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CHAPTER 1
MODERN TRENDS IN PUBLIC ADMINISTRATION

EVALUATING POLICY ALTERNATIVES FOR THE ECONOMIC REINTEGRATION OF UKRAINIAN VETERANS

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Abstract. *Once the Russo-Ukrainian war comes to an end with a Ukrainian victory, millions of Ukrainian veterans will return home. Ukraine will face a unique challenge of the economic reintegration of demobilized soldiers that has not been seen since WWII, and that will be exacerbated by social tensions and economic instability. This article analyzes the traditional and modern policy approaches toward veteran reintegration, including education and certification training programs, employment programs for veterans, and the legalization of private military companies. The analysis identifies short-term and long-term impacts on economic stability, social cohesion, and the labor market. The policy alternatives are analyzed to determine their implementation feasibility, impact on social tensions and post-war reconstruction, and the approaches' effectiveness, efficiency, equity, institutional feasibility, and ethics in achieving the policy goals. Findings highlight the significant risk of economic destabilization and social tension if the reintegration process is not adequately managed. Developing a comprehensive veteran policy is integral for a post-war period, and this work provides a contribution to the field by examining approaches to the economic reintegration of demobilized veterans and setting a stage for further research. The proposed policies include modernized education initiatives, employment incentives for businesses, and regulated frameworks for PMCs, each addressing distinct facets of veteran reintegration. This study underscores the necessity of a comprehensive and multi-faceted veteran policy that aligns with Ukraine's post-war reconstruction and socio-economic goals. It provides foundational insights for policymakers and sets the stage for future research on large-scale veteran reintegration in modern conflict contexts.*

Keywords: *Ukraine; veterans; veteran policy; veteran reintegration; policy analysis; economic reintegration.*

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Introduction. As the Russo-Ukrainian war draws to an anticipated conclusion with a Ukrainian victory, the nation faces an unparalleled challenge: the economic reintegration of millions of demobilized soldiers. This process, unprecedented since World War II, is compounded by Ukraine's economic instability and social tensions. The transition from active military service to civilian life will demand comprehensive policies to address not only immediate employment and financial needs but also long-term socio-economic stability.

Literature review. It has been 10 years since the start of the Russian hybrid aggression against Ukraine and 2 years since the Russian full-scale invasion of February 2022. Tens of millions of Ukrainians were affected by the war, and millions joined the Ukrainian Armed Forces (UAF) and other structures to defend Ukrainian sovereignty. There is no officially published data, but experts and government officials estimate that more than a million Ukrainians were mobilized to service since the start of the war (Hordiichuk, 2022), with 700,000 joining the UAF, 300,000 joining other defense and security forces (Slovi I dilo, 2023), and plans to mobilize 500,000 more in the future (Kobzar, 2023). This would constitute millions of people going through military service, and the number will only continue to grow as the war goes on. It is estimated that more than 500,000 Ukrainians received veteran status between 2014 and the full-scale invasion of 2022 (Zabielina, 2024), and it is estimated far to exceed 4 million after the end of the war, the figure that also includes family members of deceased service members who qualify for veteran benefited status (Pravda, 2023).

With the help of its Western partners, there is a clear feasibility of Ukraine winning the war and restoring its territorial integrity. Once the active phase of the Russo-Ukrainian war ends and transitions into the postbellum, UAF personnel will be demobilized. Hundreds of thousands of former soldiers will need to get back into civilian life, starting a complex and delicate process of reintegration (Elnitsky & Kilmer, 2017). Thus, a comprehensive public policy initiative is required to address the challenges veterans will face after returning from military service. These include physical and psychological treatment, monetary compensation, social adaptation programs, veteran housing benefits, etc. (Kingma, 1997). In addition, demobilized military personnel would effectively lose their occupation and source of income, thus making economic security and employment a crucial part of the reintegration process (Buck, 2021) for more than 4 million Ukrainian veterans and their family members.

Unfortunately, there is a lack of policy analysis literature evaluating approaches to mass demobilization. However, there is literature that looks at aspects of demobilization, such as psychological reintegration of veterans, social adaptation, re-entering to the civilian job market, etc., as well as studies of smaller-scale reintegration of military personnel or combatants. The existing studies can broadly be divided into three categories. The first one reviews the demobilization policies after the world wars of the XX century. There are studies on US demobilization after WWI (Samuelson, 1943) and WWII (McEnaney, 2011), and British demobilization after the Second World War (Pope, 1995). While these studies provide some important insights into how the demobilization process for millions of soldiers was approached previously, this type of literature has three main shortcomings when applying it as a policy guide

for the Ukrainian case. Firstly, the studies review the instances of the early- to mid-20th century, the socio-economic conditions of which were much different from today. Secondly, it lacks modern approaches, as significant technological and civil advancements have been made since the mid-20th century. Thirdly, the post-war economic and political conditions will be vastly different between the US and the UK in the 20th century and Ukraine. The US and the UK were superpowers with great economic potential, and Ukraine, on the other hand, would rely on economic support from Western countries after the war and would not have a sufficient economic base to execute the demobilization process on its own, so the approaches employed by those states cannot be fully replicated. It is also important to note that cases of the USSR, Germany, and Japan cannot be applied to Ukraine as the USSR arguably fully failed the socio-economic reintegration of its veterans while Germany and Japan were occupied after the end of WWII.

The second category examines the US approach toward veteran reintegration during its global military involvement in Vietnam, Iraq, Afghanistan, etc. There are studies analyzing a range of aspects of veteran reintegration. Collins et. Al. (2014) reviewed the US employment programs available for veterans, Elnitsky and Kilmer (2017) studied the social reintegration for military service personnel and their families and Bound and Turner (2002) analyzed the GI Bill and how it impacted veteran education. This is the most developed type of literature, and a variety of analyses ranging from statistical data to policy evaluation is available on every single topic. The studies are of high quality and provide a great overview of policy approaches taken toward veteran reintegration. The only challenge in applying this literature to the analysis of demobilization policies is that there is a lack of comparative analysis between different policy options in different socio-economic circumstances. While the US example is a great source of policy initiatives, it would be unwise to overfocus on one approach.

The last set studies the reintegration of rebels and militia after small interstate conflicts or civil wars. Many studies have been conducted on the topic, capturing examples from different countries, socio-economic conditions, and time periods. The area is well-studied, however, almost none of the policy approaches developed could be applied to the Ukrainian case. This kind of literature focuses on unstable countries with weak central governments and comparatively small militias. For example, in his analysis for the USAID conference, Kingma (1997) reviewed the post-war demobilization in Sub-Saharan Africa and Central America since the late 1980s. It reviewed demobilization processes that included 6 – 73 thousand soldiers and analyzed approaches such as buying out weapons from ex-fighters, demobilization of child soldiers, humanitarian assistance for demobilized personnel, etc. While general frameworks and analysis methods could be duplicated to study the case of Ukraine, the policy approaches are not compatible with the Ukrainian scenario.

Thus, this research would not only contribute by providing policy alternatives for Ukrainian demobilization but would also present approaches that would deepen the available study on how to tackle mass demobilization.

Aims. The focus of the article is to review policy approaches toward the economic reintegration of veterans without focusing on the social or psychological aspects of reintegration. The limited scope of analysis allows for a deeper study and examination of policy approaches. The research strives to provide a general analysis of available policy alternatives to set a foundation for further research on the topic of the economic reintegration of veterans.

Methodology. The research utilizes a comparative policy analysis framework to assess feasibility, efficiency, equity, and institutional capacity.

Results. The demobilization process risks critically spiking unemployment rates, exacerbating social problems, and destabilizing the economic and political situation in the country. Demobilization would create a sudden influx of working-age individuals entering the job market that is negatively impacted by war destruction and economic stagnation. This would lead to Ukrainian veterans facing unique challenges while transferring into a civilian career that differs from the obstacles faced by typical unemployed citizens (Elnitsky & Kilmer, 2017). Certain technical occupations will get oversaturated as veterans will be able to utilize the marketable skills they gained during military service, while demobilized personnel might lack the skill set to re-qualify for other fields. Following the demobilization, many veterans would suffer from disabilities because of war-related psychological and physical traumas (Buck, 2021), which would limit their career prospects and put them at a disadvantage in job searching. The significance and scope of the issue require governmental involvement, especially as the Ukrainian state and society would have a moral responsibility to support Ukrainian veterans who defended the country and its citizens against the Russian invasion.

Another potential consequence of demobilization is the drop in the Ukrainian economy. The post-war period would be a time of economic hardship, and the addition of hundreds of thousands of veterans who lost their source of income would become an extra challenge. Many veterans would require governmental support in health and psychological rehabilitation, financial assistance, training and education, etc. Without a comprehensive policy in addressing military personnel demobilization paired with preparatory economic policies, the Ukrainian government risks exacerbating economic stagnation.

Besides the direct economic consequences of rising unemployment, it could also lead to social destabilization, resulting in rising crime and poverty. The policy alternatives selected to address military personnel demobilization should thus also consider the potential consequential problems and not only concentrate on the main objective of getting veterans employed.

The start of the demobilization process will become a proximate cause for all the socio-economic problems mentioned above. However, it is the lack of preparations and the absence of a developed demobilization policy that would constitute the underlying root cause. Currently, the Ukrainian government does not have a clear understanding of the scope of the problem and has not prepared a strategy to approach it. The lack of a comprehensive policy approach toward demobilization is a problem, but it also creates a window of opportunity for the creation of a developed policy.

Taking Kindgdon's (1984) framework into account, the convergence of multiple streams can be seen. The Ukrainian society is currently bringing up the issue of the need for a comprehensive veteran policy, and the problem of a lack of a demobilization strategy is getting high on the agenda (Deputy Minister for Veterans Affairs of Ukraine, personal interview, February 25, 2024), creating the problem stream. The Ukrainian government and NGOs are presenting their initial approaches to how to address the future challenge, and although no well-rounded strategy has been created yet, there is a sign of a policy stream being developed (Vyhovska, 2023). On the political stream side, many Ukrainian politicians, including President Zelenskyy, expressed the need for a more well-developed policy toward veterans, referring to it as the "policy of the heroes" (President of Ukraine, 2023).

Because of the socio-economic significance and scale of the issue, it is crucial for the Ukrainian government to develop a comprehensive policy for the economic reintegration of veterans. Ukrainians will have a moral and ethical obligation to support the veterans in their transition to civilian life. However, the scope of the challenge and the number of people involved do not allow charity and non-profit organizations to address the issue effectively. That is why the government should take over the main role and develop an applicable policy solution.

There are three main sets of institutions that are working on developing and implementing policies toward veterans in Ukraine (Laputina, 2023). The first one is the Ministry of Veterans Affairs, which was created in 2018. Having limited resources, the ministry takes on the role of governmental coordinator of the Ukrainian veteran policy (Laputina, 2023). It does not have an outlined comprehensive strategy toward veterans (Vyhovska, 2023), but it is currently working on developing a policy proposal for the Ukrainian government titled "On the Main Principles of State Veteran Policy." However, a specific approach toward the economic reintegration of veterans is still being formulated (Deputy Minister for Veterans Affairs of Ukraine, personal interview, February 25, 2024).

Secondly, each regional and local administrative institution in Ukraine has a department responsible for implementing veteran policy in their district. It goes in line with the Ukrainian decentralization reform that diversifies authority to local governments. While local administrations do not play a significant role in policy formulation, they are actively involved in policy implementation.

The last 'unofficial' set of institutions is comprised of NGOs and veteran advocacy groups. These include Veteran Hub, "Принцип", "Юридична сотня", and Veteranka (Vyhovska, 2023) that draft their own policy proposals, work with stakeholders, and advocate for developing an inclusive veteran policy. Veteran Hub assumes to have the only formulated proposal for the Ukrainian veteran policy (Vyhovska, 2023). However, it does not provide a fully developed set of alternatives for how to address the demobilization process in terms of economic reintegration.

Despite all the research conducted on the topic in Ukraine, there is a strong need for systematic policy analysis. There is no comprehensive vision of how to address future veteran reintegration, and ground policies are just being drafted. Both the Ukrainian government and civic society claim to be actively working on developing

policy approaches for the public problem, which would suggest that the policy cycle is currently in the policy formulation stage. According to Kraft and Furlong (2021), policy analysis is especially crucial at this stage, and this research would provide additional information that could guide policy formulation.

Policy goals. The case of Ukrainian demobilization will pose a unique challenge for the 21st century. The Russo-Ukrainian war became the largest conflict in Europe since WWII, and the demobilization of millions of service members has not been seen in developed countries since the mid-20th century. The issue of the economic reintegration of Ukrainian veterans is further complicated by additional challenges like economic instability, potential social tensions, and financial restrictions on social policies. Because of these, an appropriate policy option should address or at least not exacerbate problematic preconditions in addition to addressing the main public issue. Three main policy goals can be outlined that would help identify the best policy alternative.

The first one is the economic reintegration of demobilized veterans. Once demobilized service members leave the military, they lose their main source of income while transitioning into civilian life. An appropriate policy alternative should preemptively address the challenge of unemployment and provide veterans with resources that will assist them in gaining a job. The main quantitative objective is the employment of 80% of veterans within 3 years after the start of the demobilization process. The National Bank of Ukraine estimates the unemployment rate to get to 16.5% in 2024 and drop to 14.7% in 2025 (NBU, 2023). As demobilization would bring a rapid influx of the workforce, a rise in unemployment is inevitable, but an 80% benchmark provides enough margin to account for that. In addition, the unemployment metric would not include veterans who are psychically and psychologically unable to join the workforce in any capacity but include veterans with disabilities who are ready to work. A 3-year period would grant enough time for a chosen policy to be fully implemented and for veterans to process the transition, undergo the needed treatment or training, and get back into civilian life.

The second goal includes the promotion of social stability. Economic recession and scrutiny resulting from war could exacerbate social tensions and lead to the rise of crime, poverty, and protests. There are many studies that identify a correlation between crime rates and unemployment or poverty (Raphael & Winter-Ebmer, 2001; Imran et al., 2018). There is also a history of organized crime in Ukraine (Slovo i Dilo, 2020), and the demobilization of service members with combat experience without clear prospects of employment could bring them to join criminal organizations. The demobilized personnel would also experience a drop in wages as the average salary in Ukraine is 17,937 UAH per month (UkrInform, 2023), while the minimum mobilized soldiers receive is 33,000 UAH as a base salary plus additional payouts ranging from 30,000 to 100,000 UAH if a soldier is involved in combat missions (Nedashkivskyy, 2024). The wage drop could exacerbate social instability even if enough jobs are created for veterans, the view which is also supported by the Ukrainian Ministry of Veterans Affairs (Deputy Minister for Veterans Affairs of Ukraine, personal interview, February 25, 2024). Therefore, a chosen policy alternative should effectively target the

aspects of social stability development. The quantitative metrics of the second goal constitute a rise in property crime and organized crime rates of no more than 20%, which was an average rise in such crimes during economically unstable situations in Ukraine (Slovo i Dilo, 2020; Slovo i Dilo, 2021).

Lastly, the policy alternative should contribute to Ukraine's economic development. After the end of the war, Ukraine would enter into a period of economic stagnation, which would require competent economic policies that effectively rebuild Ukrainian economic potential and facilitate economic development. The chosen policy alternative should complement such efforts and aim at employing veterans in areas that would benefit the Ukrainian economy and not merely serve as redundant employment places just for veterans to have jobs. Ukraine currently has 12,5 million people involved in the workforce, out of which 1 million are mobilized in the army (KSE, 2023) and would eventually get back into the job market after the Ukrainian victory in the war. The quantitative goal is for the chosen policy alternative to make the total GDP output of Ukrainian veterans getting back into the workforce correspond to the average GDP output of civilian Ukrainian employees within 3 years of policy implementation.

Proposed policy alternatives. Throughout the last century, numerous policy options were employed that targeted the economic reintegration of combatants and service members. However, recent policy solutions for the reintegration of service members, which were used in African and Balkan countries that had relatively small civil wars, are too small in scale and cannot be applied in Ukraine. The most applicable policy initiatives would come from the US and Britain, which had experienced large demobilizations, but also from modern proposals that have not yet been fully tested.

According to the poll conducted by the Ukrainian Veteran Fund, Ukrainian veterans outlined 10 main support mechanisms that they require to get back into the workforce. While some, such as housing and psychical and psychological rehabilitation, fall out of the scope of this research and are addressed by other Ukrainian policies, around a quarter of veterans expressed the need for additional education and the need for employment assistance (UVF, 2024). This is also how this issue was addressed previously, with a majority of countries employing educational benefits or employment programs for demobilized service members. Combining foreign experience with the needs of Ukrainian veterans, three main policy alternatives addressing the issue of economic reintegration, in addition to two sub-approaches for the first and second approaches, can be outlined.

Policy alternatives 1.1 and 1.2. The first policy alternative (PA 1) is to create additional education and certification training programs for demobilized soldiers. Such would include education benefits, reserved spots for veterans in state-owned universities, and modern certificate programs. There is a clear causal correlation between the level of education and the employment rate, especially in the short term (Núñez & Livanos, 2010). The same strong correlation can be seen between the level of education and income for people with disabilities (Sari et al., 2023). This would facilitate the reintegration process of demobilized personnel and provide veterans with

skills that would lead to employment. This policy alternative can be divided into two approaches that can be referred to as traditional and modern.

The traditional approach (PA 1.1) encompasses the provision of governmental grants to cover education costs at universities to gain traditional educational degrees in addition to extra housing allowances, stipends, and unemployment benefits for 1 year after graduation. The most prominent example of such a policy solution would be the Servicemen's Readjustment Act of 1944, a.k.a. GI Bill, which was introduced by the US government during WWII (Bound & Turner, 2022). The US example shows that the provision of education benefits raises collegiate attainment, with 50% of US veterans after WWII and 40% after 9/11 (Kofoed, 2010) using their benefits to obtain a degree.

There are two additional outcomes that would result from the policy employment. Firstly, the provision of housing allowances and stipends would contribute to the development of social stability, as veterans would be granted financial security as they attain their education. However, this also poses a risk of benefit exploitation when demobilized personnel enter studies for the sole reason of receiving the benefits. Secondly, an important unintended consequence of the policy is the potential negative impact on the eroding system of higher education. The Ukrainian higher education system is ineffective and unmodernized due to poor management, which is exacerbated by inefficient governmental funding (Muliavka, 2017). Providing additional funding for the system as a part of the veteran reintegration program without substantial reforms and oversight could thus stagnate the existing system.

The modern approach (PA 1.2) focuses on training courses rather than traditional degrees. Many modern job opportunities do not require a degree but need specialized skills that can be gained through certification courses. Such exist in a variety of career fields ranging from IT and marketing to auto-industry and construction. Such a program could be based on the examples of the US Veterans Retraining Assistance Program, which granted 12 months of training benefits in “high demand” occupations (Collins et al., 2014), but should be adopted with changes that would bring it to modern standards and reflect Ukrainian realities. To provide such education, the Ukrainian government would need to partner with private and non-profit organizations through grants or cooperation programs between state universities and private and non-profit organizations. Many private and non-profit entities have already developed certification courses targeting veteran reintegration. For example, the Veteranius project was established to provide Ukrainian veterans with skills and practical experience to get their first job in IT (Razom, 2020). Similar programs were created by Mate academy, SoftServe, Choice31, and many others (Malashenko, 2023). This approach is favored by the Ukrainian Ministry of Veterans Affairs, which intends to concentrate on training courses in the technical field, but no comprehensive proposals have been drafted yet (Deputy Minister for Veterans Affairs of Ukraine, personal interview, February 25, 2024).

It is important to note that both approaches would have a positive indirect long-term outcome. They would contribute to the development of a more educated Ukrainian society that, in the long-term perspective, would bring immense economic

and social benefits. Moreover, PA 1.1 and 1.2 would not have any major political or policy constraints. Similar programs are already employed in Ukraine on a lower scale, and there is high public and institutional support for such policy initiatives.

Policy alternatives 2.1 and 2.2. The second alternative (PA 2) is to develop a system of employment programs for veterans. The government can utilize two main policy tools to advance this policy proposal: the use of market incentives and regulation. While the programs can get even more nuanced and be split into general veterans' programs, those targeting veterans with service-connected disabilities, and industry-specific programs (Collins et al., 2014), this analysis will only review the programs divided into market incentives and regulation categories. The first set (PA 2.1) is implemented by providing incentives for employers, like tax breaks or low-interest business loans. Such programs were implemented by the US via the VOW to Hire Heroes Act (House Committee on Veteran Affairs, 2011) and the Work Opportunity Tax Credit (IRS, 2021). In part, these initiatives provided employers hiring veterans with tax credits as a governmental incentive to hire them. This would allow veterans to be favorably considered for a variety of positions in different sectors. The main benefit of this approach is that no direct major public financing is required to implement it, and the costs will be mainly comprised of the reduced tax revenue. On the flip side, according to the Ministry of Veterans Affairs, employers stigmatize veterans due to their psychological problems, so comprehensive psychological assistance and public awareness programs should be developed in addition to tax incentives (Deputy Minister for Veterans Affairs of Ukraine, personal interview, February 25, 2024).

Additionally, this policy initiative would stimulate businesses as they would get an incentive and economic benefits that would allow them to hire more workers and pay higher wages, eventually leading to economic growth and developing social stability. However, as an unintended consequence, the policy could lead to growing unemployment among non-veterans. The policy, thus, should carefully consider the economic incentives to boost the hiring of veterans and economic development but at the same time not to damage the job market.

The second set (PA 2.2) employs setting preferences for hiring veterans for government jobs and involving veterans in government-funded projects like reconstruction or state-owned enterprises (SOEs). Such programs were implemented by the US via a variety of programs (Collins et al., 2014), including the Veterans Preference Act of 1944, which granted preferences to veterans in getting hired, reinstated, or reemployed for positions in the Federal service, and in Britain through the United Kingdom's Employment Policy after WWII (Pope, 1995). These approaches are especially favored by the Ukrainian veteran NGOs that draft their policy initiatives using the US and UK examples as well as the Ministry of Veterans Affairs. To be fully operational, the policy would need to be implemented alongside the creation of major governmental projects to generate a sufficient number of jobs for veterans to be hired. These would mainly include jobs within the building reconstruction projects and the military-industrial complex (Deputy Minister for Veterans Affairs of Ukraine, personal interview, February 25, 2024), for which the government might need to decide to pay

higher wages to maintain social stability. Additionally, preferences for disabled veterans could be instated for governmental positions, granting them favorable access to employment. Local governments are also the actors who support this initiative (Deputy Minister for Veterans Affairs of Ukraine, personal interview, February 25, 2024). Some of the funding for reconstruction projects would go through the local government, benefiting the local budgets. The creation of SOEs and the infrastructure rebuilding would also be a major boost for local economies, supporting not only the veterans but also the local residents.

The main policy consequence to consider is the inevitable increase in the government's role and share in the economy. While competent public management would only lead to economic growth, the history of Ukrainian public management inefficiency poses a risk for corruption and exacerbation of problems within the Ukrainian bureaucracy. The employment of this alternative would require major institutional and structural reforms, strict oversight, and accountability. It is also important to note that hiring veterans for reconstruction projects would be a temporary fix for the outlined problem. Once the projects are completed, new jobs will need to be created for veterans to have employment. However, if executed effectively, the policy would have crucial long-term benefits to Ukrainian economic development by rebuilding infrastructure and security by growing the military-industrial complex.

Policy alternative 3. Lastly, a more modern and unexplored approach (PA 3) is the legalization of private military companies (PMC). Quazi PMCs already exist in Ukraine under the cover of security agencies and operate in parts of Africa and Asia (Roshchyna, 2020). As soldiers with battlefield experience will get demobilized and have limited job opportunities or insufficient wages, many would potentially join “grey zone” PMCs to get employed. The creation of the legal framework would thus prevent potential social destabilization and generate jobs, businesses, and a new stream of tax revenue while granting veterans legal employment under governmental supervision. The UK and the US implemented similar initiatives after WWII to create and establish a legal framework for PMCs that were contracted out for security and military purposes (Contos et al., 2011). President Zelenskyy has already spoken in support of such, and his office started consultations with veteran organizations (Roshchyna, 2020), in addition to the Blackwater PMC founder’s interest in hiring Ukrainian veterans for security services (Omelianiuk, 2021). Currently, there are initial proposals put out by the Main Directorate of Intelligence to develop PMCs based on the existing regiments (Deputy Minister for Veterans Affairs of Ukraine, personal interview, February 25, 2024). While the initiative would not be fully successful in granting employment to the majority of veterans, it could provide high-paying positions for those interested in continuing service in the military field after demobilization and would stimulate the Ukrainian economy by creating new business opportunities.

Policy evaluation. Based on previous implications and theory, all policy alternatives could attain the outlined policy goals. However, what would be the preferred policy alternative for Ukraine? Using the evaluative criteria for public policy proposals outlined by Kraft and Furlong (2021), four main criteria will be employed to evaluate the alternatives and choose the best one. For each criterion, all five policy

approaches will be discussed from most to least applicable and assigned 1-3 points based on their compliance with the criterion.

