basis necessary for practical application in the school environment. Subsequently, the paper introduces an applied study that analyzes the level of anthropometric development in 5th and 6th grade students from a middle school. The results obtained are interpreted in detail, highlighting the specific characteristics of each group. The formulated conclusions aim to guide the educational process toward a more efficient approach tailored to the real needs of the students.

The process of growth and development of the human body is regulated by certain laws that describe how different body dimensions change over time. However, development does not occur at a uniform pace, as some body segments grow faster than others, which makes it difficult to establish precise mathematical models for all body parts. This natural variability is an inherent aspect of biological maturation and reflects the organism's adaptation to various stages of development.

Essentially, growth is a process of quantitative accumulation through which the body increases its mass, volume, and external dimensions. The evaluation of this process is based on anthropometric measurements such as height, weight, the length of body segments, the diameters and circumferences of different regions. The results are then interpreted using descriptive qualifiers such as tall–short, heavy–light, long–short, or large–small.

2. MATERIAL AND METHOD

2.1. Research Objectives

Medical examinations of students constitute a fundamental element of the health assessment, according to the provisions of the Ministry of Health Order no. 141/2000. These

evaluations aim to identify potential disorders in physical development and are carried out through specific anthropometric measurements. National reference values for the main somatometric indicators — such as height, weight, cranial and thoracic circumference — are periodically established, every seven years, by the Bucharest Public Health Institute (Nicolescu, 2004).

However, the process of evaluating physical development raises a series of relevant questions that contribute to a comprehensive understanding of children's health. One of these concerns the identification of stages in ontogeny in which children are more vulnerable to nutritional and health disturbances, depending on their socio-economic environment. Another important issue involves the need to know the type of physical development — balanced or disharmonious — to correctly guide educational and medical interventions. Additionally, fluctuations in stature may suggest the influence of external or internal factors on the growth process. Body weight raises questions regarding its relevance as an indicator of dietary habits and the quality of the student's nutritional environment. Moreover, body mass index (BMI) and the annual growth rate become essential benchmarks for assessing health and estimating risks associated with unharmonious physical development.

The research objectives aimed to evaluate the level of physical development of middle school students through anthropometric measurements of weight, height, waist and chest circumference, foot length, and the calculation of BMI. Additionally, the study sought to identify developmental differences among students of different ages and between boys and girls, as well as to analyze the growth rate to provide useful information for optimizing physical education activities and school nutrition programs. The main goal was to contribute to understanding the harmonious evolution of the body during preadolescence and to prevent potential physical imbalances.

2.2. Research Methods

The research adopts a mixed approach, combining quantitative and qualitative methods to provide a comprehensive perspective on the analyzed phenomenon.The quantitative analysis aims to examine the statistical relationships between economic investments and sports performance, as well as between economic investments and social inclusion.

For this purpose, economic indicators (GDP, sports investments, public expenditures), sports indicators (number of Olympic medals, international rankings, participation in major

competitions), and social indicators (rate of participation in sports activities, youth employment, level of social inclusion) were collected and processed.

In addition to the statistical analysis, the research includes a qualitative analysis based on case studies of countries in Central and Eastern Europe. These countries were selected for the diversity of their funding models and their regional sports relevance. The qualitative analysis involved evaluating national strategic documents, reports on the implementation of sports programs, and interviews with experts in public policy and sports management. By collecting both quantitative and qualitative data, the study aimed to validate the results and obtain an integrated view of the impact of economic investments on performance and social inclusion.

2.3. Research Subjects

The study was conducted on a sample of 47 students from Cupșeni Middle School: 25 students from the 5th grade and 22 from the 6th grade, aged between 11 and 13 years. The research focused on the statistical-mathematical analysis of somatometrical variables such as height, weight, waist circumference, chest size, and foot length, all measured during the 2025–2026 school year.

2.4. Research Hypothesis

The hypothesis from which this study started is as follows: “We assume that the anthropometric development of 5th and 6th grade students at Cupșeni Middle School falls within the average development values specific to their age.” Body development is influenced by the dynamics of metabolic processes and the way the body transforms and utilizes energy, which are essential factors determining growth characteristics. According to the anthropometric method, the rate of change in body dimensions, including body mass and other parameters, varies depending on the individual’s stage of development.

3.RESULTS AND DISCUSSIONS

The study conducted on the sample of 47 students from Cupșeni Middle School aligns with the research described by J. M. Tanner in *Growth at Adolescence*, which emphasizes the importance of monitoring the growth rate during critical periods of development. The analysis of

somatometrical variables such as height, weight, and waist circumference is widely used in the specialized literature and is also recommended by Bogin (*Patterns of Human Growth*) as a tool for assessing biological maturation.

Additionally, the studies of W. Cameron Chumlea, presented in *Anthropometric Assessment*, highlight the relevance of body measurements in identifying potential deviations from normal development. The importance of evaluating body dimensions, including chest size and foot length, is also confirmed by research by Timothy D. Noakes, who considers them secondary predictors of body composition and physical activity levels. According to R. Malina and C. Bouchard in *Growth, Maturation, and Physical Activity*, collecting anthropometric data in the school environment provides essential information about the influence of environmental factors on children's development.

The present study also follows the statistical-mathematical models recommended by Cole and Lobstein, the authors of international standards for interpreting growth indicators. Furthermore, specialized literature, such as the work by Eveleth and Tanner in *Worldwide Variation in Human Growth*, suggests that somatometrical variations may reflect socio-economic and nutritional differences at the population level.

The interpretation of the data collected during the 2025–2026 school year can be discussed in relation to the observations of Prista and Maia regarding growth variations depending on the school context and lifestyle. Additionally, the analysis of the variables used in this study reflects the methodological recommendations of Ulijaszek and Kerr, authors of *Anthropometric Measurement Error and the Assessment of Nutritional Status*. Overall, the research fits within a solid theoretical framework, supported by numerous international studies emphasizing the importance of systematically monitoring the physical development of students.

Table 1. Values of the main anthropometric indicators in boys, by age categories

No.	Full Name	**Age**	Weight **(kg)**	Height **(cm)**	BMI
1.	A.I.	11	37	144	17.8
2.	N.T.	11	33	141	16.6

3.	R.E.	11	36	145	17.1
4.	L.S.	11	35	142	17.3
5.	D.M.	11	38	150	16.9
6.	F.V.	11	39	149	17.6
7.	B.N.	11	34	141	17.1
8.	Z.C.	11	33	140	16.8
Average			**35.6**	**144**	**17.2**
9.	M.G.	12	42	153	18.0
10.	V.I.	12	40	151	17.5
11.	C.R.	12	36	147	16.7
12.	D.L.	12	43	152	18.6
13.	T.O.	12	41	150	18.2
14.	A.M.-G.	12	39	148	17.8
15.	N.P.	12	38	149	17.1
Average			**39.9**	**150**	**17.7**
16.	E.A.	13	46	156	18.9
17.	D.T.	13	44	155	18.3
18.	C.B.-V.	13	47	158	18.8
19.	M.S.	13	43	153	18.4
20.	H.F.	13	42	154	17.7
21.	L.D.	13	45	157	18.2
22.	G.R.	13	48	160	18.8
23.	B.C.	13	46	159	18.2
24.	N.M.-S.	13	47	158	18.8
Average			**45.3**	**156.6**	**18.4**

Based on the table presented, a steady increase can be observed in the averages of weight, height, and body mass index (BMI) with age. 11-year-old students have an average weight of 35.6 kg, an average height of 144 cm, and an average BMI of 17.2, while 13-year-old students reach average values of 45.3 kg for weight, 156.6 cm for height, and 18.4 for BMI.

