Using Artificial Intelligence in Macro Social Work Practice

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الملخص

تتحدد مشكلة البحث في الآتي: تحديد فوائد وتحديات ومتطلبات استخدام الذكاء الاصطناعي في ممارسة الخدمة الاجتماعية الماكرو من خلال منظورات كل من معلمي وممارسي الخدمة الاجتماعية الماكرو، ويتجه البحث لتحقيق هدف رئيس هو تحديد الفرق بين تصورات معلمي وممارسي الخدمة الاجتماعية الماكرو حول استخدام الذكاء الاصطناعي في الممارسة، ويختبر البحث صدق فرض رئيس: يوجد فروق ذات دلالة إحصائية بين متوسط استجابات معلمي وممارسي الخدمة الاجتماعية الماكرو حول استخدام الذكاء الاصطناعي في الممارسة، ويعتبر البحث من نوع البحوث الوصفية واستخدم الباحث منهج المسح الاجتماعي بالعينة العشوائية لعدد (63) من معلمي الخدمة الاجتماعية الماكرو من أقسام تنظيم المجتمع والتخطيط الاجتماعي بكليات ومعاهد الخدمة الاجتماعية بجمهورية مصر العربية، ومسح اجتماعي شامل لعدد (124) مدير ورئيس قسم بمديرية التضامن الاجتماعي بمحافظة الدقهلية، وفيما يتعلق بالنتائج تم تحديد فوائد وتحديات ومتطلبات استخدام الذكاء الاصطناعي في ممارسة الخدمة الاجتماعية الماكرو من خلال منظورات كل من معلمي وممارسي الخدمة الاجتماعية الماكرو، والتحقق من صدق الفروض الفرعية ومن ثم التحقق من صدق الفرض الرئيس.

ABSTRACT

The research problem is determined by the following: determining the benefits, challenges, and requirements of using artificial intelligence in macro social work practice through the perspectives of both macro social work educators and practitioners, and the research is directed to achieve a major goal, which is to determine the difference between the perceptions of macro social work educators and practitioners about using artificial intelligence in practice. Research tests the validity of the main hypothesis: There are significant statistical differences between the average responses of macro social work educators and practitioners about using artificial intelligence in practice, the research is considered descriptive research and the researcher used the social survey method with a random sample of (63) educators of macro social work from the Departments of community organization and Social Planning in the faculties and institutes of social work in the Arab Republic of Egypt, and a comprehensive Social Survey of (124) managers and head of a departments in the Directorate of social solidarity in Dakahlia governorate. In relation to the results, the benefits, challenges, and requirements of using artificial intelligence in macro social work practice have been identified through the perspectives of both macro social work educators and practitioners. And verify the validity of the sub-hypotheses and then verify the validity of the main hypothesis.

Key words: Macro Social Work Practice – Artificial Intelligence – Social Welfare – Social Policy – Social Development – Social Planning - Social Services.

INTRODUCTION

Artificial intelligence (AI) originated in the mid-twentieth century with the convergence of automatic control science, control theory, operations research, psychology, and computer science. In that context, researchers aimed to integrate those research fields to move towards the implementation of human intelligence in general, for example language, vision, and problem solving. The emergence of artificial intelligence dates to John McCarthy, who first presented it at the Dortmund Conference in 1956 as a tool (Natale, S., 2021, P. 18).

Before that date, in 1912, Alan Turing designed a test to measure the intelligence of machines. Since then, they have called it the Turing test, which is a test to measure the ability of machines to show intelligent behavior. In September 2011, the Cleverbot (chatbot) program exceeded the Turing test in terms of technological progress. However, the rapid development is expected by 2030, the disappearance of about 800 million jobs that will be replaced by machines. AI will reach human levels by about 2029. It is also expected by 2045, the intelligence of machines will become one billion times the intelligence of our human biological civilization (Stachowicz-Stanusch, A., & Amann, W., 2020, p.p. 4-5).