Effectiveness. The first one is effectiveness, measuring if the proposal can attain the policy goal. The most effective proposals would include PA 1.2 and PA 2.1, getting 3 points. As noted above, they are capable of addressing the economic reintegration and complying with the three outlined goals. However, the economic reintegration of demobilized veterans is part of a more comprehensive and complex problem of veteran reintegration into civilian life. The proposals would not be fully effective without complimentary programs like government cooperation with NGOs, psychological rehabilitation, or the development of the economy.

PA 2.2, while initially effective, would lack long-term effectiveness. Major reconstruction would eventually end, leaving the involved veterans unemployed again. Additional post-program policies are required for PA 2.2 to be fully able to grant stable employment for demobilized military personnel. The lack of governmental capacity and effective public management in Ukraine also posse a risk to the successful policy implementation.

PA 1.1 is moderately effective. While foreign research shows a positive correlation between traditional education and employment, the Ukrainian realities bring substantial challenges. In the 1940s, when the US introduced the GI Bill, 5.5% of males and 3.8% of females had a college degree (US Census Bureau, 2023). In Ukraine, the figure is more than 40% for those over 25 (The World Bank, 2019), and Ukraine is experiencing education inflation when higher education does not possess the same benefits to getting employment as it used to (Omelianiuk, 2021). It is for this reason that it is hard to fully justify that the proposal will fully address economic reintegration, and thus, it gets 2 points for the metric.

PA 3 would only be fully effective in achieving 2 out of 3 goals. It is a narrowly specialized approach and will not be suitable for application to a majority of Ukrainian veterans. However, it has its distinct features that should be studied further, including its highest potential in mitigating social instability and developing the security sector, bringing additional tax revenue.

Efficiency. Secondly, the efficiency of each policy proposal will be analyzed using the cost-effectiveness analysis. Further policy analysis on the topic would highly benefit from employing a nuanced cost-benefit analysis to study the outlined policy alternatives, but the scope of this research does not allow for full economic research of each alternative.

PA 1.2, PA 2.1 and PA 2.2 are moderately costly in their execution while effective in reaching the goals. PA 1.2 would require governmental grants to educational NGOs and funding for veterans' stipends, but its quick turnaround combined with long-term economic gains outweigh the investment. PA 2.1 and PA 2.2 would mainly involve institutional costs and unrealized gains from reduced taxes, as no major direct funding will be required for policy implementation.

PA 3 would require the least amount of governmental funding to achieve the policy goals. While assessed using lower policy effectiveness expectations, the implementation would not require direct funding with costs comprising of expenses on

PMC regulation policy developers and creation of governmental oversight organizations. The policy would also cut expenses in maintaining social stability in addition to bringing tax revenue from a new business field.

PA 1.1 would require the most funding and time to implement. The government would need to allocate funding to cover tuition, living expenses, and stipend for between 2 years of education for a master's and 4 years for a bachelor's degree for tens or even hundreds of thousands of Ukrainian veterans. Combined with the uncertain effectiveness of the policy, it is graded as 1 for efficiency.

Equity. The third is equity of a policy alternative in benefiting different groups of demobilized veterans, including disabled and healthy veterans and veterans of different ages and levels of education. The benefits provided by PA 1.2 and PA 2.2 would most evenly be distributed in their support of demobilized veterans. Specialized courses would be beneficial for a large portion of veterans, as 26% of veterans expressed the need for additional education (VFU, 2024). PA 1.2 would also not exclude disabled veterans and veterans of different ages and levels of education, as short courses with high prospects of employment would pose a great incentive. PA 2.2 as regulation would apply to all veterans, but the creation of additional programs for disabled veterans would make sure that this group is not excluded.

PA 1.1 and PA 2.1 have a lower level of equity. PA 1.1 would not be fully suitable for older veterans who make up a large portion of those currently serving in the Ukrainian military and have work experience, thus, potentially opting for getting back into their career fields rather than getting additional education. Many would also find it hard to commit 2-4 years to education, getting limited financial support in stipends, which typically equate to less than minimum wage. PA 2.1 would mainly benefit those with work experience and education who would qualify for employment and use the governmental incentives as an additional reason to hire them.

PA 3 targets a more limited category of veterans who are interested in continuing their career in the military or security field, as well as are psychically able to join PMCs. These nuances would greatly limit the applicability of the policy toward the majority of veterans.

Institutional feasibility. Lastly, the institutional feasibility of the proposed policies should be reviewed. PA 1.2, PA 2.1, and PA 3 would not require significant institutional involvement to implement the policy initiatives. The Ukrainian government possesses the needed institutional capacity to successfully implement these policy alternatives.

PA 1.1 would require moderate institutional involvement from state universities and the Ministry of Education. The Ukrainian educational system is already struggling to effectively develop the Ukrainian education policy and a sudden influx of veteran students could pose a major challenge.

In order to be effective, PA 2.2 would require major institutional involvement. The Ukrainian government would need to allocate significant human and organizational resources to build SOEs, recruit veterans, and make sure that SOEs and reconstruction projects are profitable and efficient. Ukrainian SOEs and their public management have a long history of being prompt to corruption and inefficiency,

making the implementation of PA 2.2 challenging from the institutional capacity standpoint.

Ethics. Although not a selected metric, it is also important to review the ethics of the proposed policy alternatives. While PA 1 and PA 2 are fully aligned with universal ethics in the moral duty to support those in need, especially as they made a choice of great sacrifice in protecting others, PA 3 has some questionable moral considerations. The legalization of PMCs as a security and military training business would not go against ethical considerations. However, the employment of PMCs in international military conflicts does not go in line with universal ethics and, in some cases, can violate the International Humanitarian Law and Laws of Armed Conflict. Careful considerations are required in the PA 3 is selected for implementation.

Evaluation. Using the 1-3 scale of assigning points to five policy alternatives, the following table can be created:

Table 1. Evaluation of policy alternatives

	PA 1.1 (traditional)	PA 1.2 (modern)	PA 2.1 (market incentives)	PA 2.2 (regulation)	PA 3
Effectiveness	2	3	3	2	2
Efficiency	1	3	3	3	3
Equity	2	3	2	3	1
Institutional feasibility	2	3	3	1	3
Total	**7**	**12**	**11**	**9**	**8**

Source: developed by the author

Based on the evaluation, PA 1.2 would be the most applicable policy alternative, with PA 2.1 coming in second place. It is important to note that both alternatives have their shortcomings that, interestingly, could be addressed by a complimentary implementation of PA 1.2 and PA 2.1. On the one hand, PA 1.2 would benefit greatly from an additional post-program that intensifies employers to hire veterans who have just finished training and received new skills. On the other hand, PA 1.2 would mitigate the equity concerns of PA 2.1 by providing veterans with marketable skills.

Discussion. The most effective policy approach would be to implement PA 1.2 and PA 2.1 together. Ukrainian veterans outlined additional education and employment opportunities as their main needs after demobilization, and together, these two approaches could support them most effectively. The implementation of PA 1.2 would require the Ukrainian government to cooperate with private organizations, NGOs, and state educational institutions to develop requalification courses for demobilized personnel. Such courses should not last more than one year, provide marketable skills, and teach skills in preferred areas that require the workforce. The government would need to provide grants to cover the tuition costs for veterans as well as allocate funding for living expenses, rehabilitation, and other assistance required for veterans.

Complimentary to PA 1.2, the government should create a set of economic incentives for businesses to hire veterans. The US implemented a similar initiative by providing tax credits, but in the Ukrainian case, it could be done by reducing taxes the employers should pay for employees, which is currently at 20% of the employee's salary. The government could also provide additional incentives for hiring disabled

veterans to grant them preferred employment opportunities. Paired with having a highly skilled workforce as a result of training from PA 1.2, Ukrainian veterans would get employment in a variety of fields.

There are two problems that might arise during the policy implementation. Firstly, a deeper study of the Ukrainian economy is required to determine the preferred economic areas and not oversaturate the job market with the same professions. Secondly, there is a prevalence of the "gray economy" in the Ukrainian job market when employees are paid additional funds unofficially to reduce the taxable amounts. Because of this, the tax incentives could prove to be not a significant stimulus for employers, and more aggressive regulative measures to combat the "gray economy" would need to be implemented first.

It would be crucially important to constantly monitor the policy implementation. The evaluative metrics involve economic measures such as the level of unemployment among veterans and economic output in terms of GDP and social stability measures of property crime and organized crime rates. These could relatively easily be obtained by governmental institutions, making policy evaluation relatively straightforward. It would also be important to measure veteran satisfaction with the policies and compare the state of the Ukrainian economy, society, and security before and after the policy implementation.

Conclusions. The issue of economic veteran reintegration requires complex approaches to make sure that the process provides the needed support for demobilized military personnel while keeping it efficient and preemptively addressing consequential problems. Modern approaches in education and market incentives for employment have shown to be the most viable policy alternatives to approach the issue. However, alternative policy solutions have additional qualities that would make the veteran policy more robust and be able to address a variety of concerns. The ability of employment regulation to quickly create jobs and the innovative approach of the legalization of PMCs should be studied further. This research provided a preliminary evaluation of five policy approaches, and further deeper analysis involving legislative research and economic calculations is integral for drafting an appropriate Ukrainian veteran policy for economic reintegration. Nevertheless, economic reintegration is one of its aspects and should not be addressed as a standalone issue without providing support in physical and mental healthcare, financial assistance, social awareness programs, housing programs, etc. A comprehensive veteran policy is required to give back to those serving Ukraine, maintain social stability, and grant a safe and prosperous future for Ukraine.

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CHAPTER 2
LEGAL RELATIONS: FROM THEORY TO PRACTICE

STRENGTHENING INTELLECTUAL PROPERTY PROTECTION IN THE EU: IT LAW AND ITS IMPACT ON THE COMPUTER GAMES INDUSTRY

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Abstract. *The exponential growth of digital entertainment and rapid technological advancements have elevated intellectual property (IP) protection as a cornerstone of innovation and economic development within the European Union (EU). The computer games industry exemplifies this dynamic, blending creativity, technology, and commerce. However, challenges such as piracy, copyright infringement, and cross-border enforcement necessitate robust IP frameworks to sustain growth and innovation. This study aims to analyze the role of IP protection in the EU, particularly within IT law, and its implications for the computer games industry. The objectives include evaluating current legal frameworks, identifying key challenges such as piracy and enforcement, exploring the role of emerging technologies like blockchain and AI, and proposing actionable strategies to strengthen IP protection and foster innovation. The study employs a comprehensive review of academic articles, legal texts, industry reports, and historical cases of IP disputes. A legal analysis of EU directives, regulations, and case law was conducted to assess their application in the gaming industry. This methodology provides a holistic understanding of the intersection between IP protection, IT law, and the computer games sector. Findings highlight the harmonization of national IP laws across EU member states through directives like the Copyright Directive (2001/29/EC), Digital Single Market Directive (2019/790), and GDPR. Challenges include inconsistencies in enforcement, piracy, and the complexities of emerging technologies such as AI and blockchain. The study identifies significant economic impacts, including vulnerabilities faced by small and medium-sized enterprises (SMEs) and the need for harmonized enforcement mechanisms. Future research should explore the ethical implications of IP enforcement, the scalability of blockchain for copyright management, and the integration of AI in real-time infringement detection. Expanding the focus to global collaborative mechanisms and cross-industry applications of emerging technologies will enhance understanding and policy development.*

Keywords: *intellectual property; European Union; IT law; computer games industry; copyright protection; trademark regulation; digital single market; piracy enforcement; blockchain technology; artificial intelligence; technological protection measures; cross-border enforcement; video game piracy; emerging technologies; harmonized IP laws; small and medium-sized enterprises; innovation; creativity.*

JEL Classification: F11, K12, K33, M15

Formulas: 0; fig.: 0; table: 4; bibl.: 20

Introduction. In an era defined by rapid technological advancements and the exponential growth of digital entertainment, intellectual property (IP) protection has become a cornerstone of innovation and economic development. Within the European Union (EU), the computer games industry stands out as a dynamic and highly competitive sector, blending creativity, technology, and commerce. However, the rise of this industry has also brought challenges related to intellectual property rights, piracy, and the evolving legal frameworks that govern digital content.

Literature review. The European Union (EU) has established itself as a global leader in intellectual property (IP) regulation, particularly in the digital domain, where technology-driven industries like computer games have flourished. The intersection of intellectual property (IP) law and the computer games industry represents a complex and evolving domain, especially within the European Union (EU). This review synthesizes key findings and debates from recent scholarship, focusing on legislative frameworks, technological protection measures, market impacts, and challenges posed by digital and cross-border innovations.

Evolution of intellectual property laws in the EU. The foundation of the EU's IP framework lies in the harmonization of disparate national laws among its member states. McManis (1996) identifies the adoption of the European Patent Convention (1973) as a crucial starting point for regional collaboration in IP protection. The directive aimed to streamline patent applications and ensure consistent protections across member states.

The 1990s witnessed significant efforts to align copyright laws, particularly with the introduction of the Software Directive (1991), which granted uniform protections to software authors across the EU (Hargreaves, 2011). Similarly, the Trade Mark Directive (1988) and the establishment of the European Union Intellectual Property Office (EUIPO) provided mechanisms to simplify and centralize trademark registration.

The advent of the digital age necessitated a robust IP framework to address challenges such as piracy, copyright infringement, and digital rights management. Gibson (2007) underscores the significance of the Information Society Directive (2001), which extended copyright protections to digital works and introduced rights management systems.

The Digital Single Market Strategy (2015) marked a turning point in the EU's approach to IP law. Handke (2018) emphasizes that the strategy aimed to harmonize digital copyright laws and enhance cross-border access to online content. The Copyright Directive (2019) further strengthened protections for creators, including provisions to hold online platforms accountable for infringing content (Dimita, 2023).

Significant advancements in EU IP law have aimed to modernize protections, particularly addressing the complexities of digital environments. Dimita (2023) highlights the EU's proactive stance in updating IP frameworks to protect digital media, including video games, against piracy and infringement.

Technological protection measures and the video game industry. The application of technological protection measures (TPMs) in the gaming industry has been pivotal. Raval (2016) provides a detailed analysis of how TPMs, such as encryption and anti-

piracy software, enforce copyright protections, although critics argue these measures may stifle innovation. Hubanov et al. (2021) argue that TPMs must balance protecting IP with enabling fair use, as overly restrictive measures could lead to consumer dissatisfaction.

TPMs are digital mechanisms designed to safeguard copyrighted materials by restricting unauthorized use and duplication. Raval (2016) provides a comprehensive analysis of TPMs, such as digital rights management (DRM), encryption, and hardware locks, emphasizing their role in mitigating piracy and protecting intellectual property. Boni (2021) notes that TPMs serve as a gatekeeper for controlling access to proprietary content, particularly for online games and subscription services.

TPMs have evolved significantly alongside advancements in technology. Early methods included simple access keys or physical hardware requirements, which have now advanced to more sophisticated solutions like cloud-based DRM systems and blockchain technologies. Deng and Chen (2023) highlight the shift towards adaptive TPMs that can dynamically respond to new threats, such as hacking or reverse engineering.

The legal landscape supporting TPMs varies across jurisdictions. In the European Union (EU), TPMs are reinforced by the Directive 2001/29/EC, which requires member states to ensure the legal protection of technological measures against circumvention. Hargreaves (2011) points out that while this directive strengthens protections, it also raises concerns about fair use rights and interoperability with other software.

Challenges of cross-border enforcement. Cross-border enforcement remains a significant challenge, particularly with online piracy and counterfeit digital goods. Kovacic and Reindl (2004) note that the lack of harmonized international standards complicates enforcement efforts.

A major challenge in cross-border IP enforcement is the divergence in legal systems among countries. McManis (1996) identifies the lack of harmonization in national IP laws as a primary barrier to effective enforcement. Differences in judicial processes and evidentiary standards complicate the prosecution of IP infringement cases across borders.

Similarly, Jain (1996) highlights that enforcement efforts are often hindered by jurisdictional limitations, where IP holders face difficulties in pursuing cases in foreign courts. This is particularly problematic in regions where IP protections are underdeveloped or inconsistently applied.

The rise of digital technologies has further complicated cross-border IP enforcement. Raval (2016) explores how the internet enables the proliferation of pirated content across jurisdictions, making it difficult to identify and prosecute infringers. Online marketplaces and peer-to-peer networks often operate across multiple countries, exploiting legal loopholes and differences in enforcement standards.

Deng and Chen (2023) argue that existing international frameworks, such as the TRIPS Agreement, are insufficient to address the unique challenges posed by digital

piracy. They call for greater international cooperation and the development of technology-specific enforcement mechanisms.

While international agreements like the TRIPS Agreement aim to provide a unified framework for IP enforcement, their effectiveness is often questioned. Gervais (2017) critiques TRIPS for its lack of enforceable mechanisms, particularly in developing countries where legal and infrastructural capacities are limited. Deere (2008) echoes this concern, highlighting that the implementation of TRIPS standards varies widely, resulting in uneven enforcement outcomes.

Shadlen et al. (2005) note that bilateral and multilateral trade agreements often include IP enforcement provisions, but these are typically biased in favor of developed nations, creating an imbalance in global IP governance.

The role of emerging technologies. Emerging technologies, such as blockchain and AI, are transforming IP protections in the gaming industry. Gibson (2007) highlights how blockchain can secure digital ownership and facilitate transparent licensing agreements. Lisenco (2021) adds that AI-driven tools can help monitor and combat piracy more effectively.

AI has emerged as a powerful tool in the management and enforcement of IP rights. Gervais (2017) highlights the growing use of AI algorithms to monitor and detect copyright infringement in digital environments. Automated systems can scan vast amounts of online content for unauthorized use of protected materials, significantly reducing the time and cost of enforcement.

However, the integration of AI also raises questions about ownership and authorship. Deng and Chen (2023) discuss the complexities of attributing IP rights to AI-generated works. Current legal frameworks often fail to address whether creators of AI systems or users who direct these systems should hold the rights, leading to legal uncertainty.

Blockchain technology has garnered significant attention for its potential to revolutionize IP protection by providing immutable records of ownership and transactions. Handke (2018) underscores how blockchain can streamline the IP registration process, offering a decentralized and tamper-proof method for proving authorship and priority dates. Raval (2016) highlights the role of blockchain in creating smart contracts that automate licensing agreements and royalty payments. This reduces the risk of disputes and ensures that creators receive fair compensation for the use of their works. However, the adoption of blockchain faces challenges, including interoperability and scalability issues.

Big data analytics is transforming IP enforcement by enabling more effective identification of infringement patterns. Boni (2021) explores how big data tools analyze vast datasets to detect counterfeit goods in global supply chains. By identifying trends and suspicious activities, these tools help authorities prioritize enforcement actions and allocate resources more efficiently.

Dimita (2023) emphasizes that big data analytics also enhances market intelligence for rights holders, allowing them to understand how their IP is being used and to identify unauthorized uses. However, concerns about privacy and data security must be addressed to ensure ethical implementation.

The proliferation of IoT devices has introduced new dimensions to IP law. Deere (2008) notes that interconnected devices often incorporate software, hardware, and design elements, creating complex layers of IP protection. Disputes frequently arise over ownership and licensing of these components, particularly in cross-border contexts.

Kovacic and Reindl (2004) argue that the IoT ecosystem demands a more flexible approach to IP enforcement. Traditional legal frameworks may struggle to address the interconnected nature of these devices, requiring international collaboration and harmonized standards.

Emerging technologies are also playing a role in improving IP education and awareness. Boni (2021) highlights the use of virtual reality (VR) and gamification to educate creators about their rights and responsibilities. These tools make complex legal concepts more accessible, particularly for small and medium-sized enterprises (SMEs) and independent creators.

The integration of emerging technologies into IP law is not without ethical concerns. Handke (2018) warns against over-reliance on automated systems, which may inadvertently penalize legitimate uses or fail to account for fair use exceptions. Similarly, Deere (2008) raises concerns about the environmental impact of technologies such as blockchain, which consume significant energy resources.

Raval (2016) advocates for the development of ethical guidelines to govern the use of emerging technologies in IP enforcement. These guidelines should prioritize transparency, accountability, and inclusivity to ensure equitable outcomes.

The strengthening of IP laws in the EU has had a profound impact on the computer games industry. While these measures enhance protections and promote innovation, challenges persist, including cross-border enforcement, ethical considerations, and the need to balance corporate interests with consumer rights. Ongoing developments in technology and policy will likely continue to shape this dynamic field.

Aim. The aim of this article is to analyze the role of intellectual property (IP) protection within the European Union (EU) in the context of IT law, focusing specifically on its implications for the computer games industry. The study seeks to identify challenges, evaluate current legal frameworks, and propose actionable strategies to enhance IP protection in this rapidly evolving sector.

The main objectives of research are:

- to examine the current state of intellectual property protection in the EU with a focus on IT law and its relevance for the video games industry;
- to identify key challenges faced by stakeholders in protecting intellectual property, including issues such as piracy, copyright infringement and cross-border enforcement;
- to analyse the effectiveness of existing EU legal frameworks, such as the Digital Single Market Directive, and their application to the video games industry;
- to identify the role of new technologies, such as blockchain and artificial intelligence, in strengthening IP protection in this sector;
- to propose recommendations for improving legal mechanisms and policy frameworks to strengthen the protection of intellectual property rights and foster innovation in the video games industry.

Methodology. To achieve the objectives, the study conducted a comprehensive review of academic articles, legal texts and industry reports on EU intellectual property law, IT law and the computer games industry, as well as an analysis of historical cases of intellectual property disputes in the sector to identify trends and recurring issues. A legal analysis of EU directives, regulations and case law on intellectual property protection and their application to computer games was conducted. By employing this methodology, the article aims to provide a comprehensive understanding of the intersection of intellectual property protection, IT law, and the computer games industry within the EU, offering actionable insights for stakeholders.

Results. The foundation of the EU's IP framework lies in the harmonization of disparate national laws among its member states. McManis (1996) identifies the adoption of the European Patent Convention (1973) as a crucial starting point for regional collaboration in IP protection. The directive aimed to streamline patent applications and ensure consistent protections across member states.

The 1990s witnessed significant efforts to align copyright laws, particularly with the introduction of the Software Directive (1991), which granted uniform protections to software authors across the EU (Hargreaves, 2011). Similarly, the Trade Mark Directive (1988) and the establishment of the European Union Intellectual Property Office (EUIPO) provided mechanisms to simplify and centralize trademark registration.

The advent of the digital age necessitated a robust IP framework to address challenges such as piracy, copyright infringement, and digital rights management. Gibson (2007) underscores the significance of the Information Society Directive (2001), which extended copyright protections to digital works and introduced rights management systems.

The Digital Single Market Strategy (2015) marked a turning point in the EU's approach to IP law. Handke (2018) emphasizes that the strategy aimed to harmonize digital copyright laws and enhance cross-border access to online content. The Copyright Directive (2019) further strengthened protections for creators, including provisions to hold online platforms accountable for infringing content (Dimita, 2023).

Significant advancements in EU IP law have aimed to modernize protections, particularly addressing the complexities of digital environments. Dimita (2023) highlights the EU's proactive stance in updating IP frameworks to protect digital media, including video games, against piracy and infringement.

The EU's intellectual property protection framework is grounded in directives and regulations that aim to harmonize laws across member states. Key legislation includes:

- Copyright Directive (2001/29/EC);
- Digital Single Market (DSM) Directive (2019/790);
- Trademark Regulation (EU) 2017/1001;
- Trade Secrets Directive (2016/943);
- General Data Protection Regulation (GDPR).

Copyright Directive (2001/29/EC). This directive serves as a cornerstone for digital copyright law within the EU, offering a harmonized approach to the protection of intellectual property in the online environment. It ensures that creators and rights

holders are fairly compensated for the use of their works in digital formats, encompassing music, films, software, and video games. Its implementation has been instrumental in combating unauthorized reproduction and distribution of copyrighted material. Specifically, for the computer games industry, it provides legal grounds to address piracy and protect creative assets while navigating challenges such as peer-to-peer sharing and content streaming platforms. Lays the foundation for protecting creators' rights in the digital environment, ensuring remuneration for copyrighted works. It has been pivotal in addressing online piracy, a persistent challenge for the computer games industry.

Digital Single Market (DSM) Directive (2019/790). This directive represents a significant step in modernizing copyright laws within the EU to address the complexities of the digital economy. It includes critical provisions such as those on text and data mining, aimed at fostering research and innovation by allowing exceptions for these activities under specific conditions. Article 17 is particularly impactful, as it imposes accountability on online platforms for user-uploaded content, requiring them to obtain licenses or implement measures to prevent unauthorized distribution of copyrighted works. This directive has sparked significant debate among stakeholders, with proponents arguing it strengthens creators' rights and opponents raising concerns about potential overreach and impacts on user-generated content platforms. Its application to the computer games industry is vital, as it provides a framework for combating piracy, unauthorized sharing of game assets, and protecting developers' intellectual property in an increasingly interconnected digital ecosystem. Designed to modernize copyright rules, it includes provisions on text and data mining, platform liability, and fair remuneration for creators. Article 17, which addresses platform responsibility for user-uploaded content, is particularly relevant to combatting piracy and unauthorized game distribution.