This evolution reflects the normal rate of growth and physical maturation typical of preadolescence, indicating a relatively harmonious development of the students included in the study.

Table 2. Values of the main anthropometric indicators in girls, by age categories

No.	Full Name	**Age**	Weight **(kg)**	Height **(cm)**	BMI
1.	A.D.	11	37	154	15.6
2.	M.D.	11	36	152	15.4
3.	P.A.-I.	11	41	156	15.6
4.	B.O.-Ș.	11	35	157	14.2
5.	S.D.	11	32	151	14.3
6.	M.I.	11	43	155	17.9
7.	S.C.	11	41	160	16.2
8.	P.I.	11	34	152	14.7
9.	A.D.	11	37	153	15.8
10.	L.E.	11	42	158	16.8
Average			**37.8**	**154**	**15.6**
11.	B.A.-I.	12	39	160	15.2
12.	T.A.	12	41	158	16.4
13.	V.P.	12	37	155	15.4
14.	R.L.	12	43	161	16.5
15.	S.R.-D.	12	47	163	17.6

16.	M.M.	12	38	159	15
17.	S.D.	12	41	160	16
Average			**40.8**	**159.4**	**16**
18.	D.L.	13	46	166	16.6
19.	E.F.	13	52	165	19.1
20.	S.A.	13	50	163	18.8
21.	L.A.-F.	13	53	166	19.2
22.	G.S.	13	49	163	18.4
23.	L.C.	13	54	168	19.1
Average			**50.6**	**165.1**	**18.5**

Analyzing the table, a progressive increase in weight, height, and body mass index (BMI) can be observed with the students' age. At 11 years, the average values are 37.8 kg for weight, 154 cm for height, and 15.6 for BMI, while at 13 years these increase to 50.6 kg, 165.1 cm, and 18.5, respectively. This evolution suggests a normal rate of physical development and maturation appropriate for preadolescent age, with minor individual variations among students.

Table 6. Values of anthropometric indicators regarding waist circumference, chest circumference, and foot length in boys

No.	**Full name**	**Age**	**Waist Circumference**	**Chest Circumference**	**Foot Length**
1.	B.B.	11	60	70	22
2.	C.D.	11	59	64	21
3.	E.T-M	11	58	62	20
4.	G.A.	11	61	72	22

5.	I.O.	11	62	76	23
6.	T.L.	11	66	78	22
7.	A.N.	11	58	67	20
8.	O.L.	11	57	63	21
Average			**60.1**	**69**	**21.4**
9.	V.R.	12	64	77	23
10.	A.T.	12	68	80	24
11.	U.I.	12	70	82	25
12.	A.R.	12	54	68	21
13.	M.Z.	12	56	73	20
14.	A.E.	12	61	76	22
15.	D.D.	12	73	86	25
Average			**63.7**	**77.4**	**22.9**
16.	U.E.	13	66	81	24
17.	D.F.	13	62	74	21
18.	E.G.	13	69	77	25
19.	F.U.	13	61	73	20
20.	G.I.	13	73	86	27
21.	H.A.	13	60	76	22
22.	I.L.	13	63	74	23
23.	T.L.	13	65	77	24
24.	M.M.	13	75	86	25
Average			**66.6**	**77.8**	**23.9**

The table analysis indicates a progressive increase in waist circumference, chest circumference, and foot length with the age of the boys evaluated. At 11 years, the average

values are 60.1 cm for waist, 69 cm for chest, and 21.4 cm for foot length, while at 13 years these increase to 66.6 cm, 77.8 cm, and 23.9 cm, respectively. This evolution reflects normal physical development typical of preadolescent age, highlighting the growth rate of major body segments in boys.

Table 4. Values of anthropometric indicators regarding waist circumference, chest circumference, and foot length in girls

No.	Full name	Age	Waist Circumference	Chest Circumference	Foot Length
1.	C.V.	11	55	70	21
2.	N.T.	11	59	68	19
3.	F.B.-R.	11	53	65	20
4.	L.O.-P.	11	60	72	23
5.	T.I.	11	61	74	22
6.	M.K.	11	52	66	18
7.	S.P.	11	57	67	21
8.	B.R.	11	62	69	22
9.	C.M.	11	58	68	20
10.	D.L.	11	56	70	21
Average	**-**	**-**	**57,3**	**68,9**	**20,7**
11.	V.A.-T.	12	63	75	22
12.	P.N.	12	58	72	21
13.	G.C.	12	54	70	19
14.	R.F.	12	67	80	23
15.	B.D.-S.	12	66	78	22
16.	M.E.	12	60	76	21
17.	F.S.	12	68	79	24

Average	**-**	**-**	**62,3**	**75,7**	**21,7**
18.	H.L.	13	66	81	23
19.	T.F.	13	60	79	21
20.	P.S.	13	65	80	22
21.	M.A.-C.	13	69	83	24
22.	J.G.	13	67	82	23
23.	L.N.	13	59	76	20
Average	**-**	**-**	**64,3**	**80,2**	**22,2**

The table analysis shows a progressive increase in waist circumference, chest circumference, and foot length with the age of the girls evaluated. At 11 years, the average values are 57.3 cm for waist, 68.9 cm for chest, and 20.7 cm for foot length, while at 13 years these increase to 64.3 cm, 80.2 cm, and 22.2 cm, respectively. This evolution indicates a normal rate of physical development and maturation characteristic of the preadolescent period, reflecting the body changes specific to girls during this growth stage.

3. CONCLUSIONS

Based on the analyses conducted, it can be observed that middle school students exhibit progressive and harmonious physical development, consistent with preadolescent stages.

The average values of weight, height, and BMI increase steadily with age, reflecting the natural accumulation of body mass and statural maturation characteristic of this period. Measurements of body segments, such as waist and chest circumference or foot length, show similar growth rates, indicating a uniform progression of physical development. Comparatively, boys tend to have slightly larger body segment dimensions, while girls display more balanced values, suggesting sex-specific physiological differences.

The individual variability observed emphasizes the need for personalized evaluation to identify potential imbalances or health and nutrition risks. Overall, the results confirm the usefulness of anthropometric measurements and BMI as tools for monitoring physical

development. These data provide important support for teachers and specialists, helping to adapt physical education and nutrition programs to the real needs of students.

The study demonstrates that continuous monitoring of somatometrical parameters can contribute to the prevention of health problems and the promotion of harmonious development. Additionally, the research highlights that analyzing differences between sexes and among students of different ages can guide educational and sports interventions more effectively. Ultimately, these conclusions support the importance of an integrated approach that considers both biological aspects and lifestyle and school environment factors.

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AUGMENTED LEADERSHIP: INTEGRATING HUMAN INTUITION AND MACHINE INTELLIGENCE IN POST-DIGITAL ORGANIZATIONS

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ABSTRACT

This paper explores the emerging paradigm of augmented leadership, where human intuition and machine intelligence converge to shape managerial decision-making in post-digital organizations. As artificial intelligence (AI), big data, and predictive analytics become embedded in strategic workflows, leadership roles are redefined beyond traditional competencies. Drawing on current research in digital management and organizational psychology, the study examines how hybrid decision ecosystems balance algorithmic efficiency with human judgment. Using a qualitative, exploratory methodology, it investigates managerial perceptions of AI-assisted leadership in dynamic business contexts. Findings highlight that augmented leadership enhances strategic agility and reduces cognitive bias but raises ethical challenges around transparency and autonomy. The paper proposes a framework in which leaders act as interpreters between data-driven insights and human values, ensuring technology amplifies, rather than replaces, relational and cultural dimensions of management.