Due to the progress of AI, the European Commission established in 2018 a group of high-level experts on AI (AI HLEG), composed of (52) independent experts, from industry, academia and civil society, as well as a representative from the European Economic and Social Council (EESC). The Committee is an independent group tasked with drafting two outputs: first, guidelines for AI ethics and second, policy and investment recommendations. Given its role in promoting individual and societal well-being and the common good, as well as achieving progress and innovation, AI systems can help facilitate the achievement of UN

Sustainable Development Goals (SDG), such as promoting gender balance and addressing climate change, rationalizing our use of natural resources, enhancing health, transport and production processes, and supporting how we monitor progress through sustainability and social cohesion indicators. To do so, AI systems must be human-centered and based on a commitment to use them in the service of humanity and the common good, with the goal of improving human well-being and freedom. However, they lead to some risks that must be dealt with appropriately, and this entails striving to maximize the benefits of AI systems while simultaneously preventing and minimizing their risks. The expert group noted that trustworthy AI depends on three components: it must be ensured that it complies with applicable laws and regulations, it must be ethical, and it must be robust "from a technical and social perspective because, even with good intentions, AI systems can cause unintended harm" (European Commission: 2019, p. 4).

AI can help address some of the world 's biggest challenges, enabling doctors to improve diagnosis and helps in manufacture medicines, can reduce energy consumption, can contribute to a cleaner environment by reducing the need for pesticides, and can help improve weather forecasting and disaster forecasting (European Commission: 2018, p. 1).

Through its many applications, AI has helped all industries achieve effective results in the dissemination of various applications of control, decision-making, complex problem-solving, creative methods, observation analysis, language recognition and learning. AI is used to computerize software and prepare systems to behave like the human mind. AI has excelled in thinking, retrieving and making decisions sometimes faster than the human mind (Chennam, K., et al., 2023, p. 5.).

The practice of macro social work, or the practice of social work that aimed at influencing change in macro systems, is often divided into the areas of community practice, social management/administration, and social policy practice (Teixeira, S., et al., 2021, p. 2).

This technological revolution, like its predecessor, carries the risk of creating new social gaps or increasing existing ones, hence the importance of the fundamental ethical debate. AI ethics is a sub-field of applied ethics that focuses on ethical issues of technology development, such as the effects of technologies on people and society, and the ability to make decisions. Similarly, ethical problems arise in relation to equity and social justice. It is therefore essential that AI systems focus on serving humanity and the common good rather than individual interests. Thus, the field of AI must be equipped with normative frameworks and ethical guidelines that allow for maximizing benefits and minimizing risks. Technological progress is unstoppable, so the challenge is how to ensure that AI is used to serve people and human development (Diez, E. R., 2023, p. 369).

From a critical perspective, the rapid development of AI and the increasing reliance of individuals on technological devices and systems facilitate the violation of human rights. Individuals who are not sufficiently familiar with these issues become more vulnerable to cybercrime and hacking. There is a high potential for misuse of personal data and in addition, AI shows biased data at the design stage. Data security and privacy are of great importance to individuals, that is also become a more global problem of concern to societies (GÖÇEN, I., 2023, p. 18).

However, AI plays a vital role in decision-making processes at the local level due to its ability to analyze big data quickly and efficiently.

Using its technologies, local authorities can make more informed decisions regarding urban planning, resource allocation, and government services. This not only supports efficient decision-making, but also ensures the allocation of resources, which ultimately leads to more sustainable societies. Moreover, the integration of AI into decision-making processes can lead to more transparent and accountable governance practices, as the algorithms used can be monitored and reviewed to detect biases and errors (Pratt, L., 2019, p.p. 66-67)**.**

This is done using interpreted AI, where the system based on AI interprets the result it has reached, and the explanation method allows control of the model, which helps to identify and correct defects and biases. Moreover, the interpretation method justifies the decision made by a model to answer the reason for a particular decision. When the user understands how the model was able to reach the result, he can easily improve the model to enhance his ability. In addition, the user's understanding of the model enhances users' confidence in making critical decisions using an AI-based system. According to the results of scientific research, the explanation provided by AI systems is needed when they reach results, for four reasons: To justify decisions, facilitate the internal control of models, improve the model to achieve expected results, and build human confidence in the results model (Kumar, D., & Mehta, M. A., 2023, p. 44)**.**