Trademark Regulation (EU) 2017/1001. This regulation establishes a comprehensive and unified system for trademark protection within the EU, facilitating the registration and enforcement of trademarks across all member states. It streamlines the process for developers and publishers in the computer games industry to safeguard their brands, logos, and distinctive identifiers. This protection is crucial in an industry where brand identity often represents significant value, ensuring that game titles, character names, and associated marks are protected from unauthorized use. By simplifying cross-border trademark enforcement, this regulation provides a vital tool for maintaining brand integrity in an increasingly competitive and globalized market. Provides a unified system for trademark registration, allowing game developers to protect their brands and unique identifiers across the EU.

Trade Secrets Directive (2016/943). This directive provides a harmonized legal framework across the EU for the protection of confidential business information. It is particularly crucial for industries like computer games, where proprietary technologies, such as game engines, algorithms, and development strategies, form the backbone of competitive advantage. The directive defines trade secrets broadly, encompassing any business information that derives value from not being widely known and that has been subject to reasonable steps to keep it confidential. For the computer games industry,

this includes source codes, design documents, and other sensitive data. It also introduces legal remedies for misappropriation, ensuring that companies can seek redress for theft or unauthorized use of their trade secrets, thereby fostering innovation and trust within the digital economy. Protects confidential business information, which is critical for safeguarding proprietary game engines, algorithms, and development strategies.

General Data Protection Regulation (GDPR). The GDPR, implemented in 2018, is a landmark regulation that establishes a unified data protection framework across the EU. Although not specific to intellectual property, it significantly affects the IT and gaming sectors by dictating how personal data is collected, stored, and used. For the computer games industry, this includes managing user data collected through online interactions, in-game transactions, and user profiles. GDPR compliance is essential to avoid substantial penalties and to ensure user trust in a market increasingly focused on personalized gaming experiences. The regulation's impact extends to data portability, user consent, and the implementation of privacy-by-design principles, all of which influence game development and operational practices within the EU. Although not specific to IP, GDPR significantly impacts the IT and gaming sectors by regulating how personal data is collected and utilized in online gaming environments.

Table 1 presents a comparison of key directives and regulations.

Table 1. Results of the comparison of the analysis of key directives and regulations

Legislation	Purpose	Key Provisions	Impact on Computer Games Industry
Copyright Directive (2001/29/EC)	Protects creators' rights in digital content	Ensures fair compensation, combats piracy, and safeguards creative assets	Provides legal grounds to address piracy and protect intellectual property in games
Digital Single Market (DSM) Directive (2019/790)	Modernizes copyright rules for the digital economy	Text/data mining exceptions, platform liability (Article 17), and fair creator remuneration	Framework for combating piracy, unauthorized game sharing, and platform accountability
Trademark Regulation (EU) 2017/1001)	Establishes a unified trademark system across the EU	Simplifies trademark registration and enforcement across member states	Protects game brands, logos, and unique identifiers to maintain brand integrity in global markets
Trade Secrets Directive (2016/943)	Protects confidential business information	Broad definition of trade secrets, remedies for misappropriation	Safeguards proprietary game engines, algorithms, and development strategies
General Data Protection Regulation (GDPR)	Regulates personal data collection and usage	Data portability, user consent, privacy-by-design principles	Ensures responsible handling of user data in online games and builds trust in personalized gaming experiences

Source: systematized by the author

Reports from industry bodies, such as the European Games Developer Federation (EGDF) and the International Intellectual Property Alliance (IIPA), provide valuable insights into the practical implications of EU IP law:

– *Economic impact of IP infringement.* The EGDF (2022) reports that the computer games industry loses billions annually due to piracy and unauthorized distribution. This infringement undermines the financial stability of developers, leading to reduced revenue streams and a diminished capacity for reinvestment in innovation. Small and medium-sized enterprises (SMEs), which dominate the EU gaming market, are particularly vulnerable due to their limited resources for legal action and enforcement. Piracy not only devalues creative efforts but also impacts consumer trust and market growth by fostering illegitimate platforms and counterfeit products. Addressing these challenges is critical for sustaining the industry's growth and protecting its intellectual assets.

– *Effectiveness of current frameworks.* The IIPA (2021) highlights that while EU directives provide a strong legal basis, gaps in enforcement—especially on digital platforms—undermine their effectiveness. These gaps arise due to the fragmented nature of national enforcement mechanisms within member states, inconsistent application of penalties, and the difficulty of monitoring and regulating online activity across borders. Furthermore, the rapid evolution of technology and the sophistication of infringers—including the use of VPNs and decentralized file-sharing systems—pose additional challenges. Addressing these issues requires coordinated efforts among member states, enhanced technological tools for monitoring, and updated legislation to keep pace with emerging threats.

– *Need for harmonized approaches.* Industry reports frequently call for greater harmonization of IP enforcement across member states to address inconsistencies that hinder developers from fully leveraging the EU market. These inconsistencies stem from varying legal interpretations, enforcement capabilities, and resource allocations among member states. The lack of a standardized approach often creates loopholes that infringers exploit, undermining the effectiveness of intellectual property protections. Harmonization efforts would streamline processes, reduce administrative burdens, and foster a more predictable legal environment for developers. This is particularly critical for small and medium-sized enterprises (SMEs), which often lack the resources to navigate complex, fragmented legal systems. Coordinated policies and enforcement mechanisms would not only enhance IP protection but also promote innovation and competitiveness across the EU’s digital economy.

In Table 2, we have systematized information on the practical consequences of EU intellectual property law, presented in Reports from industry organizations such as the European Games Developers Federation (EGDF) and the International Intellectual Property Alliance (IIPA).

The study identified key trends and future challenges that could shape the future of intellectual property protection in the EU gaming industry in the areas of User-Generated Content, the Role of Artificial Intelligence and Cross-Border Enforcement.

Table 2. Systematized information on the practical consequences of EU intellectual property law

Insight	Description	Impact
Economic Impact of IP Infringement	The EGDF (2022) reports that the computer games industry loses billions annually due to piracy and unauthorized distribution.	Undermines developers' financial stability, reduces capacity for reinvestment, and fosters illegitimate platforms.
Effectiveness of Current Frameworks	The IIPA (2021) highlights gaps in enforcement due to fragmentation among member states and technological sophistication of infringers.	Calls for coordinated efforts, technological tools for monitoring, and updated legislation to address emerging threats.
Need for Harmonized Approaches	Industry reports emphasize greater harmonization of IP enforcement across member states to eliminate inconsistencies and loopholes.	Streamlines processes, reduces administrative burdens, and fosters innovation across the EU's digital economy.

Source: systematized by the author

User-Generated Content (UGC). UGC refers to content created by players, such as custom levels, mods, skins, and other creative assets integrated into games. This trend has become a cornerstone of player engagement, fostering communities and extending the lifespan of games. However, it raises complex questions around intellectual property ownership, licensing, and revenue sharing. Developers often navigate a fine line between encouraging creativity and protecting proprietary assets. The DSM Directive provides initial guidance, but ambiguities persist, particularly in scenarios where player-created content significantly alters or monetizes game assets. Addressing these issues requires clearer legal frameworks and collaborative approaches between developers and players to balance creativity with IP protection. As players increasingly create and share content within games, questions arise about ownership, licensing, and fair use. The DSM Directive offers some guidance, but more clarity is needed.

Role of Artificial Intelligence (AI). AI-driven tools are revolutionizing game development and content creation by automating processes such as asset generation, level design, and personalized gaming experiences. However, these advancements introduce complex challenges for copyright law. Determining authorship and ownership of AI-generated works raises critical legal questions: does the copyright belong to the developer of the AI, the user who provides input, or the AI system itself? Additionally, the use of AI to replicate or modify copyrighted assets, such as character models or game mechanics, further complicates IP protection. Addressing these issues requires updated legal frameworks that account for the unique capabilities and implications of AI in the gaming industry. AI-driven tools for game development and content creation pose novel challenges for copyright law, particularly in determining authorship and ownership of AI-generated works.

Cross-Border Enforcement. The global nature of online gaming complicates IP enforcement due to jurisdictional differences, inconsistent legal frameworks, and the technical challenges of monitoring digital content across borders. Current enforcement mechanisms often rely on bilateral agreements and cooperation between national authorities, which can be slow and resource-intensive. Additionally, the rapid pace of technological advancement outstrips existing regulations, enabling infringers to exploit

loopholes and evade detection. Collaborative mechanisms, such as standardized enforcement protocols and shared technological resources among EU member states and international bodies, are crucial to effectively address these issues. Emphasizing real-time monitoring, data-sharing, and uniform legal standards could significantly improve the efficacy of cross-border enforcement efforts. global nature of online gaming complicates IP enforcement. Collaborative mechanisms between the EU and international bodies will be essential to address infringement effectively.

Table 3 summarises key information on emerging trends that could shape the future of intellectual property protection in the EU video games industry.

Table 3. Key trends that could shape the future of intellectual property protection in the EU video games industry

Emerging Trend	Description	Key Challenges and Recommendations
User-Generated Content (UGC)	UGC refers to player-created content like mods, skins, and custom levels that enhance engagement and foster communities.	Complex IP issues around ownership, licensing, and monetization. Clearer legal frameworks and collaboration needed.
Role of Artificial Intelligence	AI automates game development processes, creating assets and enhancing player experiences.	Questions on authorship and ownership of AI-generated works. Updated copyright laws to address AI's unique implications.
Cross-Border Enforcement	Online gaming's global nature demands uniform IP laws and real-time enforcement across jurisdictions.	Jurisdictional inconsistencies and rapid technological advances necessitate standardized protocols and resource-sharing.
Blockchain Technology	Blockchain provides immutable records of IP ownership, distribution, and usage.	High implementation costs and scalability concerns. Encourages IP transparency and combats piracy through tamper-proof records.

Source: systematized by the author

New technologies such as blockchain and artificial intelligence (AI) are revolutionizing IP protection mechanisms in the gaming industry. We believe it is necessary to systematize in Table 4 the main challenges to IP protection mechanisms in the gaming industry that are caused by the use of blockchain and artificial intelligence (AI).

Table 4. Main challenges to IP protection mechanisms in the gaming industry that are caused by the use of Blockchain and Artificial Intelligence

Feature	Description	Challenges
Blockchain Technology		
IP Transparency	Blockchain's decentralized ledger allows developers to create tamper-proof records of ownership, ensuring transparency and trust in IP transactions.	High costs, energy consumption, and scalability concerns remain key barriers to widespread adoption.
Anti-Piracy Measures	By embedding smart contracts, blockchain can automate licensing and usage agreements, reducing unauthorized distribution.	
Artificial Intelligence		
Content Protection	AI-powered tools can identify and remove infringing content across platforms in real-time, reducing the spread of pirated games.	The reliance on AI for enforcement raises concerns about accuracy, biases, and potential overreach.
IP Enforcement	Machine learning algorithms can analyze patterns of infringement, helping authorities target repeat offenders.	Challenges arise in distinguishing fair use from infringement and ensuring unbiased, accurate enforcement actions.

Source: systematized by the author

By integrating these technologies into IP frameworks, the computer games industry can enhance its ability to protect intellectual property while fostering innovation and collaboration.

To address the challenges and foster innovation, we propose the following recommendations for improving legal mechanisms and policy frameworks:

1. Harmonizing enforcement mechanisms:

- establish standardized enforcement protocols across EU Member States to eliminate jurisdictional inconsistencies;
- establish a pan-European IP enforcement authority dedicated to digital content and games to ensure uniform application of laws.

2. Adopting new technologies:

- develop a mechanism to integrate blockchain technology for IP tracking, licensing and anti-piracy measures;
- develop AI-based tools to monitor, detect and enforce IP infringements in real time.

3. Enhanced cooperation:

- promote partnerships between developers, platforms and regulators to create joint IP protection strategies;
- promote public-private initiatives to finance technological solutions aimed at protecting IP rights.

4. Education and awareness:

- develop specific courses to educate developers and users on their rights and obligations to protect IP;
- develop campaigns to raise awareness of the impact of piracy and the importance of supporting legitimate game development.

5. Updated legal framework:

- revise copyright laws to address the complexity of user-generated content and AI-generated works.
- introduce clear guidance on cross-border enforcement of intellectual property rights in the context of online games.

By adopting these measures, the EU can strengthen its legal and technological capacity to protect intellectual property, foster innovation and support the development of the computer games industry.

The EU has established a comprehensive and evolving framework for intellectual property protection that serves as a cornerstone for the computer games industry. However, the dynamic nature of technology and the unique challenges of the gaming sector necessitate ongoing adaptation of these legal frameworks. By addressing gaps in enforcement, embracing emerging technologies, and fostering greater harmonization across member states, the EU can strengthen its position as a global leader in intellectual property protection for the digital age.

Discussion. The European Union (EU) has made significant strides in intellectual property (IP) protection, particularly in the context of the rapidly evolving computer games industry. As highlighted in the document, the legal frameworks and technological measures adopted within the EU provide a robust foundation for protecting intellectual property, yet several challenges and opportunities persist.

The harmonization of IP laws across the EU has been instrumental in creating a consistent approach to protecting intellectual property. Directives such as the Copyright Directive (2001/29/EC) and the Digital Single Market Directive (2019/790) have modernized copyright laws to address digital challenges. These measures have enhanced the ability of creators to safeguard their works and ensure fair remuneration. However, enforcement remains a critical challenge, particularly in cross-border contexts. The divergence in national enforcement mechanisms, inconsistent penalties, and the global nature of digital piracy underscore the need for more harmonized legal processes.

The Trademark Regulation (EU) 2017/1001 and Trade Secrets Directive (2016/943) have further strengthened protections for proprietary assets like game engines, characters, and brand identities, which are critical for fostering innovation and maintaining competitive advantages in the gaming sector.

Technological Protection Measures (TPMs), such as Digital Rights Management (DRM) and encryption technologies, have become pivotal in mitigating piracy and unauthorized use. These mechanisms offer a first line of defense against infringement. However, their effectiveness is often undermined by sophisticated hackers and the challenges of balancing IP protection with consumer rights. The implementation of adaptive TPMs, including blockchain-based and AI-driven solutions, offers promising pathways for enhanced protection but requires further innovation to address scalability and cost barriers.

Emerging technologies, particularly blockchain and artificial intelligence (AI), are transforming IP protection mechanisms. Blockchain's decentralized ledger provides immutable records of ownership, streamlining licensing processes and ensuring transparency. AI-powered tools have enhanced the detection and removal of infringing content across platforms, reducing enforcement costs and time. Nevertheless, these technologies bring their own set of challenges, such as questions around the authorship of AI-generated content and the scalability of blockchain applications.

Cross-border enforcement of IP rights remains one of the most pressing issues in the EU. The lack of harmonized international standards and the jurisdictional complexities of prosecuting IP infringement cases in foreign courts hinder effective enforcement. The proliferation of digital piracy across jurisdictions further exacerbates these challenges. Enhanced collaboration between EU member states and international organizations, coupled with real-time monitoring and standardized enforcement protocols, is crucial for addressing these issues.

The EU's comprehensive approach to IP protection has significantly benefited the computer games industry, fostering innovation and protecting creative assets. However, evolving technologies and global challenges demand continued adaptation of legal frameworks and enforcement mechanisms. By embracing technological advancements and harmonizing legal standards, the EU can strengthen its leadership in IP protection while supporting the sustainable growth of the gaming sector.

Conclusion. The European Union has demonstrated significant progress in developing a robust intellectual property (IP) framework to address the challenges

posed by the dynamic and rapidly evolving computer games industry. Key legislative advancements, such as the Copyright Directive, the Digital Single Market Directive, and the Trade Secrets Directive, have provided essential protections to creators and developers. These efforts have been instrumental in combating piracy, safeguarding innovation, and fostering economic growth across member states.

However, as this study highlights, critical challenges remain. Cross-border enforcement, the integration of emerging technologies, and the management of user-generated content (UGC) require continuous refinement of legal mechanisms and policies. Furthermore, balancing corporate interests with consumer rights and fostering equitable access to digital goods remains an ongoing ethical and operational concern.

Emerging technologies like blockchain and artificial intelligence (AI) present transformative opportunities for IP protection by enhancing transparency, automating enforcement, and combating piracy. Nevertheless, their implementation comes with challenges, including high costs, scalability issues, and the need for updated legal frameworks to address their unique implications.

To strengthen IP protection and foster innovation in the computer games industry, the EU must prioritize harmonizing enforcement mechanisms, leveraging technological advancements, and fostering collaboration among stakeholders. Promoting education and awareness about IP rights and responsibilities will further empower creators and consumers to contribute positively to this dynamic sector.

The EU's comprehensive approach to intellectual property protection underscores its commitment to fostering innovation while addressing the unique challenges of the digital age. By embracing ongoing advancements and maintaining a balanced perspective, the EU can solidify its position as a global leader in intellectual property governance, ensuring sustainable growth for the computer games industry and beyond.

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CHAPTER 3
THEORETICAL AND PRACTICAL ASPECTS OF MODERN PSYCHOLOGY

SOCIAL SUPPORT AND PSYCHOLOGICAL ASSISTANCE FOR MILITARY PERSONNEL AND THEIR FAMILIES THROUGH ONLINE COUNSELING

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Abstract. *The problem of improving mental health, ensuring psychological stability and readiness to perform assigned tasks is a priority in the system of moral and psychological support of the Armed Forces of Ukraine and should aim to maintain a high level of combat readiness of units and subdivisions. A large proportion of servicemen in the combat zone have severe stress disorders, and sometimes they cannot and do not know how to cope with the states and feelings they experience. This has a direct impact on the military's immediate environment. The purpose of the article is to conduct a differential analysis of contemporary practices in consultative psychology, to obtain and scientifically interpret empirical data as a prerequisite for identifying the characteristics and determining the priorities of online counseling within the system of psychological rehabilitation and social support for military personnel and their families. This study employs a structured and systematic methodology to explore the potential and implementation of online counseling as a form of psychological and social support for military personnel and their families. The methodological framework integrates theoretical analysis, empirical research, and practical application to provide a comprehensive understanding of the subject. The study is based on the world experience of psychological counseling, as well as the results of an empirical study, which made it possible to identify and characterize the psychological needs of military personnel, to determine the priority steps to meet them with the tools of psychological practice. It is substantiated that psychological counseling of servicemen has a number of features, which are primarily related to the specifics of military service, conditions of stay, constant danger and threat to life. The necessity and expediency of developing and implementing the latest forms and programs of psychological counseling are proved. The article substantiates the need to organize online psychological counseling in view of the involvement of military personnel in performing tasks in combat areas and the remoteness from qualified psychological assistance - one of the few available.*

Keywords: *social support; psychological assistance; online counseling; combat operations; mental disorder; military personnel; requests; expectations.*

JEL Classification: D91, H55, M14

Formulas: 0; fig. 0; tabl. 1; bibl. 16

Introduction. Participation in combat, whether through direct contact with the enemy or exposure to the destructive factors of weaponry and military equipment, is a powerful psychotraumatic factor for the human body. This leads to functional disorders, the development of pathological reactions, and the emergence of somatic and mental illnesses. Nearly one in five combatants suffers from neuropsychiatric disorders, and among the wounded, this number rises to one in three. Therefore, the development and effective implementation of online counseling programs should be considered an important element of the psychological support and rehabilitation system, which will contribute to the improvement of the mental health of military personnel and their families. Online counseling is an effective form of social support and psychological assistance that can be applied even under unfavorable conditions, without specific equipment and comfort. Moreover, the high rehabilitation potential of this type of psychological assistance is associated with its accessibility, the absence of any special requirements for the client, and equal opportunities for everyone. This and other factors highlight the importance of online counseling in the system of psychological rehabilitation and support for military personnel and their families.

Literature review. The field of psychological rehabilitation and support through counseling tools has garnered considerable attention from both domestic and international scholars. Ukrainian researchers, including Blinov (2011, 2013, 2014), Bulakh, Vilyuzhanina (2013), Vorobyova, Khayrulin, Khomych, Kisarchuk, Kolesnichenko, Kuzmenko, Matsehora, Titarenko, Tkach, and Tsymbalyuk, have made significant contributions to counseling psychology. Their works have advanced a problem-oriented approach, focusing on the genesis of psychological issues caused by uncertainty and external determinants. This approach has been instrumental in identifying factors that exacerbate psychological problems and in developing strategies to mitigate their impact through counseling interventions.

Blinov (2011, 2014) has extensively studied the psychological state of military personnel, highlighting the effects of fear and personality deformation due to combat involvement. These studies underscore the necessity of targeted interventions to address specific psychological stressors. Vilyuzhanina (2013) explored the unique aspects of online counseling, emphasizing its potential for addressing psychological issues in remote or resource-constrained environments.

Internationally, contemporary psychological counseling has evolved significantly since its early development, with contributions from Rogers and the integration of theories such as gestalt therapy, behaviorism, and cognitive therapy. These frameworks have informed counseling practices by promoting client agency, fostering non-authoritarian relationships, and adapting to evolving sociocultural contexts.

Recent studies in Ukraine have also focused on the psychological impact of family dynamics on military personnel. Didyk (2018) examined how family-related stress influences servicemen's mental health, while Kokun et al. (2023) emphasized the importance of providing tailored psychological support to both servicemen and their families. Such findings highlight the interconnected nature of family and individual well-being in military contexts.

The increasing adoption of online counseling has introduced new dimensions to psychological practice. Ivaneko (2012) demonstrated the effectiveness of online platforms in delivering counseling services, particularly for individuals unable to access traditional methods. However, these studies also note challenges such as establishing trust and ensuring the efficacy of interventions conducted remotely.

The development of targeted, accessible, and culturally relevant interventions remains a priority for improving mental health outcomes in this population.

Aims. The purpose of the article is to conduct a differential analysis of contemporary practices in consultative psychology, to obtain and scientifically interpret empirical data as a prerequisite for identifying the characteristics and determining the priorities of online counseling within the system of psychological rehabilitation and social support for military personnel and their families.

Metodology. This study employs a structured and systematic methodology to explore the potential and implementation of online counseling as a form of psychological and social support for military personnel and their families. The methodological framework integrates theoretical analysis, empirical research, and practical application to provide a comprehensive understanding of the subject.

A social and psychological survey is conducted among military personnel and their families to identify their psychological needs and preferences for support mechanisms. Participants include 72 servicemen and their families, with diverse demographics to ensure representativeness. Data collection includes questionnaires and psychological tests to evaluate anxiety levels, family conflict resolution needs, and readiness to seek psychological support, especially online. Specific metrics include age, gender, military rank, education level, combat experience, and previous use of psychological services. Quantitative and qualitative methods are used to interpret the survey and test results. Statistical tools measure the prevalence of psychological symptoms and the effectiveness of online counseling compared to traditional methods.

By combining theoretical insights with empirical data, this study offers a robust methodology to advance the understanding and application of online counseling for military contexts. The findings are intended to guide the development of accessible, effective, and culturally relevant psychological support systems.

Results. The need to seek advice and help has existed since ancient times. The existence of advisors, consultants, and the very phenomenon of counseling in its primitive form can be traced in many cultures around the world. In contrast, modern psychological counseling is a branch of practical psychology that involves providing direct psychological assistance to individuals in need by a specialist psychologist, in the form of recommendations based on personal conversation and prior examination of the issue faced by the client. It aims to support the developing personality and is part of the practical psychologist's work. An important stage in the formation and development of psychological counseling can be attributed to the research of C. Rogers. His theory was based on the hypothesis that not all individuals seeking help are mentally ill and require medication. They should take greater responsibility for their own development and pay attention to personal resources. In the mid-20th century, new theories and directions emerged, including behaviorism, gestalt therapy,

transactional analysis, rational-emotive therapy, and cognitive therapy. At the same time, associations of counseling psychologists developed, who employed appropriate methods of psychological practice.

According to domestic researchers, four trends can be identified in the development of counseling psychology:

- a shift in the psychologist's attitude towards the client's symptoms – they not only seek to relieve the client of suffering through techniques aimed at alleviating symptoms but also strive to recognize their nature;
- dominance of encouraging the client's own activity during the counseling process;
- formation of a new role position for the consultant, according to which the psychologist seeks equality and partnership with the client, avoids authoritarianism, and demonstrates their own awareness and competence;
- changes in therapeutic relationships due to the blurring of boundaries between psychological and psychotherapeutic schools.

When discussing counseling, we refer to providing psychological help to individuals who do not have pathological mental disorders but are experiencing difficult life circumstances. Thus, the psychologist's task is to assist the client in coping with current life challenges. The main goal of psychological counseling is to help the client recognize their problem and find effective solutions, as well as to teach the client to take responsibility for their decisions and acquire the ability to utilize the knowledge gained. In this way, psychological counseling helps individuals perceive themselves, others, and life situations adequately, as well as change their system of interpersonal relationships. Consequently, psychological counseling is based on certain principles that align closely with the ethical principles of medical professionals: respect for the client's personality, acceptance of their values and life norms, a friendly attitude, and the maintenance of confidentiality. Another important principle is the psychologist's refusal to give advice and recipes, as they cannot take responsibility for another person's life. Their task is to enhance the client's responsibility for what is happening to them, encouraging them to be active in analyzing the problem and finding a way out of the crisis.

An analysis of the scientific literature allows us to identify the main areas of psychological counseling (Table 1).