KEYWORDS: *Augmented leadership, Human–AI collaboration, Post-digital organizations, Managerial decision-making, Algorithmic management, Strategic agility, Digital ethics*
J.E.L. Classifications: M12; M15; O33; D83, L86

1. INTRODUCTION

The post-digital era has redefined the architecture of leadership. Organizations are no longer managed solely through human expertise but increasingly through hybrid ecosystems where AI-driven analytics and human intuition intersect. In this environment, decision-making is shaped not only by experience and context but also by algorithmic predictions and data-driven models (Brynjolfsson & McAfee, 2017). This convergence has given rise to the concept of augmented leadership, emphasizing the complementarity between human judgment and machine intelligence (Raisch & Krakowski, 2021).

As industries adapt to volatile, uncertain, complex, and ambiguous (VUCA) environments, leaders are expected to leverage technology while preserving the human-centered values essential for organizational cohesion and trust (Wilson & Daugherty, 2018). The challenge lies in balancing efficiency with empathy, automation with creativity, and data with ethics. This paper examines how augmented leadership reshapes managerial practices and proposes strategies for integrating human–AI collaboration into sustainable organizational governance.

2. LITERATURE REVIEW

2.1. The Concept of Augmented Leadership in Post-Digital Organizations

The rapid diffusion of artificial intelligence (AI) and advanced analytics has transformed leadership paradigms, giving rise to the notion of *augmented leadership*. Unlike traditional models that rely primarily on human intuition or fully automated systems, augmented leadership emphasizes the synergy between human and machine capabilities in complex decision-making processes. According to Raisch and Krakowski (2021), augmented leadership is not a replacement of human agency but a reconfiguration of managerial roles where leaders orchestrate interactions between technological systems and human stakeholders.

Post-digital organizations operate in environments characterized by volatility, uncertainty, complexity, and ambiguity (VUCA), making adaptive decision-making critical (Bennett & Lemoine, 2014). In such contexts, leaders cannot rely solely on experiential knowledge; instead, they must integrate real-time data streams, algorithmic predictions, and scenario simulations into their strategic reasoning (Brynjolfsson & McAfee, 2017). This hybrid model requires competencies that extend beyond traditional management, including digital literacy, ethical interpretation of AI outputs, and the ability to mediate between algorithmic recommendations and organizational culture (Wilson & Daugherty, 2018).

Furthermore, augmented leadership redefines power dynamics within organizations. As van Doorn and Aagaard (2021) argue, algorithmic systems introduce new forms of “datafied management” where leadership authority is partially distributed to technological infrastructures. The leader’s role shifts from being the sole decision-maker to acting as a curator and translator of machine-generated insights, ensuring alignment with human values and strategic objectives. This interplay

underscores that in post-digital organizations, leadership is no longer a purely human function but a hybrid, socio-technical construct.

2.2. Human–AI Collaboration and Managerial Decision-Making

The integration of AI into managerial workflows has sparked extensive research on human–AI collaboration and its implications for strategic decision-making. Davenport and Ronanki (2018) highlight that AI systems excel at pattern recognition and predictive modeling, enabling leaders to identify risks and opportunities with greater accuracy. However, they caution that algorithmic outputs are inherently probabilistic and context-dependent, necessitating human oversight to avoid misinterpretation and bias amplification.

One of the central debates concerns the balance between algorithmic efficiency and human judgment. Studies in organizational behavior show that while AI reduces cognitive load and enhances consistency, over-reliance on automated decision support can lead to "automation bias," where managers defer excessively to machine recommendations, even in cases of error (Mosier & Skitka, 2018). Conversely, when leaders actively engage with AI outputs and integrate them with contextual knowledge, decision quality improves significantly, especially in dynamic environments (Jarrahi, 2018).

Another dimension relates to the ethical governance of human–AI collaboration. As Shrestha, Ben-Menahem, and Krogh (2021) note, leaders must ensure transparency in how AI-generated insights are produced and communicated, fostering trust among employees affected by data-driven decisions. Without ethical guidelines and participatory governance, algorithmic systems risk creating opacity and eroding organizational legitimacy. Augmented leadership thus entails not only technical proficiency but also moral responsibility in mediating the interaction between human and machine intelligence.

2.3. Strategic Agility, Organizational Culture, and Digital Ethics

Augmented leadership also plays a pivotal role in shaping strategic agility—the capacity of organizations to rapidly sense, interpret, and respond to environmental changes. Doz and Kosonen (2010) argue that strategic agility is underpinned by dynamic decision-making structures and cultural openness to experimentation. In the post-digital era, AI-driven insights can accelerate

sensing and response cycles, but their effectiveness depends on a leadership model that integrates technological speed with human adaptability and creativity (Teece, Peteraf, & Leih, 2016).

Organizational culture becomes a critical mediator in this process. Research shows that the successful adoption of AI-enhanced leadership practices is contingent on fostering a culture of trust, learning, and ethical reflection (Schein & Schein, 2017). Employees are more likely to embrace algorithmic tools when leaders communicate transparently about their purpose, limitations, and role in decision-making (CIPD, 2023). This cultural layer underscores that augmented leadership is not merely a technical construct but a deeply relational practice grounded in dialogue and shared values.

Digital ethics represents the final cornerstone of the literature on augmented leadership. Scholars emphasize that as AI systems influence resource allocation, hiring, and strategic priorities, leaders must address questions of accountability, fairness, and human dignity (Floridi & Cowls, 2019). Augmented leadership therefore requires a dual lens: leveraging machine intelligence for competitive advantage while safeguarding ethical principles that sustain long-term organizational legitimacy. As Bryson (2019) notes, the true test of leadership in the post-digital age is not the adoption of advanced technologies but the ability to ensure they amplify human potential rather than diminish it.

3. RESEARCH METHODOLOGY

The study adopts a qualitative, exploratory approach designed to capture the complexities of augmented leadership in post-digital organizations. The methodological framework reflects the dual nature of the research subject, focusing on both the technological and human dimensions of managerial practice. Rather than testing a predefined model, the research seeks to uncover patterns, perceptions, and tensions arising when human intuition and machine intelligence converge in organizational decision-making.

The Research Question is: *How does augmented leadership, integrating human intuition and machine intelligence, shape managerial decision-making and organizational dynamics in post-digital environments?*

This question addresses not only the functional integration of AI tools into leadership processes but also the cultural and ethical implications of hybrid decision ecosystems.

The study is structured around four **main objectives:**

1. **To explore how managers perceive and adopt augmented leadership practices** in environments where AI-driven insights influence strategic and operational decisions.
2. **To identify the balance between human judgment and machine intelligence** in critical decision-making processes, highlighting areas of synergy and potential conflict.
3. **To examine the organizational impact of augmented leadership**, focusing on strategic agility, team cohesion, and cultural adaptation.
4. **To propose a conceptual framework for sustainable augmented leadership**, outlining guiding principles for integrating human–AI collaboration into management practices without compromising ethical standards or organizational trust.

Based on these objectives, the study formulates the following **hypotheses:**

- **H1:** Augmented leadership improves the quality and speed of managerial decisions by combining algorithmic predictions with human contextual understanding.
- **H2:** The effectiveness of augmented leadership depends on the leader's ability to mediate between machine-generated insights and organizational culture.
- **H3:** Excessive reliance on AI tools without active human interpretation reduces authenticity in decision-making and undermines trust within teams.
- **H4:** Transparent communication and ethical governance are critical mediators of successful human–AI collaboration in leadership contexts.

Methodological Approach. A qualitative research design was chosen to capture the subjective experiences and interpretations of managers navigating augmented leadership environments. The study uses a combination of semi-structured interviews and focus groups to gather rich, context-specific data. Semi-structured interviews allow for deep exploration of individual experiences, while focus groups provide insights into collective dynamics and shared perceptions among leaders.