Accuracy is a vital variable when it comes to the use of AI, but the rate of accuracy of data systems is rarely discussed among social workers. Research has shown that the output of predictive systems can influence those who use it and make them bias even when they know that accuracy rates are a problem. Conceptualizing the data gives the impression that it is scientific, objective, and neutral when the system is embedded with

assumptions and compromises. This also raises concerns about the way technology can be used to pursue policy agendas while bypassing policy deliberations around it. Does the use of AI in practice lead to and entrench inequality and undermine the distributive justice of resources? In fact, the use of AI in practice leads to the definition of social work as information processing, and then computers replace social workers. Humans who remain become extensions of algorithms. But social work is not information processing. Hence, the use of AI applications must consider maximizing efficiency and eliminating fraud, in addition to considering accuracy. Include efficiency, transparency and due process (Eubanks, V., 2018, p.p. 155-156)**.**

Given the nature of a values-based profession such as social work, ethical considerations are important for analyzing the use of AI in social work practice (Hodgson, D. et al., 2021, p. 14). We must then be able to predict what will happen in the next 10 or 20 years, with a view to mitigating the consequences while developing appropriate strategies to manage the transition towards the use of AI in macro social work practice (Buttazzo, G., 2023, p.p. 1-9)**.**

This confirms the existence of a set of challenges or negative effects when using AI in the macro social work practice (MSWP), and then it is necessary to meet the requirements for its use to confront and reduce those challenges

Based on the above, the problem of the current research can be formulated in the following:

Determining the benefits, challenges, and requirements of using artificial intelligence in macro social work practice through the perspectives of both macro social work educators and practitioners.

LITERATURE REVIEW

Governments around the world have been developing and adopting new digital technologies for nearly half a century to support policymaking and service delivery, as indicated by the study "Henman: 2018", which confirmed that one of the reasons for the failure of governments in this area is the lack of full understanding of the technologies used, focusing on technologies more than institutional reform of government structures and processes, and some governments exploiting digital technologies to control their citizens and undermine their freedoms. As well as the impact of those technologies in widening the social gap and social inequality, where different groups of society are treated differently. The study stressed that digital transformation represents a great opportunity for governments to improve the delivery of social services and enhance participation and transparency. Considering careful handling and understanding of the expected challenges. It was therefore appropriate to comprehensively understand digital technologies while achieving appropriate organizational change by developing plans to integrate modern technologies into government structures and processes. Improve efficiency, transparency and organizational accountability, not overestimating the return of modern technologies while ensuring community participation and minimizing the digital gap between groups of society to ensure social justice and eliminate inequality and social marginalization (Henman, P., 2018, p.p. 1-20).

Cardiff University's Data Justice Lab: 2018 identified what can be learned about where and how algorithms are used in the social welfare system at the national and local levels. It also identified concerns associated with the potential of those new systems that lead to discrimination, exacerbate inequality, violate citizen and human rights,

and disproportionately harm poor and marginalized communities (Data justice Lab, Cardiff university, 2018, p.p. 1-6)**.**

Digital literacy for social work students should be integrated into the core curriculum at bachelor's and master's levels rather than offering a course as an optional specialization. This ensures that all graduates have the appropriate training and skills to use the technology in their careers, and training should also be provided to social work educators to ensure mastery of technology (Zgoda, K. & Shane, K.,: 2018, p. p. 32–40)

It can be argued that the digital revolution has reshaped social systems, as ICT provides new options for dealing with human inequalities and achieving social development, which was emphasized by (Peláez, A. L. & Servós, C. M., 2018) in their study on updating the perceptions of digital social work technologies, practices and approaches in one hand and digital society in another hand. They discuss how digital societies create the opportunity to achieve social justice and provide opportunities to build, research and apply new ideas in electronic social work, which leads to the support and promotion of social work as a scientific system and as a profession, with some reservations related to ethics in discussions about digitization and the design of new methods of diagnosis, intervention and evaluation that respect people's dignity and their right to privacy. Thus, adaptation to the digital environment is one of the challenges facing social work (Peláez, A. L. & Servós, C. M., : 2018, p. p. 801-803)**.**