In accordance with the Instruction on the Organization of Psychological Support for the Personnel of the Armed Forces of Ukraine, psychological support is a targeted activity carried out by military management bodies, commanders, and officials of moral and psychological support structures aimed at psychological selection, formation, maintenance, and restoration of personnel psychological readiness to perform tasks, emotional-volitional stability to negative psychological factors, reduction of psychogenic losses, and preservation of the mental health of military personnel. Some tasks of psychological support include assisting in organizing and conducting social-psychological and professional adaptation and rehabilitation of military personnel, identifying individuals with neuro-psychological instability, implementing psychoprophylactic measures and psychological correction, teaching

personnel psychological methods for providing individual and mutual assistance, and restoring and preserving the mental health of personnel.

Table 1. Areas and Directions of Psychological Counseling

Spheres of psychological counseling	Direction of psychological counseling
The mental development of a child	Fulfilling emotional needs in acquiring personal identity through cultural, ethnic, and ethical self-determination processes; providing psychological assistance to avoid emotional trauma when realizing the inevitability of death or in cases of real loss of parents and close relatives; assisting in the development of stable value and moral norms
Existential and personal issues of adolescents	Helping to overcome the crisis of psychological separation from parents and identification of the adolescent, feelings of inferiority, awareness of the limited capabilities of parents, sexual issues, the struggle for personal and social status, and the transformation processes of infantile religious consciousness
Existential and personal issues of adolescents	Helping to overcome the crisis of psychological separation from parents and identification of the adolescent, feelings of inferiority, awareness of the limited capabilities of parents, sexual issues, the struggle for personal and social status, and the transformation processes of infantile religious consciousness
Marriage and family	Marital and parental conflicts, family crises, relationships within the family, premarital counseling
Issues of mental and personal health	Traditional preventive and ongoing assistance in cases of mental and somatic illnesses, emotional and spiritual suffering related to mood disorders, alcoholism, drug addiction, life stresses, conflicts, and borderline states
Problems of the elderly	Developing an adequate worldview, fulfilling the emotional needs of the elderly, responding to religious issues, regular patronage, and counseling in organizing an appropriate lifestyle
Places of imprisonment, hospitals, barracks, student dormitories	Issues of personality, communication, mental state, as well as spirituality
Psychological assistance and support in crisis situations	Counseling relatives and close ones in cases of sudden death, suicide attempts, rape, betrayal, loss of a loved one, and job loss
School counseling	Covering issues of teacher-student relationships, relationships among students, issues with parents, school performance, development of abilities, and behavioral deviations
Professional counseling	Includes both general orientation in choosing a particular profession and specific issues: how to write a resume, how and where to get another profession, where to find a job according to one's capabilities
Psychological assistance concerning cross-cultural issues	Barriers to adaptation, overcoming ethnic prejudices and stereotypes in immigrants; Management consulting (consulting in organizations): assistance in making managerial decisions, communication skills training, monitoring and resolving conflicts, and working with personnel

Source: developed by the authors

These and other tasks are realized through organizing and conducting psychological training, psychological diagnostics, and analyzing individual psychological characteristics of military personnel, providing psychological assistance to personnel, and conducting psychological counseling and social support for military personnel and their families.

Online counseling is an alternative source of psychological assistance in cases where traditional psychological counseling is unavailable or impossible. Online counseling allows psychologists to expand their professional activities and assist individuals who, for various reasons, cannot be physically present at a session. By using communication tools, and thus consulting in real-time, this form of providing psychological help is not significantly less effective than in-person counseling.

However, the psychologist-counselor must have experience and skills for online work, possessing a set of techniques that can be used in this form of counseling. Online counseling has several significant advantages, as it does not require time for travel, allows for communication at a scheduled time, and is a convenient form of obtaining psychological assistance, which is easier to undertake, especially for individuals who feel shy or have difficulties in communication. Online counseling can be practiced as an additional method to in-person counseling or as an independent therapeutic process. As an adjunct, clients may use online communication with the consultant between face-to-face sessions [8]. Psychological assistance to military personnel and their families through counseling and online counseling should be provided to restore and preserve functional mental health. The most challenging aspect of organizing counseling work with military personnel and their families is the stage of establishing psychological contact and gaining trust.

The most significant factors that determine the wide range of threats to the mental health of military personnel include strict regulation of all types of relationships, threats to personal health and life, loss of colleagues and subordinates, intense physical strain, material and economic restrictions and limitations in nutrition, isolation from communication with relatives, close friends, the necessity of unconditional submission, limitations in choice and decision-making, forced openness in all areas of life, encouragement of aggressive behavior, suppression of individual initiative, and restrictions on self-expression. These factors can provoke significant fatigue, exhaustion, and energy depletion, suspicion, memory impairment, difficulties concentrating, development of post-traumatic stress disorder symptoms, destructive personality changes, social-psychological maladaptation, communication limitations, antisocial behavior, domestic, medical, and family issues, conflicts with spouses, family members, close friends, uncertainty about the future, suicidal thoughts, partial or complete loss of life meaning, lack of confidence in one's abilities, pessimism, feelings of neglect and unworthiness, distrust of others, feelings of unreality regarding surrounding events, development of a sense of inability to realistically influence events, and excessive anxiety. The aforementioned states and determinants of disrupted psycho-emotional balance are grounds for counseling interventions in the system of psychological support and rehabilitation of military personnel and their families.

In the families of military personnel, there is uncertainty regarding issues related to preparation and participation in combat operations, timeframes, the family's ability to cope with separation, and thoughts about the risk of injury or death. Unresolved problems within the family can have potentially destructive consequences. A serviceman who is worried and preoccupied with family troubles can easily become distracted and unable to focus on important tasks at critical moments [13]. This underscores the need for comprehensive programs for psychological support and rehabilitation that address the concerns of both military personnel and their families. Such conclusions are confirmed by the results of an empirical study conducted by the authors among the personnel of one of the military units of the Armed Forces of Ukraine.

The social and psychological study consisted of several stages: a socio-psychological survey of personnel, psychological testing, analysis and interpretation of the collected data, and the development of practical recommendations for psychologists and consultants working with military personnel and their families. The study involved 72 servicemen (71.2% – men, 28.8% – women). The largest share of respondents by age belonged to the group aged 30 to 45 years (56.2%), while the age group under 30 years constituted 31.5%. The number of surveyed servicemen aged 45 to 55 years and over 55 years totaled 12.3%. Higher education was held by 63.9% of respondents, specialized secondary education by 26.4%, and secondary education by 9.7%. Servicemen with secondary education held the rank of soldier, with 71.4% of them called up to the Armed Forces of Ukraine through mobilization. By military rank, the distribution of respondents was as follows: enlisted personnel – 30.6%, sergeants – 40.3%, and officers – 29.2%. The share of women among officers was 17.1%. Regarding combat experience, nearly a third of respondents (27.8%) answered negatively. This category is equally represented by servicemen mobilized and contract soldiers.

According to the analysis of empirical data, 26.4% of respondents sought help from a psychologist during their military service. The most common reasons for seeking help included feelings of anxiety and inner unrest (12.7%), family conflict situations (7%), experiencing an extraordinary event (7%), personal injury (5.6%) or injuries to comrades and/or their deaths (4.2%). Additionally, 22.2% of respondents indicated that they had experience receiving psychological help using communication tools, particularly the Internet (online counseling, forums, email).

It is worth noting that among servicemen who chose online counseling as a form of psychological assistance, citizens from all age groups were represented. No dependencies were established based on gender or type of military service in the study. At the same time, 33.3% of servicemen reported experiencing some discomfort during counseling, with the issues they sought help for being resolved incompletely. Investigating the issue of psychological assistance received by family members of servicemen, it was noted that 25% of respondents claimed that their relatives had such experience, while 13.9% did not have information on this matter. The leading reasons relatives of servicemen sought qualified assistance included experiencing extraordinary events (35%) and feelings of anxiety and inner unrest (29%). Requests concerning family conflict situations constituted about 12%.

Additionally, 48.6% of respondents indicated they would be willing to seek psychological help in the future, while among servicemen who had already experienced such consultations, the corresponding percentage was 56.5%. Regarding the choice of a psychologist, 66.7% of respondents stated that the age and gender of the specialist were not of significant importance. 31.9% of servicemen would most likely choose an active-duty military person or a veteran as a specialist, 12.5% preferred a civilian psychologist, and 8.3% would prefer talking to a comrade. The results of the conducted research also indicated that, despite the belief that most servicemen are inclined toward one-time counseling, only 15.3% of respondents gave such an answer, while 34.7% indicated that problem resolution could be achieved within 10–15 sessions. 26.4% of

servicemen believe that psychological issues should be addressed individually, depending on the nature of the problem. The study found that among respondents, common concerns include feelings of anxiety (13.9%), frequent sleep disturbances (18.1%), suicidal thoughts (13.9%), and combinations of these symptoms, with deterioration in family relationships (19.4%) and conflicts at work (29.9%). There is no doubt that among both active and veteran servicemen, as well as their family members, there is currently a significant number of individuals who need psychological assistance.

Discussion. The research underscores the critical role of online counseling as an innovative approach to providing psychological and social support for military personnel and their families. Participation in combat and exposure to the associated psychotraumatic factors result in a range of mental health challenges, emphasizing the urgent need for accessible and effective psychological interventions.

The role of online counseling in overcoming barriers to access. One of the key findings of this study is the effectiveness of online counseling in overcoming logistical barriers faced by military personnel. This modality addresses the geographical constraints often experienced by soldiers deployed in combat zones or stationed in remote locations. Furthermore, online counseling reduces the stigma associated with seeking mental health support by offering a private and less intrusive platform for individuals to engage with psychological services. The accessibility and flexibility of this approach make it a vital tool in the mental health and rehabilitation framework.

Psychological Challenges and Tailored Interventions. The study highlights various psychological issues experienced by military personnel, including anxiety, sleep disturbances, post-traumatic stress symptoms, and interpersonal conflicts. The diversity of these challenges calls for personalized and adaptive interventions that cater to individual needs. Online counseling offers the advantage of customization, where sessions can be tailored to address specific concerns, such as family conflicts or professional stressors. This adaptability enhances the efficacy of counseling and aligns with the psychological complexities faced by military personnel and their families.

Empirical insights and practical implications. Empirical data from the study reveal that a significant proportion of servicemen and their families experience unresolved mental health concerns. While many participants expressed willingness to seek psychological help, the study found gaps in satisfaction with the outcomes of previous counseling sessions. This highlights the need for enhanced training for online counselors, particularly those working with military personnel. Expertise in military culture and an understanding of the unique stressors faced by soldiers are crucial for building trust and delivering effective support.

Additionally, the preference among many military personnel for counselors with combat experience or military backgrounds indicates the importance of shared understanding and relatability in therapeutic relationships. Incorporating veterans and active-duty military personnel into counseling roles could improve engagement and trust within this population.

Family-centered support and preventive measures. The findings also emphasize the interconnectedness of military personnel's mental health and their family

dynamics. Family-related stressors, including uncertainty and separation, exacerbate psychological challenges for soldiers. Online counseling provides a platform to address these issues collaboratively, involving both the servicemen and their families in the counseling process. Furthermore, preventive measures, such as educating families on coping mechanisms and fostering resilience, can mitigate potential stressors before they escalate.

Challenges and Future Directions. While the advantages of online counseling are evident, challenges such as technical issues, lack of internet access in certain regions, and the need for proper training in online modalities were noted. Addressing these obstacles is essential for the effective implementation of online counseling programs. The development of comprehensive training modules for online counselors, incorporating techniques specific to military populations, can bridge this gap. Additionally, leveraging technological advancements such as AI-driven chatbots and virtual reality-based interventions could complement human-led counseling efforts.

Recommendations for policy and practice. This study advocates for the integration of online counseling into the broader framework of psychological and social support for military personnel. Key recommendations include:

1. *Training and certification* - establishing specialized training programs for counselors to enhance their skills in addressing the unique needs of military personnel and their families.

2. *Veteran involvement* - encouraging the participation of veterans and active-duty personnel as counselors to leverage their shared experiences.

3. *Technological infrastructure* - investing in reliable digital platforms to facilitate seamless online counseling services.

4. *Family engagement* - developing family-centered programs to strengthen support systems and foster resilience among military families.

The findings affirm that online counseling is a critical component of psychological support for military personnel and their families. By addressing logistical challenges, personalizing interventions, and involving families in the therapeutic process, online counseling contributes significantly to the mental health and well-being of Ukraine's defenders. Future efforts should focus on scaling up these services, addressing existing challenges, and fostering collaborations among military organizations, mental health professionals, and policymakers. This multi-faceted approach will ensure the sustainability and effectiveness of online counseling initiatives in addressing the psychological needs of military personnel.

Conclusions. The results of the conducted study confirmed that military personnel and their family members require a special approach in the process of psychological rehabilitation and social support. Therefore, the issue of improving online counseling programs and activities to enhance or restore the mental health of the country's defenders and their families arises. This also pertains to increasing the level of psychological awareness among military personnel and their families regarding the availability of psychological assistance in various life, conflict, and crisis situations, the use of different types and forms of counseling, including online; training servicemen in self-help and mutual assistance methods in case of sudden interruptions

in online counseling sessions, or if continuation is impossible due to technical issues or the execution of combat tasks.

Additionally, it is important to inform about the functioning and use of online services, platforms, and chatbots for psychological assistance, where one can find meditative techniques, breathing and relaxation exercises, and other helpful tips for stabilizing mental health. We consider it advisable, when choosing an online consultant for military personnel, to involve and prioritize psychologists who are veterans, combat participants, and specialized professionals among active military personnel who understand military affairs, have experienced similar conditions, and are part of the reference environment.

Furthermore, when working with military personnel and their families, it is essential to establish the principle of equality in relationships, pay attention to the development of mutual assistance, and form family traditions and values, emphasizing preventive measures to promote and adhere to a healthy lifestyle as a prerequisite for mental well-being and social development.

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EFFECT OF VR-BASED MINDFULNESS INTERVENTION ON FEAR AMONG ADULTS

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Abstract. *This study explores the integration of Virtual Reality (VR) and mindfulness techniques to address fear among adults, a novel approach leveraging advancements in immersive technologies. VR-based interventions have shown potential in various therapeutic settings, but their application in mindfulness counseling remains underexplored. The research aims to evaluate the effectiveness of VR-based mindfulness interventions in reducing fear responses among adults. Objectives include examining physiological and emotional changes pre- and post-intervention and exploring participants' subjective experiences. A pre- and post-experimental design was employed with a sample of 20 college students aged 21–30. Participants underwent a structured VR experience, including exposure to both fear-inducing and calming mindfulness scenarios. Data were collected using structured questionnaires, Likert-scale ratings, and narrative feedback. Paired t-tests and qualitative analysis were used to analyze the data. The study found a statistically significant reduction in fear levels post-intervention, with participants reporting increased relaxation and reduced bodily tension after the mindfulness VR experience. Narrative analysis revealed enhanced emotional stability and a sense of grounding among participants. VR-based mindfulness interventions effectively moderate fear responses and provide grounding through immersive relaxation techniques. The findings highlight the potential of integrating VR into counseling settings to address stress and anxiety. Further studies should explore long-term impacts, scalability across diverse populations, and the integration of complementary technologies such as blockchain for secure data management and enhanced therapeutic outcomes.*

Keywords: *Virtual Reality; VR Based intervention; Blockchain; Counselling; Mental health.*

JEL Classification: D91, H55, M14

Formulas: 0; fig.: 1; table: 1; bibl.: 18

Introduction. Advancement in the field of technology has led to various innovations in multiple domains including mental health. While exploring latest innovations in technology it was seen that virtual reality (VR) and blockchain technology are the two prominent and emerging ideas which can be implemented.

Literature Review. Virtual reality (VR) is the use of computer modeling and simulation that enables a person to interact with an artificial three-dimensional (3-D) visual or another sensory environment (Lowood, 2024). Where as Blockchain is a digital record that stores different kinds of data (Rodeck & Curry, 2022).

Virtual reality is gradually gaining attention in the field of psychology. The sense of telepresence created by VR can be proven promising in the treatment of various mental health challenges like anxiety disorder, stress-related disorders (e.g. PTSD), phobias, eating disorders, addiction, autism, etc. and there have been various supportive researches on the effectiveness of virtual reality in different therapeutic interventions (Riva & Serino, 2020).

A study was conducted to evaluate the effectiveness of new innovations. The major findings of the study focuses on the importance of understanding and assessing the effectiveness of upcoming new innovations. Similarly, current research also focuses on understanding the effectiveness of VR based interventions in the field of mental health. (Gupta et al., 2021)

As per a systematic literature review conducted on Virtual reality as a technology in the treatment of anxiety disorders, it was stated that VR provides an experience of a sense of presence through a computer-generated three-dimensional environment. The outcome of this review mentioned that VR allows the patient to have control over their sensory stimulation and when and how they would deliver the sensory stimulus hence it can be used as a part of therapeutic intervention. VR can be used for a wide range of psychiatric disorders but the article specifically lays attention on using VR as an exposure-based intervention for anxiety disorder (Maples-Keller et al., 2018). Another detailed study and literature review was conducted on VR-based mindfulness which stated that VR-based mindfulness consists of VR meditation and mind-body exercises. The review indicates that VR mind-body exercises result in increasing mental health and physical health of older adults.

However, the study states that VR-based mindfulness in combination with other forms of exercise can promote mental well-being of older adults and recommends future research on the same (Gao et al., 2024). According to a 2-week VR intervention used to manage the level of depression, anxiety, and stress conducted with university students in China, mindful VR and relaxing music VR decreased the level of depression, anxiety, and stress.

The study mentioned that Mindfulness VR and Relaxing Music VR had proved to be an effective psychological intervention in negating negative emotions. Hence, the study recommends future research focusing on enhancing the Mindfulness VR intervention which can benefit further. Apart from that, further research can also be conducted to study the long-term impact of the interventions on negating negative emotions (Zheng et al., 2024). Park et al. refer to 36 studies on virtual reality treatments

in psychiatry that showed VR reduces pain and stress, and more than supports and treats anxiety disorders, phobias, and PTSD.

The authors also suggested that VR may have potentially positive effects on depression, cognition, social behavior functions, and dementia, MCI, schizophrenia, and autism. Although VR systems may cause user addiction and motion sickness, they can offer controlled sensory stimuli and possibly function as innovative clinical tools for patients who have certain psychiatric symptoms (Park et al., 2019). A study was conducted to understand the effectiveness of systematic desensitization through virtual reality for mitigating public speaking anxiety. Data was collected from a laboratory user study with 25 participants. The paper highlights the previous studies demonstrating the role of VR training in reducing public speaking anxiety (PSA). Various methods like social stimuli, audience (real or unreal), etc. were used to understand PSA triggers. As previous work highlighted in the study proved constant exposure to PSA triggers through VR scenarios could help in decreasing anxiety levels, opening up an opportunity to use it in a therapeutic intervention.

Additionally, the study also emphasized the importance of the optimal number of session for accurate data prediction along with acoustic and physiological features being the predictors of changing levels of PSA (Ebers et al., 2020). This study on 65 final-year students explores virtual reality therapy as a potential intervention for stress reduction. Stress was induced among the students by the Stroop task and a virtual environment involving natural sounds and forest-like environment was designed to promote feeling of relaxation. EEG readings indicate a calming effect of VRT amongst the mildly stressed group. However, there was no drastic difference observed between the control and experimental groups highlighting the importance of considering the personal preferences and experience of the individual, as the effectiveness of virtual reality in mitigating stress might vary from person to person (ESwaran et al., 2018). A pilot study was conducted on 42 GAD patients from three public centers in Zaragoza, Spain. This study aims to understand the efficiency of mindful-based interventions (MBIs) with the integration of virtual reality to treat Generalized Anxiety Disorder (GAD). As GAD patients face challenges like attention deficit, making them more prone to drop out of treatment, study highlighted the positive impact of VR integration in improving adherence rate among the group receiving Virtual Reality DBT® Mindfulness Skills. In this study, MBIs are also observed to be helpful in depression, emotional regulation, and various aspects of mindfulness, and integration of virtual reality is proven to improve the efficacy of existing interventions like MBI by improving patient engagement among GAD patients. Hence, this integration can also have positive treatment outcomes and effects on other mental health challenges (Navarro-Haro, 2019).

Blockchain is a digital record that stores different kinds of data. A new block is created and added to the chain whenever new data is added. To ensure this digital record is identical everywhere, all network nodes update the copy of this record. The reason why blockchain is considered extremely safe is due to how new blocks are created (Rodeck & Curry, 2022). Majorly associated with cryptocurrency, the blockchain technique is a problem solver for various fields like banking, supply chain monitoring,

voting, etc. A review article stated that blockchain technology is primarily used and claimed to be helpful in the financial industry yet it can be used in various industries. It states that supporting the architecture of blockchain, it contains a lot of potential to bring changes and advancements in the fields of medical, clinical and life sciences (Justinia, 2019). A descriptive research was conducted to study blockchain technology to build a psychological blockchain. The study clearly mentioned how blockchain technology can be a breakthrough innovation in the field of psychology if it was integrated with the behavioral domain to be used for marketing. The key finding of the study included how the components such as trust, confidence, and intention are hierarchically in order with respect to the hierarchy of decentralization, interaction, and learning process (Sahoo and De, 2023).

Another study fills the gap by analyzing cognitive factors that influence adoption contingent upon user characteristics. A cross-sectional survey of 506 participants further indicates that perceived threat vulnerability, response cost, efficacy, and self-efficacy influence adoption intentions, moderated by knowledge and innovativeness. These results offer practical implications on developing and marketing blockchain technologies, providing context for user views on adopting blockchain technologies, especially in relation to issues of data privacy and security (Davit Marikyan et al., 2022). A study conducted among 424 healthcare workers from Andhra Pradesh, demonstrates that a really significant problem area requires further extensive research in health informatics, data science, and ethics to adequately ensure blockchain-based EHR is employed for effective use. Some of the concerns addressed in this paper include the impact that blockchain has on the environment, access to healthcare, and trust of patients in relation to care received. It generally adds research on blockchain regarding health. EHRs have replaced physical patient records due to the convenience of avoiding data duplication, but there are challenges like poor interoperability and privacy concerns. Therefore, blockchain offers a solution to these problems by improving EHRs through their interoperability as well as preserving privacy (Seva Rangnekar et al., 2023).

Another paper discusses data protection of patients in the mental health sector using blockchain technology. A blockchain-based shared case registry model was suggested that uses blockchain technology features for creating secure psychiatric data. The model focuses on data protecting integrity and confidentiality along with unauthorized access. It was also highlighted that the model will promote smoother data exchange between different healthcare systems leading to effective treatment outcomes. This would support collaborations among different healthcare providers resulting in comprehensive care for patients with mental health challenges. The study emphasizes the potential use of blockchain technology in any areas of healthcare that require secure data management. (Nehal et al., 2023).

A combination of these game-changing technologies VR and blockchain may provide more advanced and effective interventions in the mental health industry.

One of the studies explored the effectiveness of using a metaverse based on blockchain and Non-Fungible Tokens (NFTs) for treating claustrophobia by creating an engaging and secure environment. The approach aims to support traditional methods

to treat claustrophobia by using blockchain for data management and using NFTs to increase patient participation as there has been evidence of these factors improving patient motivation, participation, and data security. Evaluation of the design also highlighted that it is effective against various security threats. The study emphasized that this design can address existing limitations in claustrophobia exposure therapy, such as challenges in creating realistic and controlled environments. Being flexible in nature, it can also be adapted for various other exposure therapies like social anxiety, different phobias, etc. Using blockchain will allow us to manage the data securely. (Ahmad et al., 2024).

All the findings in this study highlight the limited research in India and recommend conducting more research about virtual reality in therapeutic intervention. Similarly there is no research focusing on VR and the potential of blockchain in the field of psychology. Even though there are previous studies indicating clear use of VR based therapeutic interventions, it has been limited to clinical settings; however, exploration of the same is required in counseling while training certain skills like mindfulness, gratitude, stress, and anxiety management, etc. Therefore the current research aims to conduct an exploratory study to understand the effectiveness of VR-based therapeutic intervention in counseling by incorporate the concept of blockchain.

Aims. The research aims to study the effect of VR based mindfulness intervention on fear among adults.

Methodology. The study uses pre and post experimental design to study the effect VR based mindfulness therapy on fear induced behavior among adults.

Sample. The target population for this study were college going young adults pursuing post-graduation in various fields. 20 college going participants between the age group of 21-30 years from different fields from Bangalore were invited to participate in the study based on a screening conducted through a checklist which helped to assess the physical and emotional readiness of the participants. The one in an emotionally neutral state and showed readiness were further considered for data collection. Purposive sampling was used for this research.

Phase-1. Participants were asked to fill in a structured questionnaire in order to check their physical and emotional preparedness for the experiment. The participants who showed physical and emotional readiness were only selected for the main experiment. In total 30 individuals went through the screening process from which only 20 participants were selected based on their responses to the questionnaire.

Phase 2. Later, selected participants were made to be seated comfortably. They were asked to wear VR equipment. The researchers demonstrated how to wear the VR and the operation of VR was briefed to the participants.