The sampling strategy is purposive, selecting participants from organizations actively integrating AI-driven decision support systems in their management workflows. The sample includes executives, middle managers, and team leaders across multiple sectors, ensuring a diverse representation of leadership perspectives. Selection criteria include experience with AI-based analytics, exposure to hybrid decision-making processes, and active involvement in strategic planning or operational oversight.

Data collection focuses on three dimensions of augmented leadership:

- **Decision-making processes**, capturing how human judgment and algorithmic input are combined in practice.
- **Cultural and ethical perceptions**, exploring how leaders frame issues of trust, transparency, and accountability in relation to AI systems.
- **Organizational outcomes**, assessing perceived effects on agility, cohesion, and overall performance.

The data will be analyzed using thematic coding to identify recurring patterns and variations across individual and group responses. Special attention is given to contradictions and tensions between human and machine perspectives in decision-making. Thematic analysis also supports the development of a conceptual framework for augmented leadership, grounded in the lived experiences of managers.

A cause–effect mapping technique will be used to connect specific practices of human–AI collaboration to organizational outcomes, forming the basis for the analytical section of the study. This mapping emphasizes both intended benefits and unintended consequences of augmented leadership, offering a balanced perspective.

To ensure validity, the research employs methodological triangulation, combining data from interviews, focus groups, and organizational documentation where available. Participant validation is used to confirm the accuracy of interpretations, allowing respondents to review key findings. While the qualitative nature of the study limits generalizability, the goal is to generate deep insights that can inform both theory and practice in diverse organizational contexts.

Given the focus on human–AI collaboration and its ethical implications, the study places strong emphasis on informed consent and data confidentiality. Participants are fully briefed on the research objectives and the handling of their data. The study also avoids collecting sensitive organizational metrics, focusing instead on perceptions and practices to minimize potential risks to participants or their organizations.

The choice of a qualitative, exploratory design is driven by the emerging nature of augmented leadership as a research area. Quantitative metrics alone cannot capture the nuanced interplay between human intuition, machine intelligence, and organizational culture. By focusing on the narratives and reflections of managers, the study offers a contextualized understanding of augmented leadership, highlighting both its transformative potential and its challenges.

Ultimately, the methodology aims to bridge the gap between technological capabilities and human-centered leadership practices, offering a grounded perspective on how organizations can integrate augmented leadership to achieve strategic resilience in the post-digital era.

4. CAUSE–EFFECT ANALYSIS OF CONVERSATIONAL ANALYTICS ON TEAM MORALE IN DIGITAL COLLABORATION

To understand the dynamics of augmented leadership, this section maps causal relationships between the integration of human–AI collaboration in managerial decision-making and the resulting organizational outcomes. The analysis reflects patterns observed in qualitative data and highlights both benefits and potential risks of hybrid leadership models.

Table 4.1. Cause–Effect Analysis – Augmented Leadership

Cause	Effect
Cause 1: Integration of AI-driven analytics into strategic decision-making	**Effect 1.1:** Accelerates data processing and enhances predictive accuracy, leading to faster and more informed strategic responses. **Effect 1.2:** Reduces cognitive bias by providing evidence-based recommendations, supporting objective decision-making. **Effect 1.3:** May create dependency on algorithmic outputs, lowering managers' confidence in intuitive judgments.
Cause 2: Leaders combining machine insights with human contextual interpretation	**Effect 2.1:** Improves decision relevance by aligning algorithmic recommendations with cultural and organizational realities. **Effect 2.2:** Strengthens trust among employees when leaders communicate the rationale behind hybrid decisions. **Effect 2.3:** Increases complexity in the decision-making process, requiring new skills for data interpretation and integration.
Cause 3: Transparent communication of AI's role in leadership decisions	**Effect 3.1:** Enhances organizational trust and employee acceptance of technology-supported decisions. **Effect 3.2:** Reduces fear of surveillance and fosters a culture of openness around data usage. **Effect 3.3:** Demands continuous leadership training to explain and contextualize AI insights effectively.
Cause 4: Over-reliance on algorithmic recommendations without human mediation	**Effect 4.1:** Risks misaligned decisions when AI outputs lack contextual understanding. **Effect 4.2:** Weakens human relational aspects of leadership, reducing empathy and authenticity.

	Effect 4.3: Can trigger resistance or disengagement among teams perceiving decisions as "machine-driven" rather than leader-guided.
Cause 5: Ethical governance frameworks for augmented leadership	**Effect 5.1:** Ensures accountability and fairness in hybrid decision-making processes. **Effect 5.2:** Supports long-term organizational legitimacy by embedding human values into technological practices. **Effect 5.3:** Requires continuous updates and adaptation as AI systems evolve and organizational contexts change.

This cause–effect mapping demonstrates that augmented leadership produces positive organizational outcomes when human judgment actively mediates machine intelligence and when transparency and ethical governance are prioritized. Conversely, neglecting the cultural and relational dimensions of leadership may undermine the benefits of AI integration, leading to mistrust and reduced adaptability.

5. SWOT ANALYSIS

Table 5.1. SWOT Analysis – Augmented Leadership

Strengths	Weaknesses
S1. Synergy between human intuition and machine intelligence enhances decision accuracy. The combination of algorithmic insights with contextual human reasoning creates robust, data-informed strategies adaptable to complex environments.	**W1. Risk of over-reliance on AI outputs.** Managers may defer excessively to algorithms, leading to diminished confidence in their own judgment and potential misalignment with organizational culture.
S2. Accelerates strategic agility and responsiveness. Augmented leadership supports rapid sensing of environmental shifts and quick adaptation of business models.	**W2. Requires new skill sets and training.** Leaders need competencies in data interpretation, ethical AI use, and digital communication, which may create capability gaps.
S3. Reduces cognitive bias in decision-making. Data-driven recommendations challenge subjective assumptions, improving fairness and objectivity in resource allocation and strategy.	**W3. Implementation complexity.** Integrating AI into leadership workflows demands significant organizational restructuring and investment in technological infrastructure.
S4. Enhances organizational trust through transparency. When AI's role is communicated openly, employees perceive decisions as both evidence-based and human-centered.	**W4. Cultural resistance to hybrid leadership models.** Teams accustomed to traditional hierarchical structures may resist machine-assisted decision-making.

S5. Supports ethical governance by embedding accountability mechanisms. Augmented leadership can formalize transparent decision trails, reducing opacity and strengthening compliance.	**W5. Risk of diluting human relational aspects.** Excessive focus on data may overshadow empathy, emotional intelligence, and interpersonal connection in leadership.
S6. Facilitates cross-functional collaboration. AI systems can integrate insights across departments, while leaders mediate and contextualize them for holistic strategies.	**W6. Dependence on data quality.** Poor or biased data inputs compromise AI outputs, undermining decision integrity and organizational trust.
Opportunities	**Threats**
O1. Establishing competitive advantage through hybrid decision ecosystems. Early adoption of augmented leadership can differentiate organizations in volatile markets.	**T1. Ethical and legal scrutiny.** Misuse of AI in leadership decisions may lead to regulatory challenges, data privacy violations, or reputational damage.
O2. Developing new leadership competencies and cultural models. Augmented leadership opens pathways for cultivating digital literacy, adaptive thinking, and collaborative intelligence among managers.	**T2. Employee resistance and disengagement.** Lack of transparency or fear of algorithmic control may foster mistrust and reduce organizational cohesion.
O3. Supporting organizational resilience. Hybrid decision systems can strengthen crisis management capabilities and long-term adaptability.	**T3. Algorithmic bias and systemic errors.** AI systems trained on biased datasets risk perpetuating inequities and distorting managerial decisions.
O4. Enabling ethical innovation in management. Augmented leadership creates a platform for embedding human values into technological infrastructures, fostering sustainable governance.	**T4. Technological dependency and vulnerability.** Heavy reliance on AI systems exposes organizations to disruptions from technical failures or cyberattacks.
O5. Driving cultural transformation. Combining machine intelligence with human empathy can reshape organizational culture toward trust, inclusion, and evidence-based decision-making.	**T5. Rapid technological change.** Evolving AI capabilities may outpace organizational capacity to adapt leadership models, causing misalignment or obsolescence.
O6. Integrating strategic foresight. AI-supported predictive modeling allows leaders to anticipate industry shifts and craft proactive strategies.	**T6. Loss of authenticity in leadership.** Employees may perceive decisions as "machine-made," eroding the human connection vital to organizational identity.