Social work has been slow to adapt to rapidly changing technology. Limited resources, ethical and legal considerations, and lack of training have delayed social work from keeping pace with rapid technological changes that can improve practice and support social good, as noted in the (Peláez, A. L., et al, 2018) study, which recommended that social

workers should be trained in the use of modern technologies. Designing specific programs that enable them to perform their work in a digital society, analyzing online opinion climates, developing online programs and strategies and using available technological applications. The participation of social workers in the design, development and implementation of new technologies in their field, and their participation in the design and development of bachelor's and master's curricula to ensure specific training for social workers on modern technologies and prepare them for the digital society. Ethical issues surrounding new technologies should also be discussed. It is necessary to regulate professional practice standards by establishing Memorandums of understanding that respect the accessibility of professionals (Peláez, A. L., et al, 2018, p.p. 804-823)

Big data portals have succeeded in making informed decisions about resource allocation in health care and health promotion, which was confirmed by the (Gillingham: 2019) study. It also pointed to the possibility of serious consequences for service users as well as social workers because of the decision support system that replaces human decision-making. The study assumes that big data portals in the social welfare sector, as the examples show, are not infallible and unreliable, which leads to injustice for service users. It also pointed to the concerns raised about the ethics of using data without The consent of the person who owns the data, the stigmatization of children and families identified by the predictive risk modeling, the legal and ethical basis for the intervention based on algorithmic calculations, and the lack of transparency about how predictive risk modeling is developed and works, so the study suggested that the algorithm should be accurately trained to predict according to the dataset used in this, because the inconsistency in

the data makes it difficult for the algorithm to identify patterns and correlations within the dataset, and therefore data scientists and social workers need to cooperate to ensure that both parties are clear about what the data actually represents (Gillingham, P., 2019, p.p. 114-126)

Social welfare policies are a mechanism to ensure opportunities that promote equality and improve the social conditions of the individual and address institutional and societal biases. Advocacy is still of great importance as it is used to reach a human social policy based on justice, which was confirmed by the (Colby: 2019) study, where it is considered that sound policy analysis supported by critical thinking and based on theories of justice creates the ability and opportunity for the social work profession to positively affect the design of social welfare policy. Critical thinking requires the ability to analyze and organize facts, and develop Opinions based on verified evidence, discussing the situation, and evaluating alternatives. The importance of the rational thinking process appears in organizing and extracting the truth and allows for clear and objective solutions. The emergence of the web has led to a revolution in critical thinking processes through various sets of data, information, and analysis of issues from individuals, groups, and organizations, but it is necessary to have control over that information and data, because of the need to verify the validity and reliability of web sources, because the use of false data or information from a website source in any policy analysis or presentation reduces the reputation of social workers and of policies itself, as well as to distinguish good information from bad, and to use creativity while searching for accurate and useful information (Colby, I. C., 2019, p.p. 1-13).

AI is integrated into many aspects of life in all types of communities, as confirmed by the study of (Musikanski et al, 2020) It

also stressed the possibility of integrating the assessment of the impact of AI on communities into the evaluation of community development services and programs. Development indicators have gained importance as tools for estimating community and regional development. Community development indicators reflect the data provided by the community population, and thus can be used to understand the effects of AI on community development, as well as to help decision-making. Development measures must be designed and used to understand, measure and monitor the effects of AI on community development. In addition, we suggest that there should also be a community approach to developing those indicators, based on the work of many researchers and practitioners in the field of community development indicators, where there is a scarcity of research on the relationship between AI and community well-being (Musikanski et al, 2020, p. 45).

In an attempt to map the societal conditions that make digital transformation useful in effectiveness of social and economic welfare services, the (Rushambwa, T., 2021). study found a strong correlation between social and economic conditions and access to digital tools. The study showed that households with vulnerable socio-economic conditions have access to mobile devices, with weak or no digital skills. The economic gap leads to the digital gap and thus negatively affects social welfare. Digital transformation is likely to exacerbate existing social and economic inequalities and marginalize those who are unable to access digital technologies, and the skills needed to use them. The study suggests the need to create policies that enable individuals to upgrade digital skills through government investment in human capital development to raise the level of skills, and to effectively plan for digital transformation, data must be flowed that will enable planners and

policymakers to effectively track the changes that have been achieved around the key social skills of individuals to identify and reduce the size of the digital gap (Rushambwa, T., 2021, p.p. 192-199).