A virtual boundary was drawn around the participants and they were asked to stand within the boundary. Then the participants were asked to play the video which was displayed on their VR device. The video was around 2 mins 30 secs long where the participants felt they were standing in the middle of a living room where they could experience paranormal activities going on around them. Through this video the participants were exposed to an unpleasant and fearful experience. A pre-test questionnaire was given to the participants after the VR experience and the participants

were asked to fill in their responses to measure the fear and narrate their experience of the video.

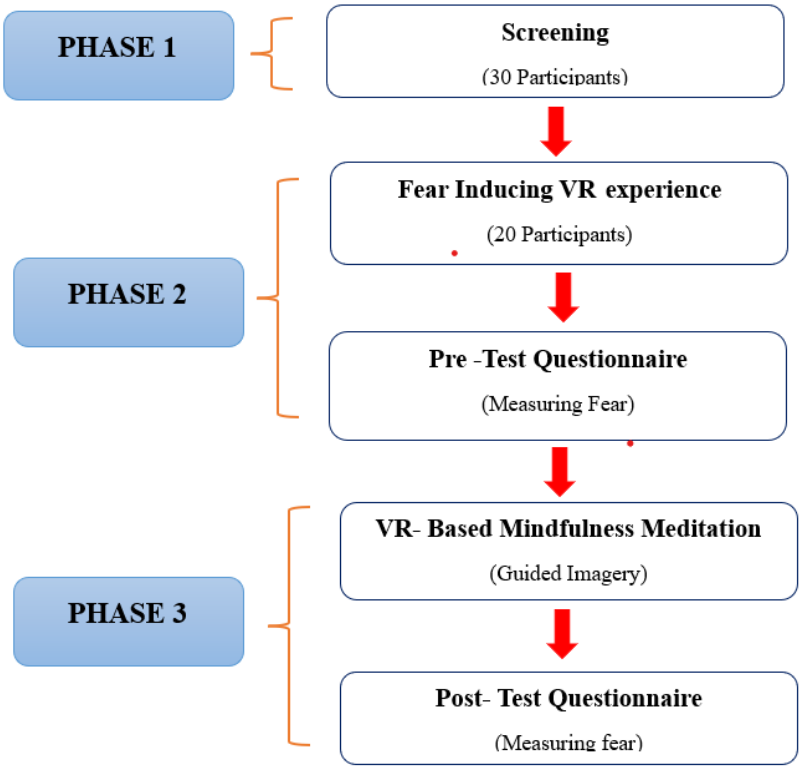

Figure 1. Shows the flow of the process used for data collection

Phase 3. Participants were again asked to wear the VR device and they were made to stand within the virtual boundary created through VR. This time participants were asked to play another video which was 5 mins long consisting of mindfulness meditation through guided imagery where individuals felt like they were sitting on a pleasant beach. Through this video the participants were exposed to a pleasant experience which helped them to feel relaxed and grounded. After viewing this video another structured questionnaire was given to record participants' responses post the pleasant video experience and to check if there is change in the level of fear they felt previously. Lastly the participants were asked to describe their experience and feeling after the mindfulness meditation.

Scoring. A Pre and post questionnaire was provided to the participants to measure their fear. The questionnaire consisted of a 5 point likert scale (1= Low and 4= high) where the fear was measured based on four parameters which included ‘ Relaxed state, Tension in the body, Breathing and awareness of the thoughts. Along with this the questionnaire also consisted of an open ended question focusing on the participants overall feelings and experience pre and post the VR based mindfulness intervention.

Data Analysis. Collected data was analyzed using paired t test and narrative analysis. The recorded data was coded and a t value was extracted by comparing the pre and post experience data. The subject data was identified and common patterns and themes were extracted related to their experiences.

Results. Table 1 shows the difference between two mean scores on fear with the VR based mindfulness intervention.

The results reveal a statistically significant difference in the fear response of the participants before and after the VR based mindfulness intervention. The parameters of measuring fear were Relaxed, Breathing, Tension in the body, Awareness of thoughts.

Table 1: Shows the average mean score of the parameters measured

Parameters	Pre-test	Post test	t Values	P value
Relaxed	3.9	2.75	0.362681	< 0.05
Tension in the body	1.8	4		
Breathing	3.1	2.9		
Awareness of the thoughts	3.8	3.8		

Source: developed by the authors

The participants' emotional and physical response was measured by Likert scale from 1 to 5, where 1 indicates the lowest intensity and 5 is the highest. The average pre-test value for 'Relaxed' is 3.9 and post-test value is 2.75. The average pre-test value for "Body tensions" is 1.8 and the post-test shows an increase to 4, , suggesting the high levels of fear and bodily tension after the VR experience.

Concerning "breathing", the scale ranges from shallow as showing 1 to shallow breathing and, 5 as deep breathing. The average score of 3.1 before VR experience was recorded and after experience, however, it becomes about 2.9 with reduced levels indicating a drift to be on the shallower side as caused by the experience.

They were also asked to rate, pre-test mean score was at 3.9, which meant a medium sense of relaxation. After undergoing VR experience, it went down to a post-test score of 2.75, showing decrease in relaxation. Lastly, awareness on thoughts was measured, pre and post-test scores did not change meaningfully since they remained at 3.8, meaning no meaningful change in the result of the VR experience in cognitive awareness.

The obtained t value is 0.36 with the P value of 0.05. This suggests that VR based mindfulness therapy is effective in reducing fear responses in participants.

The VR based grounding exercise was applied to assist grounding to regain a relaxed state. Narrative analysis was used to gather feedback. The VR based guided meditation exercise for grounding and relaxation had a great impact on the relief of tightness in the body in participants by reducing their fear and becoming more centered. Through narrative analysis, it depicts that most participants felt calmer and balanced after this experience. A Participant stated, "I felt safe and calm on the beach.". Another recalled that he was now "more perceptive and consciously aware of his inner experience" and even went ahead to describe how he was able to regain a sense of balance because the anxious thoughts in his head, which had been wandering with various considerations he had about his life, regained the sense of equilibrium. Another participant also claimed to have "relaxed gradually" as she reflected on the final video

for about 30 seconds. Image of the sea soothed her, causing her to feel fully present and had completely allowed herself to the experience.

Discussion. The findings of this study emphasize the idea that VR-based intervention delivered in counseling might potentially serve as an effective intervention for managing stress and anxiety. Results confirmed previous studies that depicted efficiency in the moderation of negative emotional states by VR. For example, studies from Park et al. (2019) and Zheng et al. (2024) demonstrated how VR can be created as an engaging environment that could also serve as a source of some alleviation of the symptoms of anxiety and depression by suggesting moments of relaxation or mindfulness. In this current research, using blockchain technology, it shows the brain works just like the block chain technology. This study aimed by using the block of data from the brain, we stimulated the reactions using the VR, to help participants to manage with stress and anxiety. Further supported the practicability of the VR intervention in therapeutic settings.

This research contributes to the growing body of literature around VR applications in therapeutic interventions, emphasizing its application beyond the clinical scenario-specifically in counseling for the management of stress and anxiety. Further, the incorporation of blockchain technology introduces a new dimension to intervention by ensuring participants' data security, an issue that raises considerations about privacy and protection of data regarding mental health care.

Limitations:

1. The limited access to VR restricted the sample size of 20 participants. Future research studies can focus on larger participants, which may reflect diversity and examine longer term results to VR based interventions in counseling settings.
2. The study only considered immediate post-intervention effects, and future studies should judge whether these effects are sustainable over time.

Conclusion. The present study provides preliminary evidence about the efficiency of VR-based therapeutic interventions in reducing negative emotional responses among young adults. Coupled with the fact that blockchain technology would be integrated to offer further layers of data security, such research promises an important step toward mitigating privacy issues in therapeutic settings. The results are encouraging, more research is warranted to understand the long-term implications of the intervention, using VR, and its scale-up ability among divergent populations. It may be that increased use of such technologies in counseling could open doors to completely innovative, safe, and effective interventions.

Author contributions. The authors contributed equally.

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SPECIFICITY OF THE PEDAGOGICAL ENVIRONMENT OF A HIGHER EDUCATIONAL INSTITUTION OF MUSICAL DIRECTION AND PEDAGOGICAL CHARACTERISTICS OF COGNITIVE FEATURES OF HIGHER EDUCATION APPLICANTS

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Abstract. *This study examines the pedagogical environment of higher educational institutions in musical directions and the cognitive characteristics of students within such settings. Musical education, characterized by individual-focused pedagogy, deviates significantly from traditional, collective-oriented higher education systems. These differences highlight the necessity for specialized pedagogical approaches. The primary aim is to identify and analyze the specific pedagogical and cognitive characteristics within music education environments. Objectives include assessing the role of intrapsychic and interpsychic factors in shaping pedagogical interactions and exploring the implications for curriculum development and student engagement. The study employed a combination of literature review, pedagogical observation, documentary analysis, testing, experiments, and statistical methods to evaluate the unique aspects of music education environments. The research highlights the distinctiveness of the musical education environment, which prioritizes emotional engagement and individualized learning. Key findings reveal that music students often demonstrate heightened individualism, emotional reliance, and unique cognitive features shaped by their immersive creative environment. However, limited social interaction and conceptual thinking pose challenges to broader cognitive development. Despite this, over 90% of graduates pursue careers aligned with their specialized training. The pedagogical environment significantly influences the formation of cognitive and professional attributes. Interpersonal and environmental factors play a central role, with implications for fostering meaningful values in professional education. Further studies should focus on developing tailored pedagogical technologies that address the specific needs of music education systems. These technologies should integrate cognitive and emotional dimensions to enhance professional training outcomes while addressing identified gaps in social and conceptual development.*

Keywords: *pedagogical environment; educational environment; individual education; intrauretical and internalmental qualities.*

JEL Classification: H10, IO, Y8

Formulas: 0; fig.0; tabl.1; bibl.: 8

Introduction. The sphere of musical education is a specific element of the national education system. Given this specificity and the internal content of the pedagogical environment, this phenomenon does not look quite organic within the framework of classical (regular) higher education, that higher education that is determined by state regulatory documents and for which a system of educational and methodological requirements has been created, aimed at pedagogical techniques and methods that are oriented towards group learning.

The reasons for this situation can be sought in the specificity of pedagogical forms and methods oriented towards individual learning (not to be compared with the individual approach in the system of general higher professional education). An educational institution of a professional musical orientation is a special educational pedagogical environment, oriented primarily towards individual and only then towards collective creative activity. In both cases, the emotional component is the most important element of the pedagogical process. And since music pedagogy is forced to adapt to the general educational processes determined by the Ministry of Education and Science, this does not always contribute to the development of the creative content of the educational process.

It is necessary to understand that in this situation, music pedagogy, as the internal content side of music (or other creative) education, cannot arise from the outside, it can only arise from the inside.

The information demonstrates that the field of domestic music education is not mass in nature and is represented by a very small number of both applicants and teachers-scientists. This makes the prospect that the didactics of musical pedagogy, at least someday, will acquire the character of a general pedagogical science too illusory. General pedagogy can act as a general basis for the development of special forms and methods in the system of musical education. In addition, it should always be borne in mind that domestic classical pedagogy is traditionally a collective pedagogy. At the same time, musical pedagogy is primarily an individual pedagogy, this contains a manifestation of the main feature that determines the need for special forms and methods of this pedagogical activity.

The personification of pedagogical activity requires the subjects of this activity to be in special psychological conditions, determining a unique system of forms and methods of pedagogical interaction of these subjects.

This thesis is determined by many factors, including positive-subjective ones (openness, trust, psychological compatibility, ability to cooperate, etc., that is, interpersonal support, by creating a sphere of educational and creative comfort).

Another factor is the external support of the pedagogical process, when a student of higher musical education must systematically, in the conditions of a concert stage, publicly demonstrate his skills and abilities. The teacher thereby also publicly demonstrates his own mastery of the teacher. It is these factors in a general sense that determine the necessary psychological conditions that distinguish the educational process in the field of musical education from any other process of higher education, which is oriented towards a mass student, where the qualification characteristics of the student of education are in a certain way “deferred” for the future.

This is why the sphere of the individual (personalized) system of organizing the educational process has as a necessary condition a high degree of responsibility for all participants in the educational process. Any personalized sphere of pedagogical activity imposes a special responsibility on the teacher, since in this specific activity one can see its specific results in a short time.

General monitoring of modern Ukrainian music publications, professional scientific collections published by leading higher educational institutions of Ukraine, has formally demonstrated this problem over the past few years. Over the past ten years, one can recall only a few (up to ten) scientific articles devoted to the scientific and pedagogical sphere. The situation with scientific developments in the field of didactics and specific teaching methods looks even worse. And the state of affairs with the methodology and conceptual theories of musical pedagogy in general looks completely unsatisfactory.

The problem is also visible in the fact that the system of higher musical education in the country is mainly oriented towards performing activities, and direct scientific work takes place in the field of music history and theory, while the pedagogical sphere is very often completely ignored.

Literature review. Today, art education in Ukraine includes: primary art education - 1273 schools (Dnipropetrovsk region has 88 schools and is in first place in Ukraine in terms of the number of institutions); profile art education - 4 institutions; professional pre-higher music education - 19 institutions; higher art education - 7 institutions (Zavalko, 2021).

It is necessary to understand that scientific developments, research, their analysis and publications in the field of scientific and pedagogical narratives over the past few years are of a rather limited nature. A notable event against this background is the collective monograph “Music Education: Philosophical, Art History and Pedagogical Emphasis”, which was published in 2018 based on the results of a study by a team of scientists from the Faculty of Arts of the Kryvyi Rih State Pedagogical University, edited by N.A. Ovcharenko, Ya. V. Shramko (Ovcharenko, Shramko, 2018). The scientific review article by K. Zavalko “The Orientation of Modern Music Pedagogy in Educational Institutions of Ukraine” is also quite thorough. Other scientific research and publications date back to a period of almost twenty years ago. Modern publications are mainly educational, methodological, descriptive in nature and do not reflect real patterns in modern higher music pedagogy.

Aim. To identify the specifics of the pedagogical environment of a higher educational institution of musical orientation and the pedagogical characteristics of the cognitive characteristics of higher education students.

Methods. During the research, the following methods were used: analysis of special, scientific and methodological literature, analysis of documentary materials, pedagogical observation, pedagogical testing, pedagogical experiment, methods of mathematical statistics.

Results. As they say in the East: “A fish does not know what lives in the water”, in other words, the features of the pedagogical environment of a musical higher educational institution within the system are not perceived as special. Most subjects of

educational activity form and reproduce these features, therefore they are limited for a given educational system and are perceived as a given, as the norm. An outside view should arouse interest not only from the standpoint of the theory of pedagogy in general, but also directly among musician-teachers.

Considering the topic of the features of higher musical education, it is necessary to clarify the content load of the basic concepts - “educational environment” and “pedagogical environment”. Speaking of the “educational environment” of a higher musical educational institution, we mean the system of management of the educational institution, the principles and forms of organization of the educational process, the main narratives and paradigms of the development of the educational institution (goals, objectives, directions, frontiers, etc.), the principles of the relationship between the subjects of the educational process and its direct elements. By this term we mean the regulatory framework, curricula, material and technical support of the educational process, staffing, etc. All of the above is a kind of "external" manifestation of the process, the "internal" is the "pedagogical environment", that is, what will be discussed in this study. It should also be noted that the external and internal sides are dialectically interconnected and cannot effectively exist without this connection.

In the concept of "pedagogical environment" we primarily include the following elements: forms and methods of the educational process, moral and psychological climate, socio-psychological state of the subjects of the educational process, professional statuses of members of the scientific and pedagogical team, level of organization of relations of "conscious" or "meaningful" learning.

Since the "external" and "internal" sides of the educational process are interconnected, this connection occurs through certain forms and methods of interaction. We will call them intermediate, or functional (methodological principles and techniques regarding the content of educational activities, the level and system of interaction and communication between departments, the system and level of interdisciplinary connections, including interdepartmental, the coincidence of goals and interdependence of theoretical and practical activities, the degree and system of implementation of common educational and pedagogical goals and tasks, the system of supporting the motivation of the subjects of the educational process).

One way or another, the main subjects of the pedagogical environment of a musical higher educational institution are applicants and teachers. Considering the features of the pedagogical environment in this study, we will focus on the features of the object of the educational process.

From this perspective, it is necessary to consider some characteristics of the cognitive qualities of student musicians based on many years of observations, surveys, tests (at the same time, we do not encroach on absolute objectivity).

The main approach in studying this issue is based on the thesis: "a student musician is a special category of students", that is, these are students who, according to some characteristics of intrapsychic and interpsychic qualities, stand out among other social groups of the youth environment.

It should be noted that the manifestation of the deep reasons for differences and features is the field of psychology, we, for our part, only state these features, investing in them pedagogical meaning.

Pedagogical meanings in our case are represented in two qualities: 1) as a basic basis for pedagogical correction in the direction of the necessary directions and solutions of pedagogical activities; 2) as a certain constant of the formed cognitive characteristics of the individual, on the basis of and taking into account which it is necessary to build a system of training and solutions to specific pedagogical tasks.

In the conditions of vocational education, the second aspect will be appropriate, since the first is rather a function of education, which requires much more time than training, and significantly exceeds the established training period. For this reason, we will talk about the second aspect, but not ignoring the first, since, objectively, they are interconnected.

It is necessary to understand that the results of the research have certain elements of subjectivity, but are based on the results of the systematic study of the object of research over the past ten years (2014 - 2024).

Separate areas of research were involved in the scope of analysis.

The objective necessity of studying the object of pedagogical activity is the same as the concept of "input control of knowledge" for the teacher, which K. Ushinsky attached special importance to ("Man as an object of education"), which A. Makarenko began with in his work with each of his students. The object of study must be understandable to the teacher, the teacher must understand the motives, logic, meanings, inner world, goals of the student's activity. All this is as obvious as the meaning of pedagogical activity in general is obvious.

This thesis reveals the significance that we attach to the study of this issue. Our task is to state facts, a process or a trend; the task of the teacher is to use these facts in the process of teaching and upbringing, to determine specific pedagogical goals, the corresponding stages of their implementation, deadlines and tasks. In addition, the results of the study will provide teachers with the opportunity not only to state this or that pedagogical problem, but also to suggest a certain toolkit for determining the direction of pedagogical influence.

We must bear in mind that although students of musical education have specific features of the inner world, worldview, knowledge and views, skills and abilities, they cannot avoid the spontaneous influence of the external environment, which is also a significant factor. This is explained by the fact that given the specificity of cognitive features, they are mostly the most vulnerable and dependent on this influence, or subconsciously isolate their own cognitive processes from the surrounding world, following their own feelings and certain suggestions dictated by emotions.

It should also be noted that the specific socio-professional environment forms cognitive features that are based on the sensory perception of the world. Feelings and sensations sometimes dominate over the rational component and can distort the view of the surrounding reality. The process of interaction with reality begins to acquire an immanent character. This thesis is not absolute and, taking into account the diversity

of environmental influences, its selectivity, as a rule, is almost never manifested in its pure form.

Thus, the musical sphere, where emotion, mental state, excessive reflection, are sometimes priorities in the system of cognitive perception of the external social environment, does not contribute to the formation of terminological thinking (Sizov, 2024), which can manifest itself in a certain reduction of phenomena and events. Thus, the conditions for the subjective perception of the surrounding reality are formed (with a few exceptions), which in turn is complemented by an egocentric approach in the system of social ties and relationships. Moreover, the educational environment of a primary school naturally tends to reproduce similar characteristics.

As an example, we can cite the results of many years of observations of students of various departments regarding the relationship "collective - personal (egocentric)" (thereby emphasizing once again the highly specialized features): the social positioning of students of vocal, piano, and pop music is characterized by a high degree of individualism (egocentricity); individualism is present to a much lesser extent in students of the string and wind departments. The predominance of the collective can be observed in the environment of students of the choral department. There is no need to dwell in detail on the reasons for such a situation, it is determined by the forms and tasks of professional training (which is the topic of a separate study). In this case, we highlight the above features, based on general pedagogical positions; pedagogical influence should take into account this specific feature of the psychosocial positioning of the object of study. Since these features are objective in nature, the educational process has no right to ignore them, especially when the educational process includes not only individual, but also collective forms of learning.

On the other hand, a certain cyclicality in the conditions of influence of the musical and creative environment (a relatively closed social environment transforms the peculiarity of the pedagogical environment), a narrow circle of communication, a homogeneous system of social ties and communications form an insufficient level of socialization of the individual, which manifests itself in too hypertrophied infantility than usual, and entails a low degree of social responsibility, while social deviation does not go beyond everyday relations.

Emphasizing the specificity of the subject under study, such a situation should be perceived not as a drawback, but as a feature.

Objectively, we will not bring this characteristic to an absolute, since it is generally of a statistical nature and manifests itself as a general pattern. Objectivity here is manifested in the fact that a creative specialty in the field of higher education, unlike other general higher education, requires the applicant to spend a long time studying (cognitive “immersion” in a specific functioning environment, without which it is impossible to demonstrate talent, skills or abilities, that is, to achieve professional success). Such specificity, in turn, forms a special construction of the psyche. In other words, an applicant for higher musical education is in a specific environment for a rather long time, as one of the graduates of the academy’s master’s degree said: “I grew up here…”, meaning age characteristics (music school-college-bachelor’s degree-master’s degree). Objectively, such a situation cannot but affect the formation of the

corresponding specificity of the intrapsychic qualities of the personality. Probably, one of the main tasks of the pedagogical environment is to support one's own peculiarity, because in its absence it will be quite difficult to talk about creativity, talent and achievements. The specificity and peculiarity of the pedagogical environment of a music university is the reverse side of creativity, and this is the manifestation of the dialectics of that specificity, which determines the professional development of the individual.

The specific intrapsychic qualities of the object of pedagogical influence participate in the formation of the specificity of the interpsychic (in our case, the pedagogical environment), which is manifested in particular in the communicative and organizational abilities of applicants for musical education.

In 2019, the Department of Social and Humanitarian Disciplines conducted research in the field of communicative abilities of students of the academy. The research was conducted using the test "Communicative and Organizational Abilities" by V. Sinyavsky, V. Fedoryshyn (Sinyavsky, Fedoryshyn, 2010) among senior students, including master's and postgraduate students. The test allowed to assess communicative and organizational abilities, it was created by the authors to assess these abilities in representatives of "social" professions (teachers, lecturers, social workers) and students who are just mastering the above-mentioned professions. Analysis of the results showed, unfortunately, a negative trend: more than half of the respondents showed a low level of communicativeness and a level below average (62%), and only a few demonstrated a high level of communicativeness (12%).

In the study, we present some data (results of sociological monitoring) that characterize the cognitive abilities of students of the Academy of Music.

The limited scope of social connections and relationships, their one-sidedness can be a serious obstacle to full-fledged socialization even in the professional sphere. Only 22% of respondents are ready to communicate with peers. Communication is a way of forming individual, socially important conventional relations, when social ties are the basis and generating force for the formation of such qualities as commitment, the ability to cooperate with other people, to function successfully in a team, to correctly determine one's social status or to fulfill a social role.

The presented indicators are practically confirmed by the control test on the attitude towards friends: 76% of the respondents stated that they have few friends, while they have trusting relationships with them, and only 18% of the students consider themselves sociable people. It is also surprising that the respondents have no friends outside the academy, none of the students noticed that they have a sphere of communication at their place of residence or with subjects from another social environment. The main reason for this state of social ties is the lack of free time (67%). A separate problem is created by the sphere of figurative thinking and the formation of conceptual thinking (Vygotsky, 1934). The point is that only 10% of the surveyed students read fiction.

Returning to the topic of social, it is necessary to add that the previous results of the surveys are confirmed by data that 60% of the respondents put the respect of their own family members in first place as the most important factor in their psychological

status; 13% put the opinion of friends in the first place; 27% stated that the opinion of teachers is more important for them. In other words, the social or formal factor in the system of interpersonal relations is minimal, although, it would seem, the significance of the teacher in the conditions of dominance of the individual form of education should be undeniable. Considering the cognitive characteristics of students who are musicians of a higher educational institution, it is necessary to single out the following category of data obtained during the surveys: 82% of respondents consider musical education to be a form of realization of their own spiritual needs and a condition for creative development; 90% of the surveyed students are sure that the skill of a musician is the result of systematic educational work and self-discipline, which is probably why 94% of students, in addition to studying according to the schedule, devote 4 to 6 hours to musical activity daily. The figures are impressive and, if the desired is perceived by the respondents as real, then the awareness of such an approach to learning in itself is a very positive phenomenon.

It is also surprising that only 16% of those surveyed consider studying at the academy exclusively as an opportunity to obtain a profession, that is, pragmatic goals of education are far from the first place.

Thus, the sphere of rationality is not a priority in the system of worldview positions of a student of musical education.

This thesis is confirmed by the students' answers to the scale of values, which consisted of ten positions: "family", "health", "creativity", "profession", "friends", "beliefs", "patriotism", "ecology", "leisure and entertainment", "money". Students were asked to arrange values according to the principle of significance, identifying personal worldview priorities.

We emphasize that this section of the questionnaire, as well as all others, used statistical material obtained as a result of questionnaires of various social groups of education seekers over several years from 2014 to 2024. Sociometry (from a social point of view) demonstrated the arithmetic mean data as follows.