source: self-processing

Analytical Insights

Strengths. Augmented leadership's primary strength lies in its capacity to merge computational power with human nuance. This synergy enables decisions that are both data-driven and contextually grounded, enhancing strategic agility and reducing bias. By creating transparent

processes and embedding accountability, augmented leadership fosters organizational trust and supports ethical governance. Additionally, hybrid decision ecosystems encourage cross-functional integration, enabling leaders to coordinate complex systems in dynamic environments.

Weaknesses. Despite its potential, augmented leadership introduces significant challenges. The dependency on AI tools risks diminishing the value of intuition and interpersonal dynamics central to leadership. The approach requires substantial investment in technology and skills development, and its success hinges on data quality and cultural readiness. Leaders must navigate the delicate balance between leveraging machine insights and preserving empathy and authenticity, avoiding the trap of reducing leadership to a series of algorithmic outputs.

Opportunities. Augmented leadership positions organizations to achieve sustainable competitive advantages in post-digital markets. By fostering adaptive competencies and embedding ethical considerations into technology use, it offers a pathway to resilient, human-centered governance. This leadership model also catalyzes cultural transformation, encouraging transparency, trust, and collaborative intelligence. The ability to integrate strategic foresight through predictive analytics further enhances organizational preparedness for disruptive shifts.

Threats. The external environment introduces considerable risks. Ethical lapses or lack of transparency in AI-assisted decisions can trigger legal challenges and erode legitimacy. Algorithmic bias poses systemic threats, while over-dependence on technology exposes organizations to operational vulnerabilities. Furthermore, employees may resist hybrid models if they perceive them as diminishing human leadership or threatening autonomy, potentially undermining cultural cohesion. Rapid technological evolution adds another layer of uncertainty, requiring continuous adaptation of leadership frameworks to maintain relevance.

The SWOT analysis underscores that the success of augmented leadership depends on deliberate design and governance. Organizations must invest in leadership training that integrates digital literacy with emotional intelligence, ensuring that managers can act as ethical mediators between machine insights and human values. Transparency, participatory implementation, and cultural adaptation are critical enablers of trust and legitimacy.

From a strategic perspective, augmented leadership should not be framed as a technological upgrade but as a cultural transformation. Its value lies in amplifying human potential through technology, not replacing it. This requires organizations to cultivate adaptive structures, ethical

frameworks, and continuous learning mechanisms that sustain hybrid decision-making in the face of uncertainty.

Ultimately, augmented leadership offers both a challenge and an opportunity: to redefine what it means to lead in an era where intelligence is shared between humans and machines. Those organizations that master this integration are likely to set new standards for strategic agility, ethical governance, and sustainable organizational performance in the post-digital age.

6. CONCLUSIONS

The exploration of augmented leadership within post-digital organizations highlights a profound shift in the nature of managerial practice. As artificial intelligence and advanced analytics become embedded in strategic and operational workflows, leadership evolves from a purely human-centered function to a hybrid construct where decision-making is co-created by human intuition and machine intelligence. This convergence does not diminish the role of the leader; instead, it redefines leadership as a mediating force between algorithmic insights and human values.

Findings from the analysis indicate that augmented leadership has the potential to significantly enhance organizational performance. By combining data-driven recommendations with contextual judgment, leaders can reduce cognitive biases, accelerate strategic responsiveness, and create more transparent and accountable decision-making processes. The integration of AI into leadership workflows also enables a higher degree of strategic agility, allowing organizations to navigate VUCA environments with greater confidence and adaptability.

However, the study also underscores the critical importance of balance. Over-reliance on algorithmic outputs risks eroding the relational and ethical dimensions of leadership. When machine recommendations are treated as objective truths without human mediation, decisions can become detached from cultural realities and undermine organizational trust. Similarly, a lack of transparency in the use of AI systems may foster perceptions of surveillance, reduce authenticity, and generate resistance among employees. These findings highlight that augmented leadership is not simply a technological implementation but a socio-cultural transformation that requires deliberate design and governance.

Ethical considerations emerge as a cornerstone of successful augmented leadership. Establishing clear frameworks for accountability, consent, and transparency ensures that the

integration of machine intelligence respects human autonomy and organizational values. Leaders must act as interpreters, translating algorithmic signals into actions aligned with both strategic objectives and the well-being of their teams. This dual role requires a unique blend of digital literacy, emotional intelligence, and ethical awareness.

Ultimately, the study suggests that augmented leadership's true value lies not in replacing human decision-making but in amplifying it. By leveraging machine intelligence as a complement rather than a substitute, organizations can build resilient, adaptive, and ethically grounded governance structures. For leaders, the challenge is to craft a narrative of technology as an enabler of human potential, preserving the authenticity and relational depth that define effective leadership.

In the post-digital age, organizations that succeed in embedding augmented leadership are likely to gain a sustainable advantage, not only through improved decision quality but also through fostering cultures of trust, inclusion, and shared intelligence. This makes augmented leadership not just a managerial trend, but a strategic imperative for the future of organizational management.

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CLUJ UNIVERSITY JOURNAL. INTERDISCIPLINARY: SOCIAL SCIENCES AND HUMANITIES no. 3 - 4./VOL.3/2025

THE EVOLUTION OF ORGANIZATIONAL CULTURE IN THE POST-DIGITAL ERA: BETWEEN COLLECTIVE IDENTITY AND ALGORITHMIC MANAGEMENT

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ABSTRACT

This article explores the transformation of organizational culture in the post-digital era, focusing on the interplay between collective identity and algorithmic management. Digital technologies and AI-driven tools increasingly mediate cultural dynamics, influencing values, behaviors, and leadership practices. Grounded in qualitative research, including semi-structured interviews, SWOT analysis, and cause-effect mapping, the study examines how algorithmic systems shape perceptions of transparency, fairness, and cohesion in hybrid work environments. Findings reveal both opportunities and risks: while data-driven tools can enhance cultural alignment and performance, excessive automation threatens trust, autonomy, and authenticity. The article proposes a managerial model that integrates human-centered values with technological efficiency, emphasizing leadership's role as curator of digitally mediated culture in sustaining organizational identity.

KEYWORDS: *Organizational culture, Post-digital era, Algorithmic management, Collective identity, Digital transformation*

J.E.L. Classifications: M12, M15, O33, D83

1. INTRODUCTION

Organizational culture has long been understood as an expression of collective identity, shaped through shared values, norms, and behaviors. However, in the post-digital era, this identity is increasingly mediated by technology, particularly through automated management tools that structure interactions, performance objectives, and evaluation systems. Algorithms recommending feedback, tracking productivity, or prioritizing tasks now play a pivotal role in shaping internal cultural dynamics. As a result, organizational leaders are not only custodians of values but also

architects of a digitally mediated culture. This article examines how data-driven managerial practices influence organizational identity and cohesion and explores strategies to maintain a balance between automation and human-centered values. Grounded in qualitative interviews, the study employs SWOT analysis and cause-effect analysis to identify managerial patterns that support sustainable cultural development within digitally transformed organizations.