The undisputed leaders were six positions, which were located in the following sequence: the first place was taken by the position “family”, here we observe an overwhelming majority; the second place in priority was taken by the category “health”, then – “creativity”, “profession”, “friends”. Other positions demonstrated the result at the margin of error and were not too significant, that is, statistical fluctuations in different periods were distinguished, but never even reached the average indicators. It should be emphasized that in order to obtain maximum objectivity in the analysis of the data obtained, verification tests were used, when one question was confirmed or refuted by another question of the test, different in form, but the same in content. For example, according to the “scale of values”, the family occupies the main place. This position can be confirmed by the data that 70% of respondents indicated the family as the main source of learned life norms and rules (socialization). But, on the other hand, the question about actions and actions in the interests of the family or personal interests showed that only 10% of respondents would advocate for the interests of the family, 87% - for personal interests. Thus, the data obtained partially refute the results of

another survey of the same respondents, but at the same time confirm the common thesis, stated earlier, about the individual social self-isolation of the subject.

Returning to the issue of socialization of the person of the education seeker, in the sphere of social conventions, that is, behavioral patterns (role models), we observe the dominant role of the family (65% of the seekers indicated the primary importance of family members). Incredibly, however, none of the respondents in the closed questionnaire singled out the role and significance of the teacher in this sense.

Considering the internal content of the topic of social role models (behavioral role models as a certain social value), it is necessary to note the pattern, when 52% of respondents indicated that "my hero" is a highly moral person, with a sense of dignity and not necessarily financially secure. This indicator is confirmed by another result: it turned out that 86% would refuse the possibility of easy but illegal enrichment due to the immorality of such an act. The topic of morality often dominates in the environment of those seeking musical education. This indicator is much higher than in the youth environment in general. The concept of "morality", as a rule, coexists alongside the concept of "justice".

In this case, it was also indicative that 41% of respondents indicated that their "hero" is a tough but fair person, which is characteristic of the domestic culture of relations (in social terms), when toughness (strictness) combined with fairness has always been a virtue of a person (teacher, leader, etc.) and has always existed as a socially significant role model.

Table 1. Cognitive abilities of music academy applicants (%)

Indicator	Level
Willingness to communicate	22
Availability of free time	33
Erudition	10
Fulfillment of spiritual needs	82
Opportunity to get a profession	16
Sociability	38

Source: developed by the authors

Discussion. The pedagogical environment within higher education institutions specializing in musical studies is distinguished by its unique characteristics, which significantly influence both the learning process and the personal development of students. The interplay between the internal (intrapsychic) and external (interpsychic) factors, along with the specific dynamics of the pedagogical environment, contributes to the formation of individuals uniquely suited to the demands of musical professions.

Key observations. The study underscores that the emotional and psychological climate plays a pivotal role in the pedagogical processes at musical institutions. The personalization inherent in music education contrasts sharply with the more generalized and collective approaches typical of conventional higher education. This focus on individual pedagogy is a reflection of the artistic and creative nature of music education, which prioritizes individual expression, emotional engagement, and skill mastery.

The findings reveal that cognitive characteristics among students are influenced by the immersive and often isolating nature of the musical environment. Traits such as heightened emotional sensitivity, a dominance of sensory over rational perception, and a tendency toward individualism are prevalent. These characteristics shape how students interact within their academic and social environments, emphasizing the importance of tailored pedagogical methods that align with these cognitive traits.

Challenges and implications. The research highlights several challenges, including limited social interaction and a narrow scope of external engagement among students. These factors may hinder broader socialization and the development of versatile professional skills. Additionally, the reliance on sensory perception can lead to a reduced capacity for conceptual thinking, potentially affecting students' ability to adapt to diverse professional contexts. Furthermore, the study identifies gaps in the scientific and pedagogical literature related to music education. This lack of robust research impedes the development of comprehensive teaching methodologies and conceptual frameworks that could enhance the educational process.

Potential interventions. To address these challenges, it is essential to foster a pedagogical environment that balances individual attention with opportunities for collaborative learning. Introducing structured opportunities for interdisciplinary engagement and encouraging broader social interactions can help mitigate the isolating tendencies observed in students. Additionally, integrating methods that promote conceptual and critical thinking alongside technical mastery could enrich students' cognitive and professional capabilities. The findings also suggest the need for targeted professional development for educators, emphasizing psychological insights and innovative teaching strategies tailored to the specific needs of music students. Such efforts could enhance the effectiveness of pedagogical interactions and support the holistic development of students.

Future research directions. Future studies should focus on expanding the theoretical and methodological foundations of music pedagogy. This includes exploring the impact of various pedagogical strategies on students' cognitive and emotional development and examining how different environmental factors influence learning outcomes. Comparative analyses between music education systems in different cultural and institutional contexts could also provide valuable insights for optimizing pedagogical approaches.

The specificity of the pedagogical environment in musical education necessitates a nuanced approach to teaching and learning. By addressing the identified challenges and leveraging the unique strengths of this environment, educators can better support the personal and professional growth of students, ultimately enhancing the quality and impact of music education.

Conclusions. This kind of research can be conducted endlessly, however, even at the current level we observe the same peculiarity and specificity of the elements of higher musical education.

Of course, a special pedagogical environment will form and reproduce a special personality. In this regard, we distinguish two main factors that determine this peculiarity: intrapsychic and interpsychic. The first (internal) is the specificity of the

internal construct of the personality. The second (external) is the individual's desire to meet the conditions of a specific social environment (cultivated by the pedagogical environment). And the third factor, which loops the first two, is directly the pedagogical environment, which determines these factors, implementing their plans and ideas. In other words, the pedagogical environment in many aspects is oriented towards providing and subordinating these factors (and not vice versa, as it looks in the classical version). It is here that the specificity of the pedagogical environment of a music educational institution and the cognitive abilities of applicants are manifested.

Indicative in this sense is the fact that more than 90% of graduates carry out their own labor activity according to the specialty received at a music university. Thus, the bulk of specialist musicians do not go beyond the specifics of their own social environment and their own cognitive abilities. It is necessary to emphasize that the main feature of the pedagogical environment of a music educational institution is that it forms meaningful, meaningful (conscious) values in the system of professional education.

The study of these processes will further allow the creation of pedagogical technologies not in general, but in relation to the features of the system of higher professional music education.

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INTERPERSONAL COMMUNICATION, EMOTIONAL INTELLIGENCE, CONFLICT RESOLUTION, RELATIONAL SATISFACTION AMONG INTIMATE PARTNERS

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Abstract. *Romantic relationships significantly impact individuals' mental health, emotional well-being, and life satisfaction. Effective communication, emotional intelligence, and conflict resolution are critical to maintaining relational harmony. However, contemporary challenges, including technology use and work-life balance, complicate relationship dynamics, necessitating a deeper exploration of these factors. This study investigates the interplay between communication patterns, emotional intelligence, conflict resolution techniques, and relational satisfaction in intimate relationships. The objectives include identifying key communication strategies, exploring the role of emotional intelligence, analyzing the impact of technology-mediated communication, and understanding the balance between work-life and relational satisfaction. A qualitative, exploratory design was employed, involving semi-structured interviews with 25 couples (N=50). The data were collected through guided discussions on communication styles, emotional intimacy, conflict resolution, and relationship satisfaction. Thematic analysis was conducted using NVivo software to identify key themes and subthemes. The study revealed six major themes: effective communication, emotional intimacy, conflict resolution, technology-mediated communication, work-life balance, and relational satisfaction. Active listening, empathy, and open communication emerged as pivotal for fostering intimacy and satisfaction. Technology-mediated communication demonstrated both benefits and challenges, while work-life balance significantly influenced relational harmony. This research underscores the importance of cultivating emotional intelligence, balanced communication strategies, and effective conflict resolution to enhance relationship dynamics. The innovative application of blockchain technology concepts in managing relational conflicts was also noted as a novel approach to selective information sharing. Future studies should examine the long-term impacts of technology-mediated communication, delve into diverse relational contexts, and develop interventions that integrate emotional intelligence and conflict resolution strategies to strengthen intimate relationships.*

Keywords: *romantic partners; interpersonal communication; emotional intelligence; conflict resolution; relational satisfaction; blockchain.*

JEL Classification: D91, H55, M14

Formulas: 0; fig.0; tabl.1; bibl.: 25

Introduction. Romantic relationships play a pivotal role in shaping individuals' mental health, emotional well-being, and overall quality of life. The dynamic nature of such relationships requires continuous communication, mutual understanding, and effective conflict resolution to maintain satisfaction and harmony.

Literature review. Romantic relationships significantly impact mental health, emotional well-being, and general quality of life (Gottman & Silver, 1999; Hazan & Shaver, 1987). Effective communication is crucial for building and maintaining satisfying relationships. However, contemporary interactions pose unique challenges, including technology integration and work-life balance. Despite the growing literature, in-depth investigations of communication processes in romantic relationships remain necessary (Solomon & Knobloch, 2004).

This qualitative study aims to address this gap by exploring couples' experiences with communication dynamics, emotional closeness, conflict resolution, and relationship satisfaction. Understanding these factors is essential, as they influence mental health outcomes and overall life satisfaction (Gilliland & Dunn, 2003; Zeidner et al., 2013).

Research has shown that emotional intelligence positively correlates with relationship satisfaction (Gupta, S. K. 2024). The mediating effect of organizational communication on emotional intelligence and turnover intention. Constructive conflict resolution techniques and effective communication patterns also contribute to relationship satisfaction (Gupta et al., 2020). However, most studies have examined these factors separately, focusing on individual emotional skills.

Altman and Taylor's (1973) Social Penetration Theory introduced a systematic approach to understanding relationship development through graduated self-disclosure. While their model of progression from superficial to intimate exchanges has been influential, critics note that its linear nature may not fully capture modern relationship dynamics.

Guerney's (1977) Relationship Enhancement Model focused on practical skill-building approaches, emphasizing empathic understanding and problem-solving capabilities. Research has validated this structured approach's effectiveness in improving relationship outcomes.

Walster et al. (1978) applied equity theory to romantic relationships, demonstrating how perceived inequities influence relationship satisfaction and communication patterns. Their work provides crucial insights into how partners evaluate fairness and reciprocity.

Hazan and Shaver's (1987) Attachment Communication Model applied attachment theory to adult relationships, demonstrating how early experiences influence adult communication patterns. Their identification of secure, anxious, and avoidant patterns has significantly impacted understanding of individual differences in relationship communication.

Christensen and Heavey's (1990) research on the demand-withdraw pattern revealed a common destructive communication dynamic where one partner pursues while the other withdraws. Their work has been particularly valuable in understanding gender differences in conflict behaviour.

Building on this foundation, Baxter and Montgomery's (1996) Dialectical Model presented a non-linear perspective, emphasizing the importance of managing ongoing tensions between competing desires such as autonomy versus connection. Their research suggests that successful relationships are characterized by the effective management of these inherent contradictions rather than their resolution.

The foundation of relationship communication research was established by Gottman and Silver's (1999) Four Horsemen Model, which identified criticism, contempt, defensiveness, and stonewalling as key predictors of relationship dissolution. Their longitudinal studies demonstrated up to 93% accuracy in predicting divorce when these patterns were observed alongside specific physiological responses, providing a crucial framework for identifying destructive communication patterns in romantic relationships.

Finally, Petronio's (2002) Communication Privacy Management Theory examines the negotiation of privacy boundaries in relationships, providing valuable insights into how modern couples manage information sharing in an increasingly digital world.

Solomon and Knobloch's (2004) Relational Turbulence Model addresses how couples navigate transitions, demonstrating how uncertainty and partner interference can create communication challenges during these periods. This model has proven particularly relevant for understanding relationship dynamics during major life changes.

Emmers-Sommer (2004) conducted a study examining the effects of communication quality and quantity on intimacy and relational satisfaction. The study surveyed 200 couples, revealing that communication quality predicted intimacy and satisfaction. Specifically, results showed that the quality of communication, rather than quantity, was a stronger predictor of relationship satisfaction.

Coyne et al. (2011) investigated media use in romantic relationships, surveying 1,300 participants. Findings indicated that texting positively correlated with expressions of affection, but also contributed to negative communication when used for conflict or hurtful messages.

Cordova et al. (2016) examined emotional validation's role in sustaining intimacy and satisfaction. The study surveyed 200 couples, finding that emotional validation predicted intimacy and satisfaction, highlighting the importance of emotional skilfulness.

The Sound Relationship House Theory, developed by Gottman and Gottman (2017), emerged from decades of observational research, identifying nine crucial components of relationship success. This comprehensive model emphasizes both conflict management and positive relationship building, providing a practical framework for therapeutic intervention.

McDaniel et al. (2017) investigated texting's impact on relationship satisfaction, surveying 300 couples. Results showed that regular, positive texting correlated with increased relationship satisfaction, while excessive or conflict-driven texting harmed relationships.

Bary (2019) examined disengaged couple communication's impact on depressive symptoms. The study found that disengaged communication linked to depressive symptoms, emphasizing the importance of effective communication.

Gupta, Uygun, Reznik, and Sipahi (2020) examined Ethiopian Traditional Conflict Resolution Mechanisms (TCRMs), highlighting their vital role in maintaining social harmony through community elders and traditional leaders. Their research revealed TCRMs' effectiveness in rural areas for resolving various conflicts, while noting challenges such as balancing tradition with modern legal requirements and ensuring gender equality. Despite these challenges, TCRMs remain essential in Ethiopia's conflict management system.

Cloutier (2021) systematically reviewed 43 studies on romantic relationships and sexuality in individuals with psychotic disorders. Results underscored the need for improved communication and support.

Pereira et al. (2022) examined the impact of communication patterns and forgiveness on physical and psychological morbidity in young adults. The study found that destructive communication patterns interfered with forgiveness, increasing morbidity, while constructive communication predicted better physical health.

Sharma, Mishra and Gupta (2024) identified a critical research gap regarding the potential mediating role of organizational communication in the relationship between emotional intelligence and employee turnover intentions.

Despite the existing body of research on relationship communication, significant gaps remain in our understanding of effective communication strategies, conflict resolution, and relationship maintenance. Specifically, further investigation is needed into the role of emotional intelligence in conflict resolution, the connection between adult attachment styles and relational maintenance strategies, and the relationship between love styles and relationship satisfaction. Additionally, research on emerging communication platforms and their impact on relationships, non-traditional relationships, and communication's influence on mental health is limited. Effective conflict resolution strategies, attachment communication patterns in diverse populations, and relationship maintenance strategies in modern relationships also require further exploration. To address these gaps, future studies should develop and evaluate interventions targeting communication skills and relationship satisfaction, ultimately informing strategies for building and maintaining healthy, satisfying relationships.

Aims. This study investigates how emotional intelligence affects conflict resolution styles in intimate relationships, contributing to our understanding of relationship dynamics. By integrating these interrelated components – relationship satisfaction, conflict resolution techniques, and emotional intelligence – this research provides a comprehensive framework for understanding relationship dynamics.

The main goal of the article is to study the key communication patterns, strategies, and challenges, conflict resolution, role of emotional intelligence and relational satisfaction among intimate partners.

The main research objectives are:

- to identify key communication patterns which are present among the intimate partners.

- to investigate effective conflict resolution techniques in romantic relationships.
- to examine the impact of technology-mediated communication on relationship dynamics.
- to identify the importance of Emotional intelligence in Intimate relationships.
- to explore the relationship between work-life balance, non-verbal communication, and relationship satisfaction.

Hypotheses:

H1: Effective Communication is positively related to relational satisfaction among romantic partners.

H2: Conflict Resolution Strategies mediate the relationship between Effective Communication and Relationship Satisfaction among romantic partners.

H3: Technology-Mediated Communication negatively impacts Emotional Intimacy among romantic partners.

H4: Emotional intelligence is positively related to Relationship Satisfaction among romantic partners.

Methodology. This qualitative study employed interview method to explore communication in intimate relationships. A qualitative, exploratory design was used to gain in-depth insights into the communication dynamics of intimate relationships.

Sample size. Purposive sampling was employed to select 25 couples (50 participants) aged 20-30. Inclusion criteria included having a graduate degree, being working professionals, belonging to a middle-class socioeconomic status, and being in a romantic relationship for at least 1 year.

Data Collection. Semi-structured interviews (45-60 minutes) were conducted with each couple. An interview protocol guided the discussion, covering topics such as emotional intimacy, relationship satisfaction, technology-mediated communication, communication gaps, communication style, and conflict resolution.

Data Analysis. Thematic analysis was employed, involving verbatim transcription of the interviews, initial coding based on the research questions, identification of emerging subthemes, and the interviews, initial coding based on the research questions, identification of emerging subthemes, and the development of overarching themes.

Trustworthiness. Strategies to ensure trustworthiness included member checking, peer debriefing, and providing thick descriptions of the methodology and context.

Ethical Considerations. The study maintained informed consent, confidentiality, and non-maleficence was maintained throughout the research process.

The interviews were audio-recorded and transcribed for analysis using NVivo software. This methodology enabled an in-depth understanding of communication in intimate relationships, providing valuable insights into the complexities of romantic relationships.

Results. The main results of the study are presented in Table 1.

The obtained results were interpreted using thematic analysis method. Six major themes and related subthemes emerged from the responses. They are:

1. Active listening is a key component of effective communication: "Active listening, good listening, try to understand perspective, clarify confusions." "Quality

time (talking, live language)" is the quality time option. It is said that "open communication matches the style."

2. Emotional Expression and Intimacy: "By openly sharing my feelings." Understanding and Empathy: "Understand each other's emotions, expression of emotions." One area of vulnerability is "Being silent, taking some personal space."

3. Open Communication-Based Conflict Resolution: "By openly communicating, taking time to understand each other's perspective." The regulation of emotions: "Being silent, taking some personal space."

4. Communication Mediated by Technology "Both (technology-mediated and face-to-face)" is a convenient option. The statement "We don't set boundaries for technology" concerns boundary setting.

5. Balance between work and life One strategy for setting priorities is "prioritizing after work hours." "88% Full support" is the partner support rating.

6. Quality Time - Relationship Satisfaction: "Quality time is missing" "Understanding each other" is an example of understanding.

Table 1. This table explains the Themes, Sub-Themes and Supporting Quotes

Themes	Sub-themes	Supporting Quotes
Effective Communication	Active Listening	"Active listening, good listening, try to understand perspective, clarify confusions."
	Quality Time	"Quality time (talking, live language)"
	Open Communication	"Open communication matches the style."
Emotional Intimacy	Emotional Expression	"By openly sharing my feelings."
	Empathy and understanding	"Understand each other emotions, expression of emotions."
	Vulnerability	"Being silent, taking some personal space."
Conflict Resolution	Open Communication	"By openly communicating, taking time to understand each other's perspective."
	Emotional Regulation	"Being silent, taking some personal space."
Technology-Mediated Communication	Convenience	"Both (technology-mediated and face-to-face)"
	Boundary Setting	"We don't set boundaries for technology"
Work-Life Balance	Prioritization	"Prioritizing after work hours."
	Partner Support	"88% Full support"
Relationship Satisfaction	Quality Time	"Quality time is missing"
	Understanding	"Understanding each other"

Source: developed by the authors

Discussion. Based on the data obtained from the Thematic analysis, the key components found for the Intimate relationships were: effective communication; emotional intimacy; conflict resolution strategies; technology-mediated communication; work-life balance; relationship satisfaction**.** These components reflect a multidimensional approach to understanding the dynamics of intimate relationships, integrating emotional, communicative, and contextual factors that influence relational success.

Active listening played an important role in effective communication where it includes empathy and open communication. Most of the Intimate partners expect the communication to be open and empathetic involving deeper understanding of each other’s perspective. However, in the majority of cases, communication also involves censorship and filtration to prevent conflicts. This is also the case with blockchain technology, where data is stored in files and discrete units, but only the necessary data

is accessible to the user, limiting the amount of data that is used for management purposes. Similar to the analogy of blockchain technology, intimate relationship communication occurs when a partner reveals just the necessary details while keeping the rest private, which may affect how conflicts are resolved. One of the statements cited by the subject was the use of concept of Block-chain technology. "Hiding the information that makes my partner angry and may cause a fight is the best tactic I use to resolve the conflict." This illustrates how the idea of blockchain technology is effectively applied to resolve disputes that arise in close relationships.

Conclusion. This study highlights the central role of interpersonal communication, emotional intelligence, conflict resolution strategies, and relational satisfaction in intimate relationships. The findings emphasize that active listening, empathy, and open communication are pivotal in fostering emotional intimacy and relationship satisfaction among partners. Additionally, technology-mediated communication has a dual impact: while it enhances convenience, it also raises challenges like boundary-setting and emotional distance.

Conflict resolution emerges as a critical factor in maintaining healthy relationships, with strategies such as emotional regulation and open communication proving effective. Work-life balance, supported by prioritization and mutual support, significantly influences relational satisfaction. Non-verbal communication and quality time were also identified as essential components in nurturing relationship dynamics.

The integration of novel concepts, such as the analogy of blockchain technology to manage conflict through selective information sharing, provides an innovative perspective on modern relationship communication. While such strategies can mitigate immediate disputes, they also underscore the need for transparency and trust in long-term relational harmony.

This study underscores the importance of cultivating emotional intelligence, effective communication patterns, and balanced relational strategies to enhance relational satisfaction. Future research should explore the long-term implications of technology-mediated communication, the intersection of work-life dynamics, and emerging techniques in relational conflict resolution across diverse cultural and socioeconomic contexts. These findings contribute to a deeper understanding of intimate relationships and offer actionable insights for practitioners and individuals seeking to improve relational dynamics.

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BLOCKCHAIN TECHNOLOGY IN SPORTS: ENHANCING ATHLETE MENTAL AND COGNITIVE PERFORMANCE TRACKING

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Abstract. *Blockchain technology, initially developed for cryptocurrencies, has evolved into a versatile tool with applications across industries, including healthcare, finance, and now sports. This study investigates the role of blockchain in enhancing athlete performance tracking by integrating physical and cognitive metrics. Traditional methods often lack objectivity and security, while blockchain offers decentralised, tamper-proof, and real-time data tracking, addressing these challenges. The primary goal of this article is to explore how blockchain technology can enhance the tracking of athletes' mental and physical performance. The article aims to provide a comprehensive framework for understanding the integration of blockchain in sports, focusing on its potential to address current challenges in performance monitoring, improve data security and integrity, and enable more effective and personalized training and competition strategies. A systematic review of literature was conducted to examine blockchain's applications in sports. The analysis focused on its capabilities for performance tracking, data security, and integration with wearable technology. Metrics like strength, endurance, attention, decision-making, and cognitive fatigue were evaluated through blockchain-enabled systems. Blockchain enhances both physical and cognitive performance tracking by providing secure, real-time, and tamper-proof data. It facilitates personalised training programs by integrating metrics such as agility, focus, and decision-making. Wearable technology combined with blockchain enables continuous monitoring while safeguarding athlete privacy. The technology also ensures transparent record-keeping, useful for talent scouting and dispute resolution. Blockchain technology revolutionises athlete performance management by addressing traditional monitoring challenges. It offers a holistic approach to integrating physical and cognitive metrics, ensuring data security and enabling predictive insights for training and competition. However, issues like scalability, adoption resistance, and regulatory barriers need resolution for widespread implementation. Future studies should focus on the long-term impacts of blockchain on athlete development, scalability in sports organisations, and integration with emerging technologies like AI and IoT. Addressing regulatory and ethical challenges will be crucial for its adoption in the global sports industry.*

Keywords: *blockchain, sports performance, cognitive tracking, data security, real-time monitoring, athlete management, wearable technology, decentralised ledger, privacy*

JEL Classification: D91, H55, M14

Formulas: 0; fig. 3; tabl. 0; bibl.: 19

Introduction. Blockchain technology, initially developed to support cryptocurrency, has been clutching the transformation of healthcare, financial, and supply chain management industries. It is a decentralised, distributed digital ledger technology that makes cross-organizational record exchanges faster, more transparent, and secure without third-party mediators. This decentralisation reduces the risks associated with violations, frauds, and manipulations, offering users better security and trust in the data presented to them.

It works in the sport industry on managing cognitive and physical performance through real-time data to help athletes in adjusting and adapting for informed decision-making on their behalf. Blockchain technology is helpful in how an individual tracks the cognitive aspect of performance: attentiveness, choice-making, and coping-up with stress. While most traditional methods of performance monitoring fall well short of sufficiency or real effectiveness, blockchain technology revolutionises such truths by making the methods holistic in approach-assessing an entity's performance with an integrated physical and cognitive assessment.

Blockchain technology also guarantees better data in that once input in the system, it cannot be added to, deleted, or altered. This leads to a better comprehension of the shift in performances over time and the probable causes for changes. With more coaches coming up with smarter methods for using the performance data, blockchain does present an able path forward for the sports industry.

From being just a vehicle for cryptocurrencies, blockchain technology is transitioning into application in various industries, sure enough proof that the technology is revolutionary. In its quest to detect instantaneous results with higher precision, it becomes quite valuable in the way athletes and sports organisations work. Tracking of mental and physical performance will be refined with the application of Blockchain in the sports industry; therefore, the resultant features will improve to promote sports performance management.