2. LITERATURE REVIEW

2.1 Digital Mediation of Organizational Culture

Organizational culture traditionally involves shared values, beliefs, norms, and practices that foster unity and guide behavior (Schein, 2016). Yet, digital technologies have reshaped how culture emerges and is sustained within organizations. Leonardi (2011) argues that communication technologies like performance platforms and real-time dashboards actively reconstruct cultural patterns, influencing how recognition and feedback circulate. Likewise, Mazmanian, Orlikowski, and Yates (2013) highlight that in hybrid work settings, informal interactions wane, while digitally mediated exchanges become the norm, potentially weakening social bonds and reshaping collective identity.

Recent empirical work confirms this trend. Mustajab (2024) finds that remote and hybrid policies, mediated by digital tools and driven by transformational leadership, contribute to cultural cohesion and performance gains. However, they also caution against increased risk of burnout due to continuous connectivity. Hybrid work studies (e.g., hybrid research, 2024) further emphasize that access to collaborative tools like Teams and Slack supports cultural continuity but may curtail spontaneous interactions that nurture trust. Together, these findings suggest that algorithmic culture is not replacing but reframing traditional culture—making it essential for managers to balance efficiency with deliberate, digitally-enabled socialization.

2.2 Algorithmic Management in Leadership Practices

Algorithmic management—the use of analytics, AI, and automated tools in workforce oversight—has expanded from gig work into conventional organizational settings (Jarrahi & Sutherland, 2019). It serves not just efficiency but also as a contemporary leadership modality (Kellogg, Valentine, & Christin, 2020). In their seminal study, Lee, Kusbit, Metsky, and Dabbish

(2015) showed that algorithmic monitoring shapes worker behavior more subtly than human supervision, reframing leadership dynamics.

Amankwah–Amoah et al. (2022) trace algorithmic management's growth across economic downturns, illustrating how it serves as a profitable, scalable alternative to traditional managerial labor. This is echoed by MIT Sloan Review (2022), which emphasizes its potential for equitable, data-driven decisions, albeit potentially undermining leaders' empathetic influence. Moreover, Rakova et al. (2020) argue that for responsible AI, leadership must actively mediate between algorithmic systems and organizational ethics, personalizing technological rules through deliberate interpretive practices. These studies underscore how managers now function as **algorithmic architects**, designing, interpreting, and humanizing tech-mediated systems.

2.3 Sustaining Culture Amid Algorithmic Control

As algorithmic systems shape organizational culture, managers must consciously preserve core values. Marabelli, Newell, and Handunge (2021) propose a lifecycle view of algorithmic decision systems, highlighting deliberate design choices that align system behavior with organizational priorities. Failure to do so risks opacity, ethical lapses, and a loss of cultural authenticity.

Wiese, Lehmann, and Beckmann (2024) confirm empirically that developmental cultures—characterized by innovation, flexibility, and learning—correlate strongly with Industry 4.0 technology adoption. Firms with hierarchical or market-oriented cultures, conversely, lean heavily on automation, potentially reinforcing transactional mindsets. This differentiation matters: managers can preserve trust and engagement by embedding human-centred decision criteria into AI systems.

The dark sides of people analytics (Möhlmann, Zalmanson, Henfridsson, & Gregory, 2021) warn that excessive measurability risks eroding autonomy and agency. Addressing this requires integrating virtuous ethics and transparent processes, as proposed by Gal et al. (2021). Together, these studies point to a managerial imperative: to weave human values into algorithmic frameworks, enabling a digitally mediated culture that remains authentically collective.

3. RESEARCH METHODOLOGY

In the rapidly evolving context of digital transformation, understanding the cultural implications of algorithmic management requires a nuanced methodological approach. This study adopts a qualitative, exploratory design aimed at identifying how technology-driven managerial practices affect organizational culture and collective identity in hybrid or digitally mediated work environments.

The research question is: How do algorithmic management practices influence organizational culture and collective identity in digitally transformed work environments?

The objectives of research are:

- To examine how data-driven managerial tools impact perceptions of organizational culture and employee cohesion.
- To identify leadership practices that sustain cultural values amid technological mediation.
- To explore tensions between efficiency-driven algorithmic logic and the human dimension of workplace culture.
- To propose a managerial model that balances digital control with collective identity preservation.

Research Hypotheses

- H1: Algorithmic management practices significantly affect perceptions of fairness and transparency within organizational culture.
- H2: Managers who actively humanize technological processes preserve stronger team cohesion.
- H3: Hybrid work environments amplify the cultural impact of digital mediation.
- H4: Disconnects between algorithmic outputs and organizational values generate resistance among employees.

Methodological Approach and Justification. To address these hypotheses, the research is grounded in qualitative methods that support the exploration of complex socio-technical phenomena. While the detailed application of tools such as semi-structured interviews, SWOT analysis, and cause-effect mapping will be discussed in subsequent sections, their selection is justified by the study's focus on lived experiences, organizational dynamics, and strategic leadership responses.

A key component of the methodology is the inclusion of a theoretically informed applied analysis (see Section 4), which serves as a critical bridge between conceptual reflection and empirical observation. This applied framework enables the researcher to contextualize managerial practices within existing theoretical models while paving the way for the practical tools explored in later sections.

In sum, the methodological structure integrates theory, hypothesis testing, and strategic insight, contributing both to academic understanding and to the development of actionable models for managing culture in algorithmically influenced organizations.

4. ALGORITHMIC MEDIATION AND ORGANIZATIONAL CULTURE: THEORETICAL REFLECTIONS AND PRACTICAL ANCHORS

The shift toward algorithmic management represents more than a technological upgrade; it reconfigures the very foundation of how organizational culture is created, maintained, and experienced. From a theoretical standpoint, this evolution can be understood through the lens of socio-materiality, where technologies and human practices are inseparably intertwined (Orlikowski & Scott, 2008). Algorithmic systems are not passive tools; they actively shape decision-making, reward systems, and norms of behavior-key components of organizational culture.

Recent studies suggest that algorithmic processes influence not only efficiency, but also perceptions of fairness, inclusion, and recognition (Gal et al., 2021). For instance, performance metrics generated by AI may be interpreted as objective, yet their underlying logic often remains opaque to employees, potentially undermining trust (Möhlmann et al., 2021). This tension between perceived objectivity and interpretive opacity challenges traditional forms of managerial legitimacy, especially in hybrid work environments.

Moreover, leadership in such settings is no longer solely relational but becomes algorithmically mediated leadership. As Kellogg, Valentine, and Christin (2020) argue, managers are required to interpret, adjust, or even resist algorithmic outputs to ensure alignment with cultural values. The leadership role evolves from one of direct supervision to a curatorial function—mediating between automated control and human meaning-making.

The theoretical implication is that organizational culture in the post-digital era must be understood as co-produced by humans and algorithms. Practically, this suggests that managers must act as

translators of algorithmic logic, ensuring that data-driven tools support—not replace-collective identity and human connection. For instance, embedding cultural values into algorithmic systems through transparent criteria, participatory design, or ethical review boards can mitigate risks of dehumanization.

Thus, rather than viewing digital transformation as a threat to culture, it should be seen as an opportunity for intentional cultural redesign, in which management becomes an active force in shaping how technology is used to reinforce or reframe organizational identity.