Literature review. Blockchain is a distributed, distributed digital archive technology that enables trustworthy and transparent exchange of valuable information and data from one node to another across the distributed network of potential networks without any requirement of leadership (Nakamoto, 2008). This is through cryptographic methods that are used to protect the data this makes it almost impossible to adjust the data once it is recorded. Some of the characteristics of blockchain include decentralisation, which removes the need for middlemen; transparency which means all the members of the network harness equal information; and non-editable features that imply that once data has been recorded in a block, the information cannot be changed.

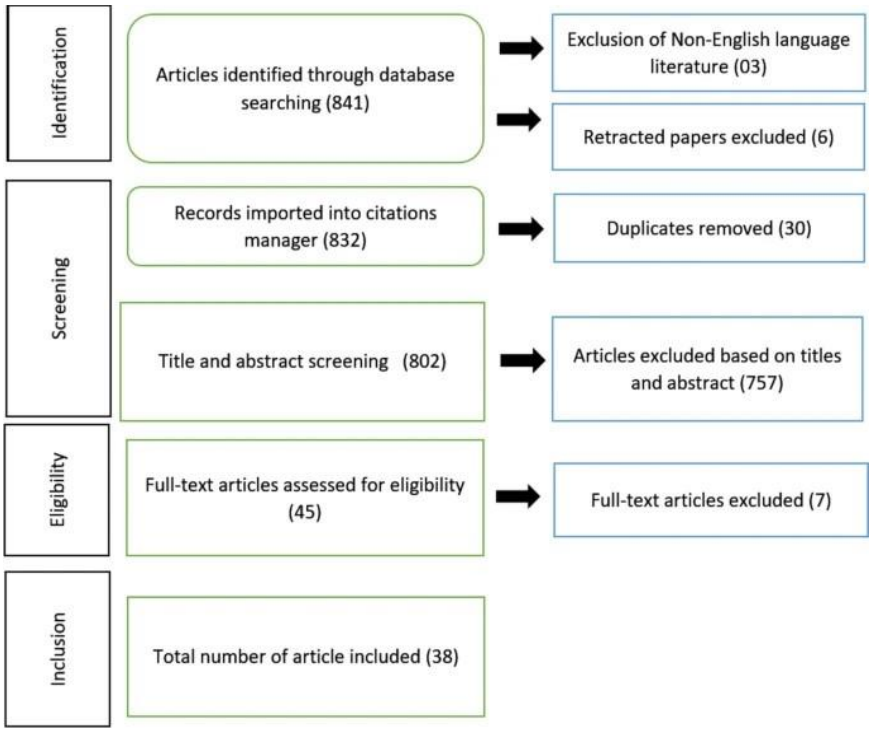

Figure 1. How block chain works

Today's Use of Blockchain. Originally developed for cryptocurrencies, blockchain has expanded into industries such as healthcare, finance, and supply chain management, demonstrating its benefits of decentralisation, security, and transparency (Schulz et al., 2019). In healthcare, blockchain enables secure sharing of patient data among caregivers and institutions while maintaining privacy and preventing data leaks (Johnstone et al., 2017). In finance, blockchain enhances transaction speed, reduces costs by removing intermediaries, and supports smart contracts and asset digitization, minimising human error (Swan, 2015). In supply chain management, blockchain facilitates real-time tracking, reduces fraud, and ensures product authenticity, improving efficiency and customer trust (Fosso Wamba et al., 2020).

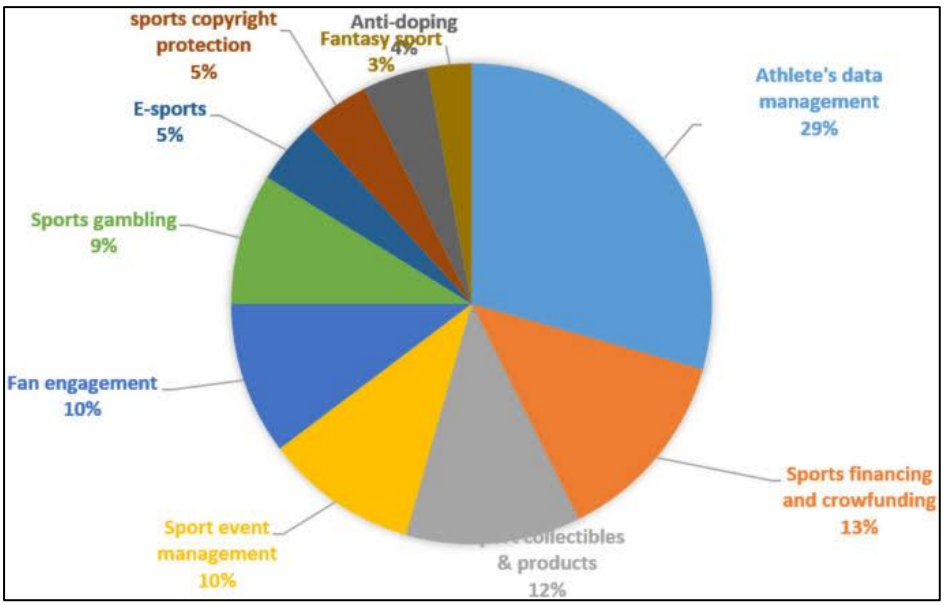

Table 2. Blockchain used in sports industry

The Potential for Blockchain in Sports. Blockchain's application in healthcare, finance, and supply chain management demonstrates its versatility in solving complex problems (Schulz et al., 2019). In sports, blockchain is emerging as a valuable tool for tracking athletes' physical and mental performance in real time. Data from wearables can be securely recorded on a blockchain, accessible only to authorised coaches, safeguarding athlete privacy and promoting accountability within sports organisations (Swan, 2015). Additionally, blockchain's immutable records ensure accurate tracking of performance cycles, aiding in training adjustments. As seen in other industries, blockchain's transparency and security offer new opportunities for enhancing performance management in sports (Johnstone et al., 2017).

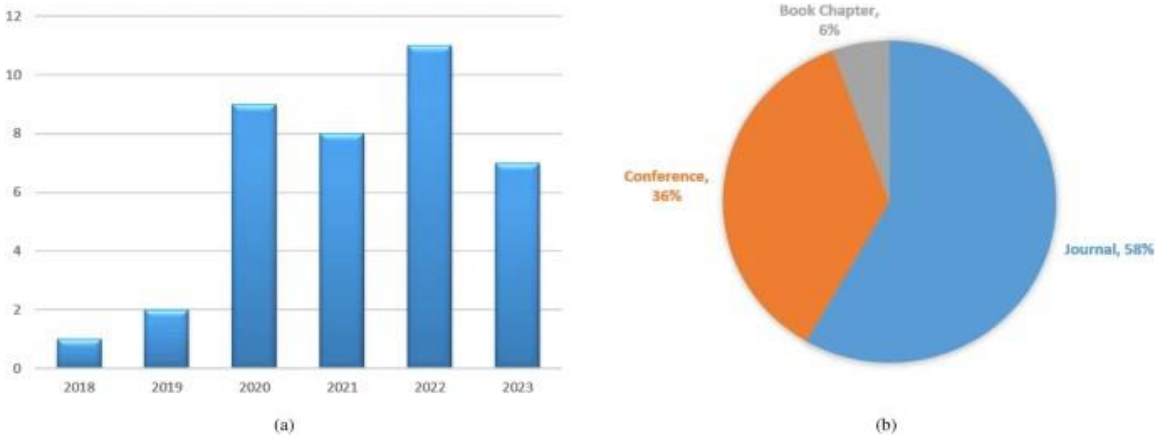

Figure 3. The results of literature review about Blockchain used in sports industry

(a) Evolution of the selected studies over the years
(b) Type of publication

As we aimed to better examine the adoption of Blockchain in sports, the collected articles were further analysed from the perspective of the field of sports they discuss, where we have classified the adoption area of our papers into traditional sports and digital sports. Traditional sports are characterised as physical activity involving competition between athletes or teams as well as recreational sports, such as football, tennis, handball, taekwondo, running...etc.

Thus papers in this class propose use cases in these sports from different angles (performance improvement, management and governing, fan engagement... etc.). Meanwhile, the digital sports category encompasses three application areas; sports gambling, fantasy sports, and Esports. We have found that our included sources predominantly discuss traditional sports use cases with 34 (81%) papers, meanwhile, only 8 papers (19%) discuss digital sports use cases as shown in Fig. 3b.

Since each paper addresses one or more use cases, we provide the following analysis where we discuss each blockchain application area in the sports industry, explain the rationale for adopting this technology in these areas, and discuss the examples of blockchain-based solutions presented in our resource pool.

Aims. The primary goal of this article is to explore how blockchain technology can enhance the tracking of athletes' mental and physical performance. The article aims to provide a comprehensive framework for understanding the integration of blockchain

in sports, focusing on its potential to address current challenges in performance monitoring, improve data security and integrity, and enable more effective and personalized training and competition strategies.

The main objectives of the article are:

- Review existing challenges in monitoring athletes' mental and physical performance using traditional methods.
- Explore how blockchain can provide secure, real-time tracking of performance metrics.
- Assess how blockchain technology can address issues of data privacy and integrity in sports performance management.
- Investigate how blockchain applications can enhance training protocols, competitions, and overall athlete well-being.

Methodology. A systematic review of literature was conducted to examine blockchain's applications in sports. The analysis focused on its capabilities for performance tracking, data security, and integration with wearable technology. Metrics like strength, endurance, attention, decision-making, and cognitive fatigue were evaluated through blockchain-enabled systems.

Results. Performance then is not only physical but also mental as the nature of athletic work seeks to address. These components therefore need to be unravelled in full so as to capture the intricacies of improving an athlete's performance.

Physical Performance Metrics. Physical performance is commonly assessed through various metrics, including:

Strength: This is the performance of muscles to do work by applying force on any object which opposes it. For example it can be measured through weight training regime, or in fundamental activities that are involved in the daily activities like lifting, or bench press. Strengthening muscles is important to athletes particularly to those who engage in brief bursts of energy for example sprinting or football.

Endurance: Endurance is an assessment of the capacity of an athlete or individual to put up with long exercise. It is usually measured in aerobic exercising, as for instance being able to run a given course within a given time. Strength is desired in a variety of games such as; running, racing , cycling and swimming and many more.

Speed: Speed is one of the most special motor skills that means the ability to move fast over a short space of a time period. It is mostly measured in sprinting events and is of relativity in soccer sport, track and field sport and basketball sport.

Agility: Specifically, agility can be described as the capacity of an athletic personality to move in different patterns at a high speed while keeping body balance. This skill is equally helpful in those games that involve transitional movement patterns like Basketball, Soccer, Tennis.

Cognitive Performance Metrics. In addition to physical capabilities, cognitive performance plays a significant role in athletic success.

Performance then is not only physical but also mental as the nature of athletic work seeks to address. These components therefore need to be unravelled in full so as to capture the intricacies of improving an athlete's performance.

1. *Attention and Focus*: Blockchain enables secure, real-time tracking of an athlete's attention span and focus during training or competition, allowing for accurate data analysis and feedback.

2. *Decision-Making*: Blockchain stores cognitive performance data transparently, helping athletes and coaches monitor decision-making speed and accuracy over time without data tampering.

3. *Memory and Learning*: Blockchain ensures the integrity of long-term memory and learning assessments, providing reliable insights into how athletes retain and apply strategies or skills in their sport.

Current technologies for monitoring athletic performance, such as wearable devices, offer insights into physical metrics but struggle to capture mental performance indicators like cognitive fatigue and decision-making. These mental metrics often rely on subjective self-reports, which can be influenced by mood, motivation, and external pressures, highlighting the need for more objective, standardised assessments (Schulz et al., 2019).

Data security is also a concern, as centralised storage systems for performance data are vulnerable to breaches, tampering, and loss. This raises issues about data integrity and the privacy of athletes' sensitive information (Schulz et al., 2019). Blockchain technology offers a potential solution, providing a decentralised, tamper-proof system for securely tracking both physical and mental performance metrics in real-time. Blockchain's ability to store data securely while giving athletes control over its access and use can address these challenges (Schulz et al., 2019).

While current methods are valuable, integrating technologies like blockchain could transform the monitoring and management of both physical and cognitive performance, enhancing data security and privacy.

Blockchain's Potential in Sports. Blockchain technology stands out for its capacity to store data and prevent tampering. In sports, data on athlete performance—both physical and mental—holds sensitivity and value. Blockchain provides a decentralised ledger with encrypted data making it almost impossible for unauthorised users to access or change information. This protects the privacy of athletes' health and performance records while keeping things transparent (Kshetri 2017). The unchangeable records of blockchain also create an audit trail, which plays a key role to validate athletes' growth and performance, and to resolve disputes during competitions (Murray et al. 2021).

Blockchain systems can support instant data input letting coaches, trainers, and athletes keep an eye on physical and mental stats right away. Devices you wear that track how athletes move, their vital signs, or even their state of mind can send data straight into a system powered by blockchain. This makes sure the info stays safe and easy to access without anyone messing with it (Schulz et al. 2019). Keeping tabs on things as they happen can help spot issues, like when someone's tired or not thinking as clearly so training plans can change as needed.

Decentralised records could provide a transparent history of an athlete's training, achievements, and health data, which can be especially useful for talent scouts, sponsorships, or during transfers between teams (Fosso Wamba et al., 2020). This

decentralised record-keeping ensures the integrity of the data and allows athletes to have more control over their personal performance information.

Improving Cognitive Function and Performance.

Blockchain and Cognitive Data: When it comes to sports like cricket, which requires quick decision making capabilities combined with focus that is unwavering then top cognitive performance from athletes can be a game changer. Conventional ways of testing cognitive function (like psychometric and speed tests) do not provide the feedback necessary in real-time nor reliably to improve mental performance during an athletic event. Real-time data measuring height and skip counts, along with cognitive markers of focus (Slaboda et al., 2021), decision speed, or stress levels can be written to a blockchain via wearables and/or other cognitive tracking tools in the context of athlete performance (8). This data can then be shared safely with coaches or medical personnel ensuring correct mental welfare tracking without worrying about having their health breached.

Impact to the athletes: Useful and unique way for tracking all manner of information, providing very secure data which would help physically much as well cognitive performance. Case in point, longitudinal cognitive data can capture mental fatigue states and intervention plans developed that are unique to the person. This could in turn lead to increased much needed focus during training and competition, leading up to potentially better overall performance (Kshetri, 2017). Additionally, coaches and psychologists can use this confidential information to help athletes work on mental resilience and stress management feedback in tandem with a balanced approach to physical academia.

Applications in Training and Competitions: In training, blockchain's potential lies in creating individualised programs that integrate both cognitive and physical data. Athletes' cognitive performance metrics, such as reaction time or decision-making accuracy, can be compared alongside physical metrics like endurance or speed, allowing for a more holistic training approach (Schulz et al., 2019). In competitions, secure blockchain-based performance tracking ensures that records are transparent and immutable, eliminating disputes over data accuracy. It also provides athletes with a competitive edge, as real-time cognitive feedback could lead to in-the-moment adjustments that optimise performance under pressure.

Discussion. While applications of blockchain in athlete performance monitoring are yet to be developed fully, there are still some technological challenges that hinder its implementation. Adapting blockchain in the current structures of sporting institutions is highly challenging and or costly for that reason, it calls for integration with higher technicality in terms of technology implementation and capital as noted by Swan (2015) for smaller clubs and other related sporting institutions. Further, scalability of the blockchain system is a threat especially in regards to the large amount of data from athlete performance and telemetry data (Fosso Wamba et al., 2020).

Data privacy is another issue as athletes would not wish to divulge health and performance information, which may attract hacker attacks. The major limitation that blockchain brings, is the block of data once it is added makes it very hard to rectify such inaccuracy or even delete it (Johnstone et al., 2017).

Finally, adoption in the sports industry is still a concern because the majority of distinct organisations are not willing to change their existing performance tracking systems because of costs, training, and perceived risk of change to new technology (Schulz et al., 2019). The evidence of resistance to change and scepticism about blockchain actually hinders its path towards mainstream adoption.

As blocking technology more extensively used to track athletes' performance, it is also necessary for policies and laws to enhance data protection, especially with such incorporations like GDPR because of the block chain immutability characteristic (Schulz et al., 2019). This makes it necessary to have ethical standards that should be put in place to protect the use of athletes' health related data instead, the athletes can decide how their information should be used. It may also be necessary for sports governing bodies to also set up standard protocols in the use of block chain to enhance fairness within the industry.

Blockchain-based AI or IoT applications can extend to real-time data analysis of athletes' performance, injury or mental health prediction (Murray et al., 2021). Smart IoT devices which are incorporated into blockchain platforms might also improve training and health care solutions (Swan, 2015). Subsequent papers could look at the differences of implementing blockchain-based systems compared with conventional applications, and examine the ramifications of its implementation on several disciplines of sports and initial player use cases (Fosso Wamba et al., 2020).

Conclusion. Blockchain technology - thanks to its decentralised and secure nature - holds enormous potential in transforming the tracking and management of athletes' mental (and) physical performance. This review has underscored how blockchain can facilitate secure: real-time monitoring of athletes' data, thereby ensuring data privacy and integrity. The capacity to monitor cognitive and physical metrics in a tamper-proof manner tackles the existing challenges in performance evaluation. However, it also equips athletes and coaches with more reliable tools for optimising training and competition preparation. Although hurdles exist, the advantages (of) adopting such technology are evident. This may result in significant advancements in the field of sports science.

As the sports industry (1) continues to evolve - becoming increasingly data-driven - blockchain may emerge as a vital asset for monitoring athlete performance and enhancing outcomes. The (2) seamless integration of blockchain with other advanced technologies, including AI and IoT, has the capacity to further revolutionise performance tracking, making it more personalised, predictive and secure. However, for blockchain to achieve comprehensive adoption within the sports ecosystem, several technological, regulatory and ethical barriers must be addressed. Although the potential is vast, this journey is likely to encounter numerous challenges. With persistent innovation and research, blockchain can indeed become an indispensable tool in the domain of sports performance management, because it offers insights that were previously unattainable.

Author contributions. The authors contributed equally.

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CHAPTER 4
NAVIGATING MODERN CHALLENGES IN JOURNALISM AND SOCIAL MEDIA

SHARENTING AND SOCIAL MEDIA: TURNING PARENTS' POSTS INTO MARKETING TOOLS

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Abstract. *After the phone, social media has become one of the most effective communication tools for today's people. People share many experiences from their daily lives to education and marketing on these platforms. At the same time, social media enriches these shares with videos, pictures, audio and written texts and presents them to other people. This study aimed to investigate the effects of parents' shares on social media on children and businesses. The impact of social media has affected parents' family relationships and parenting habits. The digital traces that parents create about their children, storing various memories about their children, documenting their growth processes, creating social networks in this sense, strengthening family ties and even sharing experiences with other parents represent the positive side of sharenting. However, sharenting, as a form of interaction between parents and social media, carries certain risks beneath its innocent appearance. First of all, children's privacy is violated. A picture that seems innocent at first may also cause children to encounter some bullying in the future. Written or visual products shared without children's permission may even cause psychological damage in the future. Our study is based on the thesis that sharing can offer opportunities for marketing strategies. Many consumers are positively affected by innocent images of children and may form closer relationships with the brand. In many cases, these images can offer advantages for businesses to develop products. Businesses can influence parents through their children, encouraging them to buy more products and increasing brand reliability. In fact, short photos of parents with their children can enable businesses to produce content that supports these moments, thus creating an emotional connection and increasing consumer loyalty. All of this is possible if the right strategy is used. In addition to academic studies, professional opinions of the business world on social media were also used in the presentation of this study. The practical implications of the study reveal that parent sharing, if used correctly, can be beneficial in terms of marketing without causing psychological or social harm to children.*

Keywords*: sharenting, social media, digital parents, marketing, marketing tools.*

JEL Classification: L 82, M 31, Z 33

Formulas: 0, fig.:2, tabl.:0, bibl.:46

Introduction. The requirements of the digital age also transformed parental responsibilities and gave birth to the concept of the digital parent (Baloğlu, 2023:768). According to Stacey Steinberg, a law professor at the University of Florida, "Our children are the first generation to grow up with their photos shared. We are the first generation to raise children in an environment with social media" (Unicef Turkey, 2024). Confirming this statement, Oswald, James, and Nottingham called the youngest members of Generation Z the "Tagged Generation" due to their frequent presence in publications and social media at the hands of others, including their parents (Gligorijevi´, 2019:203).

Research shows that children have a very negative attitude towards sharenting. "The most acceptable is sending photos to a relative, while the least acceptable is sharing photos of the child without permission. Also, contrary to what many parents think, younger children find it less acceptable to take photos without permission, while older children do not mind sharing" (Sarkadi, 2020:982).

Literature Review.

Sharenting Concept and Its Dangers. Sharenting was first defined by Collins Dictionary in 2015 as "the practice of parents who regularly and in detail post about their children on their social media accounts" (Cataldo et al., 2022:1; Karataş & Aydoğan, 2024:136). The concept can be evaluated within the scope of negative parenting or parenting abuse (Günüç, 2020:281). The widespread sharing behavior of parental accounts about their children on social media with photos, videos, and text content has started to attract attention and is evaluated within the concept of "Sharenting" (Brosh, 2016:225; Alemdar&Kahraman, 2023:71). This name is derived by combining the concepts of "share" and "parenting" in English and is used as "sharing parenting" in Turkish literature (Alemdar & Kahraman, 2023:71; Romero-Rodríguez et al., 2022:1).Some studies have used the term "sharingparenting" or "socialmediaparenting" for this concept, directly inspired by its English translation (Cansızlar&Şahin, 2023:127). However, some parents - especially those who have adopted social media at an early age - fall into the trap of posting about their children a little too often, which is called "over-sharenting" (Günüç, 2020:282; Kaspersky, 02.11.2024).

In the United States, it is reported that 92% of children share photos and videos on social media before the age of 2 and 1/3 in the first 24 hours of life. It is thought that in the first 5 years of life, a parent will have shared an average of 1000 photos of their child. In addition to parents, family relatives, health professionals, birth photographers and teachers can upload photos and videos of children to social media uncontrollably. In addition, thanks to the hashtag (tagging) technique, these photos shared on social media can instantly reach users all over the world (Akpınar et al. 2020:9). In a study conducted in Denmark, it was emphasized that parents are caught between the dilemma of "sharing or not sharing" on the grounds of being a "good parent" and publicizing it (Aslan & Durmuş, 2020:139; Günüç, 2020:283). However, according to the information obtained from the participants by Akyol and Sumbas (2023:1289), sharing about children may cause real or unrealistic experiences about how good a father is.

Sharing usually starts with parents announcing their pregnancy via social media (Korajlija, 2021:7). Studies suggest that mothers are more likely to share information about their children than fathers. Mothers' and fathers' posts differ in terms of content. Mothers are said to post more frequently on social media than fathers, and fathers are said to be more cautious than mothers. More than half of mothers (56%) post on social media on topics related to child health and parenting, compared to 34% of fathers (Alemdar & Kahraman, 2023:71; Bartholomew et al., 2012:455). However, the changing social structure has also changed the roles of fathers.There is clearly an increase in the number of fathers who want to address their children's needs and problems, spend more time with their families and share on social media, as well as economic opportunities (Subaşı et al., 2024:3). In another study conducted in the UK, it was found that 2000 British parents shared 195 photos every year and parents uploaded approximately 1500 photos of their children to social media before the age of five (Kopuz, 2021:14-15).C. S. Mott Children's Hospital's National Survey of Child Health (2015) found that 56% of mothers and 34% of fathers share information about their children on social networking sites.Another study showed that 30% of parents share photos of their children every day (Kılıç et al.2023 According to a study in Poland, 32.7% of the participants shared baby videos and documents related to the child such as birth certificates and kindergarten diplomas (Aslan & Durmuş, 2020:139). Parents start to form the digital identity of the child and shape their digital shadows with the posts they make on social media, such as ultrasound images or the mother's pregnancy photo. In other words, parents cause their children to be born digitally before physical birth (Kopuz, 2021:14-15; Aslan & Durmuş, 2020:139).

Parents who share their children's lives often do so by relying on a process that results in positive stimuli that are approved by their social circles (Karataş&Aydoğan, 2024:135).Sharing therefore has positive aspects for parents. Social media "provides parents with support, advice, social connection and a distraction from the complexities of parenting. Some parents post to validate their children's behavior or attractiveness or to see that they are good parents" (Er et al., 2021:2; Peimanpak et al., 2023:2). However, social media is difficult to control, its sphere of influence is very wide, and posts spread quickly. Users generally do not investigate the content and its accuracy. Therefore, the possibility of a crisis in social media is quite high (Kaya & Mengi, 2019:99).

Parents sharing pictures of their children may seem innocent when described as a memory. However, a significant portion of sharing can cause problems for parents and their children in the future. In order to stay away from these sharing dangers, parents need to be careful about certain issues. Potential dangers may include:

– Even if the child does not want it, the sharing leaves a digital trace, that is, a digital identity. With this incident, which occurs without the consent of the parties concerned, there is a violation of confidentiality. "This behavior has been defined as digital kidnapping" (Kılıç et al., 2023:1258). While this identity is the same as their real-life identity for some people, it is a completely new identity for others (Günüç, 2020:284). Children's privacy is actually an important problem in many countries. "Even if American parents encountered digital kidnapping, they were sharing with marketers.