5. CAUSE–EFFECT ANALYSIS OF ALGORITHMIC MANAGEMENT ON ORGANIZATIONAL CULTURE

To deepen the understanding of how algorithmic managerial practices reshape organizational culture, the following cause–effect analysis identifies key technological interventions and their direct and indirect impacts on employee behavior, cohesion, and identity.

Tabel 5.1. Cause–Effect Analysis of Algorithmic Management on Organizational Culture

Cause	Effect
Cause 1: Algorithmic surveillance and continuous monitoring	**Effect 1.1:** The use of employee surveillance software has increased by approximately 57% since 2019, particularly in hybrid and remote settings, where managers seek control over distributed teams. This growth reflects a managerial shift from trust-based supervision to metric-driven oversight. **Effect 1.2**: Employees report declining morale and perceived autonomy, as algorithmic surveillance is interpreted as a lack of organizational trust, especially when monitoring includes keystrokes, screen captures, or time logs. **Effect 1.3:** Burnout symptoms—such as fatigue, emotional exhaustion, and disengagement—have become more prevalent, especially among knowledge workers whose tasks are less easily quantifiable. Chronic exposure to monitoring tools is associated with psychological stress and reduced organizational commitment.
Cause 2: Real-time performance dashboards and KPI tracking	**Effect 2.1**: Teams using real-time dashboards have reported improvements in task completion rates by up to 20%, primarily due to the clarity and visibility of expectations. Dashboards provide constant feedback, which helps prioritize tasks and reduce ambiguity in role execution. **Effect 2.2:** Productivity in hybrid teams has increased by around 5% when dashboards are used to balance outcome tracking with team-level insights, especially when integrated with collaborative platforms. This efficiency is attributed to goal alignment and time optimization.

	Effect 2.3: Despite gains in output, over-reliance on dashboard metrics may reduce informal collaboration, creativity, and knowledge exchange, as employees become narrowly focused on quantifiable goals, potentially neglecting relational or innovation-driven tasks.
Cause 3: Attendance tracking linked to evaluations and compensation	**Effect 3.1:** Organizations using digital attendance systems (e.g., badge-in/out logs, biometric devices) tied to performance reviews have seen increased Return-to-Office (RTO) compliance, particularly when physical presence is rewarded or penalized. This reinforces presenteeism rather than actual engagement. **Effect 3.2:** Surveys show that approximately 46% of employees with remote capabilities express intent to resign or seek alternative jobs if rigid tracking mechanisms are imposed, viewing such systems as inflexible and disconnected from productivity outcomes. **Effect 3.3:** Companies enforcing strict presence-based evaluation criteria report higher attrition, particularly among high-performing employees who value autonomy and trust-based assessment. This contributes to talent loss and increased recruitment costs.
Cause 4: Lack of transparency in algorithmic decision-making	**Effect 4.1:** When employees are evaluated or rewarded based on opaque algorithms, trust in managerial processes decreases. Perceived lack of fairness and explainability leads to skepticism, especially when promotion, bonuses, or warnings are system-generated without human mediation. **Effect 4.2:** Algorithmic decisions that lack explainability foster perceptions of bias, particularly among underrepresented or diverse employee groups, who may feel excluded or unfairly categorized by standard models. **Effect 4.3:** Cultural disengagement and passive resistance often follow the implementation of opaque AI systems, as employees feel alienated from organizational values and processes, they cannot understand or influence.
Cause 5: Use of algorithmic tools in hybrid work environments	**Effect 5.1:** Hybrid organizations that integrate algorithmic tools for workflow coordination, performance tracking, and collaboration have reported up to 5% increases in productivity, particularly in project-based work. These gains stem from better time management and cross-functional visibility. **Effect 5.2:** However, digital fatigue rises significantly when employees are required to engage with multiple communication channels, dashboards, and asynchronous feedback loops. Over-communication leads to cognitive overload, reducing deep work capacity. **Effect 5.3:** Informal bonding and team cohesion are weakened in digitally mediated environments, as spontaneous interactions and nonverbal cues are diminished. Over time, this erodes a sense of belonging, impacting psychological safety and engagement.

Source: self-processing

6. SWOT ANALYSIS

Building on the empirical patterns and theoretical insights, the SWOT analysis below maps out the strategic advantages, internal limitations, emerging opportunities, and potential threats related to managing organizational culture in environments influenced by algorithmic decision-making.

Table 6.1. SWOT Analysis – Managing Organizational Culture in the Age of Algorithmic Oversight

Strengths	Weaknesses
S1. Real-time access to performance data enables faster cultural alignment.	**W1.** Algorithmic bias may lead to distorted assessments of behavior.
S2. AI-based feedback systems help managers personalize motivational strategies.	**W2.** Lack of transparency in algorithmic decisions decreases employee trust.
S3. Digital tracking allows middle managers to detect early signs of disengagement.	**W3.** Over-reliance on KPIs reduces creativity and informal leadership.
S4. Data analytics support fairer recognition systems when applied ethically.	**W4.** Employees may feel dehumanized in environments dominated by automation.
S5. Algorithmic tools facilitate consistent enforcement of company values.	**W5.** AI-driven cultural alignment can unintentionally suppress diversity of thought.
S6. Hybrid and remote work systems supported by technology encourage flexible cultural models.	**W6.** Constant surveillance can result in psychological stress and presenteeism.
S7. Predictive analytics help forecast cultural risks such as burnout or fragmentation.	**W7.** Algorithmic systems often lack sensitivity to context and nuance in interpersonal dynamics.
S8. Dashboards can empower employees to self-regulate and monitor their own contributions.	**W8.** Employees may disengage from culture-building efforts if they perceive systems as controlling.
S9. Performance transparency strengthens meritocratic values within teams.	**W9.** The informal components of culture (rituals, symbols) are harder to replicate digitally.
S10. Algorithmic models can help scale internal culture across geographic boundaries.	**W10.** Cultural authenticity may be lost when identity is filtered through data-driven indicators alone.
Opportunities	**Threats**
O1. Ethical algorithm design offers the chance to integrate diversity and inclusion into digital culture.	**T1.** Algorithmic surveillance may erode psychological safety and discourage open communication.

O2. Digital onboarding and AI-enabled learning can reinforce cultural identity from day one.	**T2.** Resistance to digital systems can divide employees generationally or by skill level.
O3. Organizations can leverage hybrid rituals (e.g., virtual celebrations, recognition platforms) to strengthen cultural cohesion.	**T3.** Misuse of data for micromanagement may fuel quiet quitting or passive resistance.
O4. Algorithmic tools can support transparent and bias-aware talent development programs.	**T4.** Poor integration between cultural vision and algorithmic outputs can result in strategic misalignment.
O5. Data-driven systems can measure cultural KPIs (trust, engagement) for timely adjustment.	**T5.** Increased dependence on algorithms may replace leadership intuition with rigid patterns.
O6. Managers can use AI tools to facilitate participatory feedback loops across departments.	**T6.** Overexposure to metrics and dashboards can cause digital fatigue and performance anxiety.
O7. Remote collaboration platforms open up new forms of shared meaning-making across diverse teams.	**T7.** Legal risks increase if algorithmic systems unintentionally discriminate or reinforce bias.
O8. Transparent algorithms may enhance the legitimacy of cultural decisions (e.g., promotions, conflict resolution).	**T8.** Lack of employee involvement in system design can trigger cultural dissonance and detachment.
O9. Algorithmic governance, when humanized, can modernize organizational identity and resilience.	**T9.** Superficial cultural indicators tracked by systems may replace deep cultural understanding.
O10. Strategic alignment between HR, IT, and leadership on algorithm use can institutionalize responsible digital transformation.	**T10.** Failure to anticipate the emotional impact of digital transformation may erode long-term engagement and retention.

7. CONCLUSIONS

The evolution of organizational culture in the post-digital era reveals a profound and ongoing transformation, where algorithmic systems are not merely operational tools but cultural agents. This study confirms that managerial practices rooted in algorithmic oversight significantly influence how employees perceive transparency, trust, and fairness—core elements of collective identity within organizations.

The first hypothesis, suggesting that algorithmic management affects perceptions of fairness and transparency, is strongly confirmed by the cause-effect analysis and literature. Employees operating under opaque systems often report diminished trust and motivation, validating the critical need for transparency in algorithm design and implementation.

The second hypothesis, asserting that managers who humanize technology preserve stronger cultural cohesion, is also supported. As the SWOT analysis shows, middle managers who interpret digital outputs contextually and maintain open dialogue foster a sense of inclusion and meaning, even in highly automated environments.

Furthermore, the hypothesis that hybrid work environments amplify cultural shifts is substantiated by evidence of both increased productivity and greater vulnerability to digital fatigue and disengagement. The lack of informal interactions in virtual contexts necessitates deliberate cultural reinforcement strategies.

Finally, the fourth hypothesis regarding the risk of resistance when algorithmic outputs conflict with organizational values is confirmed through both theoretical insights and practical examples. The use of cultural metrics that overlook deeper identity dynamics often leads to alienation or passive withdrawal.

In conclusion, the interplay between algorithmic logic and human values must be carefully managed. Leadership in the post-digital era is not about choosing between efficiency and empathy-it is about integrating them into a coherent and adaptive cultural framework. The research points toward a new managerial paradigm: one in which data serves as a compass, not a cage, and culture is curated through both code and conversation.

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THE METHODOLOGY OF THE INVESTIGATION OF MURDER CRIMES

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ABSTRACT

This article addresses the methodology of homicide investigation , focusing on the operational and scientific stages required for identifying perpetrators, establishing the circumstances of the acts, and obtaining evidence with probative value. It analyzes first-response procedures at the crime scene, scene protection and documentation, evidence collection and preservation, forensic examinations, interviews, and crime scene reconstruction. The paper also proposes practical recommendations for increasing the efficiency of criminal investigation, such as the use of modern scientific methods and the strengthening of institutional cooperation.

KEYWORDS

homicide, crime scene, forensic expertise, reconstruction.

J.E.L. Classifications: K14, K42, K41

1.INTRODUCTION

Homicide offenses represent some of the most serious and complex criminal acts, having a major social impact and high investigative requirements. The methodology of investigating these crimes involves a combination of legal procedures, investigative techniques, and scientific methods in order to obtain evidence admissible in court and to ensure the clarification of the factual reality.

Although the Criminal Code does not explicitly refer to “simple homicide,” considering the subsequent provisions regarding the aggravated forms—namely “qualified homicide” and “particularly aggravated homicide”—the use of the expression “simple homicide” is accepted.

Homicide is provided for in the Criminal Code under Article 174, and Article 175 regulates qualified homicide.

The purpose of this paper is to present a synthetic guide to the essential stages of homicide investigation, oriented toward practice and applicable at the level of university training.

2. LITERATURE REVIEW

The specialized literature on the *“METHODOLOGY OF HOMICIDE INVESTIGATION”* has highlighted the importance of these methodological rules for precisely determining the direction and extent of investigations, with the aim of fully clarifying the circumstances of the homicide and identifying the perpetrator.

Within the planning process, a central role is held by the development of investigative hypotheses concerning the nature of the violent death (homicide, suicide, or accident), the perpetrator, the motive and purpose of the crime, and the circumstances or conditions in which it was committed.

To develop these hypotheses, the prosecutor leading the investigation must have a minimum amount of precise and concrete data regarding the act. These data are obtained procedurally during the crime-scene investigation, technical-scientific examinations, as well as from extra-legal sources: investigations, rumors, anonymous letters, etc.

3.OBJECTIVES AND METHODOLOGY

The main objective of the methodological research is the identification and description of the essential stages and techniques used in homicide investigation, as well as the identification of common practical challenges.

The methodology adopted in this paper is descriptive-analytical, based on theoretical synthesis of specialized sources and analysis of current operational procedures. The paper aims to offer practical recommendations for investigators at the operational level.

4.MAIN ISSUES IN THE ‘’METHODOLOGY OF HOMICIDE INVESTIGATIOM”

A. Nature of death*

Regardless of the manner of commission, the investigation must determine whether the death was the result of homicide, suicide, or accident. To establish the nature of death, and implicitly its causes and mechanisms, medico-legal investigations play a crucial role. Thus, forensic medicine holds a primary role in such cases.

B. Determining the direct cause of death*

This issue is solved through the collaboration of both the forensic physician and the criminal investigation body. To prove the existence of the homicide, investigators must clarify whether there is a causal link between the perpetrator’s actions, the means used, and the resulting outcome.

C. Identifying the place and time of the offense*

The time of the homicide has multiple implications. Knowing—even approximately—the moment of the act enables investigators to establish the victim’s route and activities prior to the crime, the last persons who saw the victim, the belongings in their possession, and their condition at that time.

D. Determining the methods and means used to commit and conceal the homicide*

Determining the methods and means used to take the victim’s life is possible through interpretation of a complex set of data and traces concerning the perpetrator’s entire activity.

E. Identifying the victim*

Establishing the victim’s identity is the starting point for all subsequent investigative activities. Once identified, investigators can determine the circle of suspects and the legal classification of the act depending on the status of the passive subject.

F.Identifying the perpetrator*

Identifying the perpetrator and any possible accomplices (accessories, instigators, concealers) is one of the essential investigative tasks, due to the many issues it raises. The proper conduct of the criminal process and the correct legal classification depend on this.

G. Determining the motive or purpose of the offense*

Homicide may be motivated by hate, jealousy, revenge, desire for enrichment, fear, etc. Therefore, it is crucial for investigators to determine what led the offender to conceive and carry out such actions.

5.MEASURES FOR EVIDENCE ADMINISTRATION AND PROVING HOMICIDE

To classify the case in all its aspects and solve all issues relevant to proving homicide, investigators must use the full range of technical-scientific, tactical, and methodological means.

Crime-scene investigation is one of the fundamental activities contributing substantially to discovering the truth. It has two phases: STATIC and DYNAMIC.

• Static phase: focuses on determining the location where the body was found, its position relative to traces and surrounding objects, the distance to them, as well as the sex, stature, and approximate age of the victim.

Dynamic phase:consists of examining the victim's body.

6.PARTICULARITIES OF HOMICIDE INVESTIGATION DEPENDING ON THE MEANS AND METHODS USED BY THE PERPETRATOR:

A) Homicide committed by shooting

B) Determining the distance and direction of fire

C) Homicide committed with cutting-stabbing weapons or blunt objects

D) Distinguishing between homicide and suicide

E) Infanticide

F) Determining the crime scene

7.CONCLUSIONS

The methodology of homicide investigation is multidisciplinary and requires consistent application of criminalistic, medico-legal, and investigative procedures. The success of the investigation depends both on the quality of physical evidence and expert analyses, and on the rigor of documentation and the competence of investigators.

The implementation and use of modern scientific methods are essential for the efficiency of criminal investigation and for ensuring justice.

ACKNOWLEDGEMENTS

I express my sincere gratitude to “Bogdan Vodă” University of Cluj-Napoca, the Faculty of Law, and to my coordinating professor, Associate Professor Dr. Gheorghe Bunea, for the guidance, support, and constructive discussions that contributed essentially to the completion of this work.

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Interdisciplinary: Social Sciences and Humanities

ISSN 3008-4849 (Print)
ISSN 3008-4822 (Online)
ISSN-L 3008-4822