Indian parents associated sharenting with consumer behavior. Turkish academic parents are more careful in their sharing behavior and define the sharing behavior of other parents as careless, private and disturbing" (Tosuntaş & Griffiths, 2024:548). This result can be evaluated as related to the education levels of academics. As a result, research shows that sharenting "violates privacy, disregards child protection laws and creates a digital footprint from an early age, leading to loss of privacy, risks of identity theft, deception, cyberattacks and encourages pedophilia" (Tisoccovd, 2024:182).

– Due to the prevalence of social media, desired or undesired sharing can spread rapidly to many other platforms. In short, no content remains in just one platform. In addition, "although it is thought that photos and videos that may cause discomfort can be deleted once shared on the internet, it is not possible to prevent these photos from being stored by third parties" (Serçemeli, 2020:231). According to a study conducted by the security department of the Australian government, almost half of the photos uploaded to pedophilia sites were taken from social media platforms (Müezzin, 2022:3).

– In digital child abduction, the photographs of their children shared by parents are stolen under the guise of "Instagram Role Playing", and a new digital history is written for the children, and the fake parents present this photograph in the virtual environment as if it were their own child (Karataş&Aydoğan 2024:136).

– The right to joint benefit that occurs when family members take pictures together can cause problems between family members. In many cases, family members do not ask permission from others for the pictures they share. "A study conducted by Holiday, Norman, and Densley (2022) determined how parents present themselves in Instagram posts. The study showed that although parents claim to be careful about their children's privacy on social media, their desire to show themselves on social media during the sharing phase does not take into account their children's privacy (Cansızlar & Şahin, 2023:127)".

– Loss of control; even if parents use privacy settings for sharing, images can easily be copied via screenshot. Any sharing also becomes the property of the relevant social media platform.

– Even though it is perceived as being deleted by its owners, digital data on the internet cannot be deleted and persists for very long periods of time,

– Other psychological factors are also included among the negative consequences. One of these is that "parents feel inadequate when they compare their own children with other children. This situation can cause feelings of insecurity and a hostile environment between them and other parents because they think their children are not as perfect as others" (Özlü, 2024:179).

– A significant problem is that posts can be used to describe a child's home, care or play area. In situations such as child custody disputes or domestic violence cases, the disclosure of some information can pose a risk (Hasanah, 2019:44). Therefore, a form of self-censorship is often practiced by parents online: Locatelli (2017) found that new mothers only mentioned their child's initials (e.g. "J" or "F") or used pseudonyms (Ranzini et al., 2020:?).

– As the child grows up, potential feelings of shame and possible psychological problems can negatively affect personality development. "According to the Parents, Privacy and Technology Use report, 19% of parents stated that they posted something online that their child found embarrassing and the child asked the parent to remove the post" (Aslan&Durmuş, 2020:140).

– Identity theft; Cybercriminals can parse a child's name, birthday, photos, and accompanying titles. These people can use the identity they have obtained through phishing or data breaches on the Dark Web for malicious purposes (Kaspersky, 02.11.2024). For example; When Google software sees a picture of a child's birthday cake, it not only identifies the cake, but can also collect information about the people in the photo (Müezzin, 2022:3).

In the risks that children may encounter in digital environments, the child is in the role of a receiver, participant or actor. In the role of a receiver, the child is exposed to risky content, and in the role of an actor, the child performs risky behavior. In the role of a participant, the child is the party experiencing situations such as harassment, abuse, ideological propaganda and misuse of personal information. When considered in the context of sharenting, it can be said that children are the ones who carry the possible risks. The child can be transformed into economic capital or an ideological commodity by their parents through social media platforms (Kopuz, 2021:16).

In Figure 1, we have systematized the consequences of Sharing Pictures of Children by their parents.

Legal Measures and the Situation in Türkiye. In some countries, such as France and Germany, the legal system recognizes the right of children to own their own images. In the US, the issue is more complex, but there are still privacy and legal issues to consider. "In the US, the Children's Online Privacy Protection Act (COPPA) prohibits the unauthorized use of data on children under the age of 13.In Italy, a 16-year-old child was ordered to pay 10,000 Euros in compensation in a lawsuit filed against his mother for sharing photos of him. According to the law in France, parents are given the right to sue for the sharing" (Aslan & Durmuş, 2020:140). The most comprehensive regulation regarding children's rights is the "United Nations Convention on the Rights of the Child", which includes Turkey.The Convention defines the rights of all children, regardless of where they are born, who they are, their gender, religion or social origin" (Küçükali&Seçemeli, 2019:1178). In particular, Article 16 is about sharing.

"Article 16. No child's private life shall be subject to arbitrary or unjust intervention, nor shall his or her honour and reputation be unjustly attacked."

According to the theory of surveillance anxiety, all the data shared every day reveals too much about the person, while on the other hand, it misrepresents him/her, thus causing anxiety in the person (Yavuz, 2020:19). For this reason, the right to be forgotten, which is called the right to erasure in the European Court of Justice and the General Data Protection Regulation of the European Union, is in question. The right to be forgotten is "the right to delete, limit or change past records that contain datathat is misleading, unnecessary, chronologically inaccurate, embarrassing or possibly not

related to the person's name, in order not to disrupt the current perception of the person" (Ayhan&Öztürk, 2021:170).

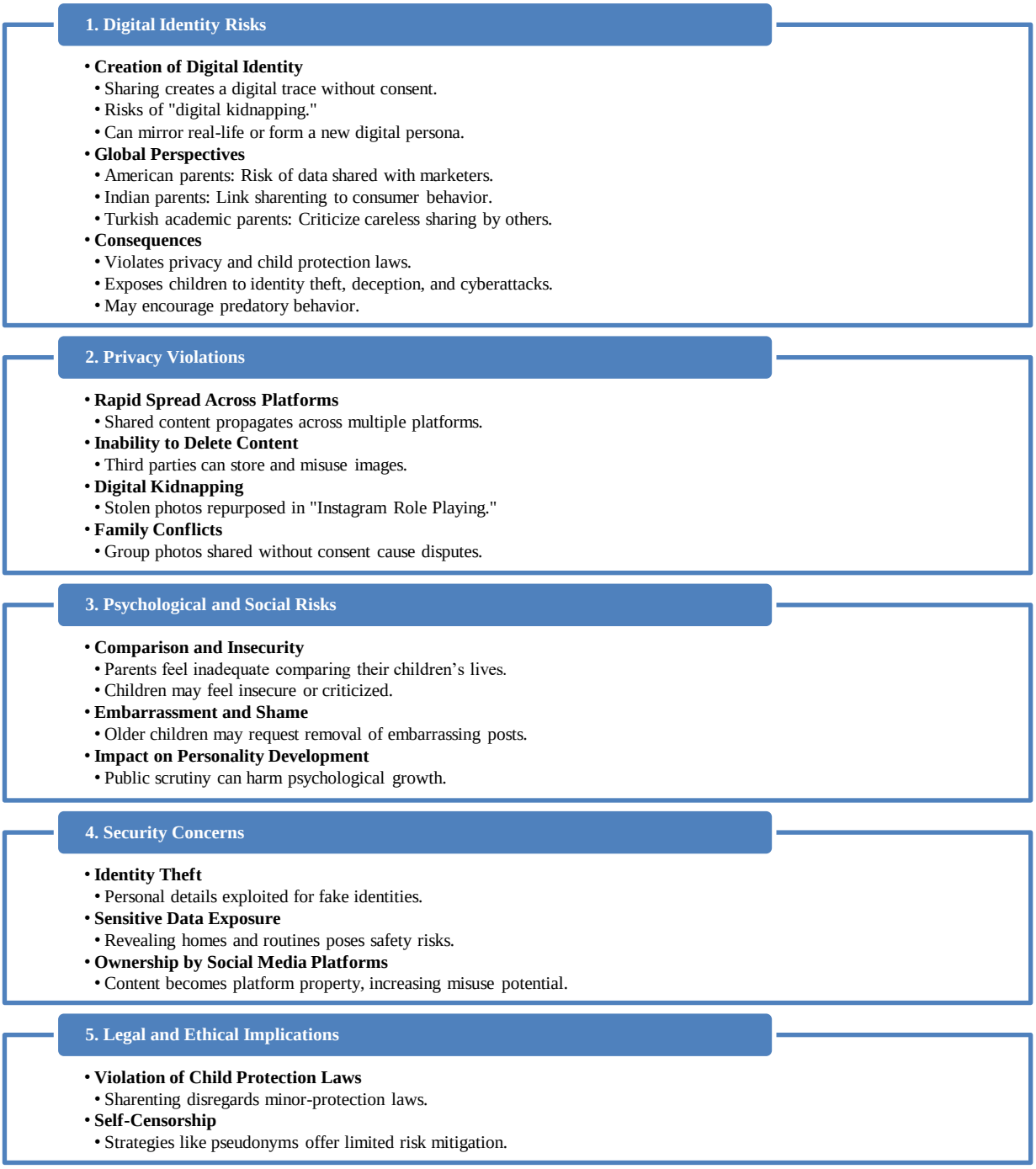

Figure 1. The consequences of sharing pictures of children by their parents

Source: developed by the authors

Although there are regulations regarding sharing in countries such as Germany and France, there are no sufficient laws in our country to prevent or impose sanctions on such sharing (Akpınar et al. 2020:9). In our country, there are regulations regarding children's rights in the relevant articles of the 1982 Constitution, the Türk Penal Code No. 5237 and the Türk Civil Code No. 4721 (Serçemeli, 2020:234):

"The conventions on children's rights, of which the Republic of Turkey is a contracting state, are within the scope of the Constitution of the Republic of Turkey, which also forms the basis of the legal regulations in the Turkish Penal Code and the Turkish Civil Code; the Turkish Penal Code, which is relevant to cases where the parent's attitude towards the child constitutes a crime; the provisions on custody in the Turkish Civil Code, which regulate the relations between children and parents, since the persons to whom the phenomenon of sharingnting is related are the child and the parent; and the provisions on personal rights and the protection of these rights in the Turkish Civil Code." (Karataş & Aydoğan 2024:137).

In addition, the circular of the Ministry of National Education regarding the use of social media in schools states that "…….the unlawful sharing of any audio, text, image and video recordings of students studying on the internet or in other digital or printed media is against the Constitution, international agreements and Law No. 1739; these acts are regulated as crimes in the Turkish Penal Code……." (Küçükali and Seçemeli, 2019:1179).

In a study examining parents' Facebook posts, it was found that sharing behavior was common among Turkish parents. Although parents stated that they shared special days or moments they found valuable, when their profiles were examined; it was found that they shared general and daily memories rather than special days when sharing photos (Cansızlar&Şahin, 2023:127). In a study conducted in Turkey, 81,4% of parents shared information about their children. Akpınar et al (2020) found that 72% of mothers shared nude photos of their children by the sea and pool, and approximately 50% shared photos containing their children's identity data on social media (Kılıç et al.2023:1257).In another study where Facebook posts were analyzed for 3 months, it was seen that 81,4% of the participants shared special days such as birthdays, graduations and end-of-year shows (Aslan&Durmuş, 2020:140). Another study showed that housewives tend to share about their children, the vast majority of parents are not informed about the risks of sharing images of their children, they share even if they are not informed, and some parents do not refrain from sharing even if they are informed (Cansızlar & Şahin, 2023:127). According to the study by Ocakoğlu et al. (2023), Instagram is the most used social media network among parents with 91%, while Facebook (Ocakoğlu et al., 2023:46) came in second. The findings revealed that Instagram is the most frequently used social media platform, that mothers use it an average of 5,8 times a day and spend an average of 75 minutes a day on the platform. The study by Kılıç et al. (2024(a):1) showed that sharing privacy-invasive photos of their children is positively associated with mothers' own depressive symptoms and negatively associated with their life satisfaction, while another study by Kılıç et al. (2024(b):644) showed that 73,3% of mothers share nude photos of their children near water areas and that approximately 50% of photos containing their children's personal information are shared. Despite awareness of the risks posed by children sharing on social media in Turkey, many parents still share about their children on these platforms. The practice of sharing brings with it many problems such as the violation of the child's right to be forgotten, the violation of privacy and vulnerability to abuse (Kılıç et

al.2023:1257). Although there are legal regulations in the USA to protect children from the risks of such sharing, there is no legal regulation in Turkey yet (Aslan&Durmuş, 2020:136).

Sharenting as a Marketing Tool. Commercial sharing is not a sharing that emerged with the emergence of digital marketing. The commercial use of sharenting dates back to very old times. At the same time, the commodification of parenting through practices such as "tagging brands in sharing, using product placement, openly recommending products or services, participating in brand events and receiving a fee for sharing, and using the product or service offered by the commercial enterprise for free" (Yavuz, 2020:19) is not a new event. For example, the growing American toy market in the 1920s naturally used children's pictures in their commercial advertisements in order to present them to the growing consumer masses. When examined historically, it is seen that the images used by businesses in their advertisements, especially those related to children, are generally associated with the product. According to research, likes on social media show people's positivity towards images of children. Getting more likes for content about a child motivates parents to disclose information about their children (Ocakoğlu et al., 2023:49). Perhaps the most extreme form of use of the sharing phenomenon can lead to the exploitation of children for commercial purposes. Children can be used as a tool by parents to attract the attention of followers and earn money (Ayhan&Öztürk, 2021:170). Therefore, businesses that have discovered that children's cute appearances are attractive among other products have sometimes presented their products that are harmful to health as a product that must be purchased by using children's images. In addition, considering the commercial aspect of social media, there is an economic benefit for some families to share their children's pictures. "Brands use social media influencer parents to offer more intimate, personal advertisements to their target audiences and increase their visibility on social media. It can be argued that social media parents turn parenting into a profession with their posts" (Yavuz, 2020:19). In addition to these developments, it has been claimed that photos of children uploaded to Flickr are being used to train facial recognition systems without permission. In other words, it is claimed that photos of children uploaded by parents to social media, even categorized as confidential, are turning into data that commercial enterprises use to improve surveillance technology (Yavuz, 2020:24).

Some sharing can be done by parents for professional purposes. This type of sharing is called commercial sharing. This type of sharing is usually in the form of pictures or videos. However, this sharing can also be a well-known audio file. Commercial sharing can be found on businesses' websites, as well as on various social media platforms. Naturally, these are published publicly without access permission. Commercial advertisements associate sharing related to children with their commercial areas. For example, a diaper manufacturer can share a picture of a child sitting on a potty. Or they can write their own story on an existing sharing. There are three types of narratives in commercial sharenting: life stages, activities, and cause-based communities. Sometimes there is more than one narrative frame. Each type of narrative has subtypes. For example, family prank videos can be understood as a specific type

of activity. Crafting with children is another subset of activities (Plunket, 2019). The concept of excessive sharenting is emerging in commercial enterprises. Many enterprises can pressure families to share more frequently or employ incentive systems. While money is more important to some parents, reputation is more important to others. Also important are the insights into commercial sharing. For example, "if a mattress company says that all babies will sleep 100 percent better if you use their mattress, and that claim is misleading, then the business's advertising is illegal. On the other hand, if a mother says that their sleep advice worked for her child and she hopes it will work for your child, that doesn't appear to be deceptive. "If the business pays them to do it, then there is a breach of integrity in advertising" (Plunket, 2019).

Aims. This study aimed to reveal the legal dimensions of parents' visual and written posts about their children on social media, their psychological dimensions in terms of their impact on children, and how the marketing world benefits from these posts.

Methodology. There are many theoretical and empirical studies in the field regarding parental sharing. Some of these studies aimed to reveal the psychological problems that parental sharing creates on children. The premise of our conceptual study was the psychological effects on children. In this context, studies such as Ayaz (2024)'s "Being an Influencer Parent on Instagram: Sharing Motivations and Privacy Violations", Aslan and Durmuş (2020)'s "Current Parental Behavior in a Preschool Period: Sharenting" and Yüksel (2021)'s "Construction of Children's Image on Social Media in the Context of Sharenting" were examined. On the other hand, it was examined how parental sharing was transformed into an economic benefit in terms of the marketing world. In this sense, a conceptual study has been conducted on the basis of the legal dimension in the academic literature, based on studies such as Çelik (2019)'s "A Qualitative Research on Digital Marketing Strategies and Methods for Digital Native Parents" and Aktan and Erdem (2023)'s "Blogger Motherhood as a Type of Digital Parenting: Evaluation of Marketing Messages of Blogger Mothers".

Results. Children can be negatively affected by the unconscious and intensive use of social media. The literature talks about the negative situations related to careless and excessive shrenting rather than the negative aspects of sharenting. Most of the time, parents' careless sharing can have harmful consequences for themselves as well as for children. When evaluated in this way, it can be said that the intensive use of social media affects social life and even poses a danger to future generations in some cases. Despite all the discussions, shrenting can create positive environments for other people as well as parents. Sharenting appeals to people's emotions in most cases. It helps unhappy people to be happy as well as supporting the dreams of people who seek goodness. Watching such sharing can sometimes cause joy, smile, sadness or tears. Shrenting also supports purposes such as collecting memories, showing oneself, and becoming famous. This study is interested in the commercial dimension of sharenting. In a commercial sense, sharenting supports the marketing strategies of brands, especially for families. In this sense, for example; Brands that sell children's products may want to create positive impressions about their products and increase their awareness by showing cute photos of influencers with their children on social media.

In some cases, sharenting supports the creation of content suitable for the target audience. Studies have proven the positive effects of sharenting on marketing and advertising.

Based on the results of the research we developed the main measures to turn parents' social media posts into marketing tools (Figure 2).

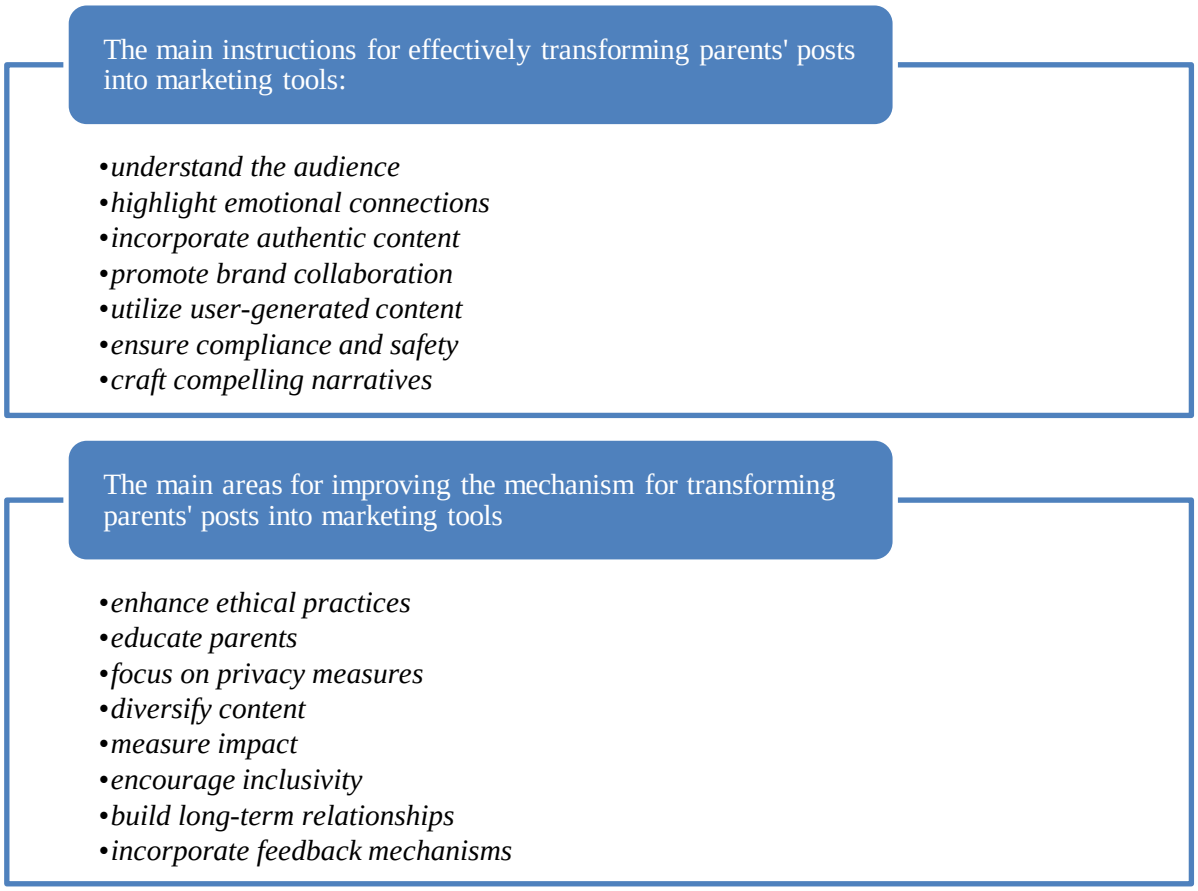

Figure 2. The main measures to turn parents' social media posts into marketing tools

Source: developed by the authors

We have developed instructions for effectively transforming parents' posts into marketing tools, namely:

– *understand the audience* - identify the target demographic (e.g., parents with young children) and their preferences to craft relatable and effective content;

– *highlight emotional connections* - use posts that evoke emotions such as joy, nostalgia, or empathy, as these are proven to drive engagement and consumer action;

– *incorporate authentic content* - encourage parents or influencers to share genuine stories or experiences with products to build trust and credibility;

– *promote brand collaboration* - partner with influencers and parents to create content that aligns with the brand's values while resonating with the audience;

– *utilize user-generated content* - leverage real-life posts from parents showcasing products to enhance authenticity and relatability;

– *ensure compliance and safety* - adhere to legal guidelines for child privacy and protect the digital identities of children featured in posts;

– *craft compelling narratives* - align posts with storytelling techniques that focus on key themes such as milestones, family activities, or community engagement.

The results of the study allowed us to offer the main areas for improving the mechanism for transforming parents' posts into marketing tools:

– *enhance ethical practices* - develop guidelines for ethical marketing to avoid exploitation and ensure the well-being of children featured in campaigns;

– *educate parents* - provide resources to parents on safe and effective content creation to mitigate risks of oversharing or privacy breaches;

– *focus on privacy measures* - collaborate with parents to anonymize sensitive information, ensuring a balance between marketing objectives and child safety;

– *diversify content* - incorporate a mix of visuals, videos, and written content to keep campaigns fresh and engaging;

– *measure impact* - use analytics to track the success of campaigns and adapt strategies based on audience engagement and feedback;

– *encourage inclusivity* - represent diverse families and parenting styles to broaden appeal and foster inclusivity in marketing;

– *build long-term relationships* - foster ongoing partnerships with parent influencers to create consistent and trust-based marketing campaigns;

– *incorporate feedback mechanisms* - use surveys or social media interactions to understand audience preferences and adjust content strategies accordingly.

Discussion. The phenomenon of sharenting presents a dichotomy of advantages and risks. On the one hand, sharing parental experiences on social media creates a sense of community, supports emotional well-being, and serves as an effective marketing tool for brands targeting families. Parents often share their children's lives online for reasons ranging from memory collection to gaining social validation. For businesses, sharenting offers an avenue to market products authentically by tapping into consumers' emotions through relatable and sentimental content.

However, the risks associated with sharenting are significant. Privacy violations, digital identity formation without consent, and exposure to cybercrimes like identity theft or digital kidnapping highlight the potential negative impact on children. Psychological harm, such as embarrassment or insecurity, could result from parents sharing content without the child's permission. Furthermore, the permanence of digital content amplifies these risks, as even deleted content may persist across various platforms. Ethical concerns regarding the commodification of children’s images for commercial gains also warrant serious attention.

The legal frameworks around sharenting vary across countries. While some nations, like France, have robust privacy laws protecting children, others, including Turkey, lack comprehensive regulations. The absence of such laws leaves children vulnerable to exploitation and raises questions about parents' responsibilities when sharing online.

Despite these concerns, the commercial aspect of sharenting cannot be overlooked. Businesses leveraging parental content effectively connect with their audience, demonstrating the power of storytelling in marketing strategies. However, it

is essential for brands and parents to prioritize children's privacy and well-being, adhering to ethical and legal standards.

Conclusions. For a successful marketing strategy, it is important to know the target audience. When parents share content about their children, it is very important to determine which age group of parents they want to address. In most cases, brand collaborations are recommended for sharenting to be successful. It is possible to reach a wide audience by collaborating with brands that offer children's products or services. When using sharenting effectively in terms of marketing, it is also important to pay attention to children's safety and privacy. When sharing pictures or videos of children, it is necessary to take into account the necessary legal and ethical measures to protect their safety and privacy. If not used carefully, sharenting can be dangerous for brand reputation. For example, if a parent's child has a negative experience using a brand's product, it will be dangerous for brand reputation. The issue of copyright is another problem for businesses. A photo taken by a parent of their child using a brand's product can create problems between the business and the parent in terms of copyright. This issue is also important in terms of advertising regulations in most cases. Future research should focus on the long-term psychological effects on children, and should seek to find consensus on the business-society-parent triangle.

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