Social work, as a scientific discipline and as a profession, responded to social transformations and to the requirements imposed by our societies at various times, as well as to their problems, adapting to the prevailing social changes and dynamics. Thus, it has the ability to adapt to the changing needs of research and intervention imposed on it, and to seek the continuous development of its theoretical foundations and research, as indicated by the study (Barrera-Alígarn, et al., 2021), which found that social workers show very high levels of technological acceptance (according to the Tam model), in all its dimensions: "benefit", "ease of use", "pleasure in use", "attitude towards use" and "intention to use" those technologies in social work. These results place social workers at the forefront in terms of their professional use of emerging technologies, and that social workers believe that technology should be used to inform and mobilize communications to support policies that will benefit individuals and groups, advocate for the adoption and use of relevant technologies that improve the well-being of communities, seek access to technology to improve the quality of the program and service delivery, and ways in which technology-based social work can be carried out safely and appropriately, as well as conduct, evaluate, disseminate and implement research using technological methods. They must do so in a way that ensures ethical credibility and informed consent of participants (Barrera-Alígarn, et al., 2021, p. 18). 1.

Digital transformation poses a challenge for organizations, professionals, and the scientific community in social work. Digital solutions to social needs and problems have been integrated, without

models to guide their integration. This may lead to the practice wisdom among social workers, and then the need to adopt these techniques, how to use them, and under what circumstances they can be used, was the vision put forward by the study (Castillo de Mesa, J., 2021) in order not to displace the profession of social work or make it irrelevant in the future. To this end, he proposed the need for a new domain (digital social work) by reviewing three models of digital solutions adopted by social work in an evolutionary way: digital adaptation, digital transition and digital disruption (Castillo de Mesa, J., 2021, p.p. 117-133).

The digitization of services is a global trend, which has taken hold due to social distancing requirements due to the COVID-19 pandemic. The importance of digital health care and inclusive social services has increased in conjunction with understanding how to increase the participation of socially marginalized people in the design of digital services, which is critical to achieving inclusion. The successful design of modern and socially sustainable services requires understanding the competencies and resources enjoyed by socially marginalized customers. This is the vision from which the (Honkala, E. 2021) study was launched. The study found how to identify the competencies of customers and their resources and use them to achieve social innovation. The study identified the competencies and resources enjoyed by customers in three categories based on their skills and the merit of using digital social welfare services, access to social assistance in addition to the level of performance. The study found that families and close friends of the type of digital solutions (or other resources such as networks) used by customers to solve problems related to social welfare. Users of any digital service for the first time need help, and that the main obstacle to integration is that the

services provided are not customer-centric/not oriented (Honkala, E. 2021, p. 6-109)

Machine learning is a sub-field of AI that uses mathematical algorithms to identify complex patterns in data and perform complex tasks in an automated manner. The study (Borrellas, P., Unceta, I., 2021) indicated that the deployment of machine learning models is expected to achieve economic and social benefits, but the complexity of the technology and some of its applications also generates some doubts about its feasibility. The potential lack of interpretability, fairness, integrity, and privacy of machine learning is a challenge for policymakers, reflecting the importance of regulating technology. Harm prevention and anti-discrimination laws must be aligned with the peculiarities of machine learning. Provide applications with security and privacy mechanisms that increase social welfare. The imposition of the right to interpret AI decisions can thus improve social welfare (Borrellas, P., Unceta, I., 2021, p.p. 1-23).

The study of (Henman, P. W. F., 2022) emphasized that the need for joint design as a central goal of digital social policy, as social policy researchers and advocates need to engage with people in identifying digital technologies that meet the needs of social policy service recipients, and the existence of multiple perspectives that participate in the design of digital technology for social policy and social policy for digital technology, and building legal policies and innovations that guide digital technologies in human-centered ways is a second task, focusing on the most disadvantaged groups, and to protect data, it is imperative to have coordinated rules on AI (AI law) through the development of important legal frameworks that need to be studied, implemented and broader criticism (Henman, P. W. F., 2022, p.p. 535-550).

In Australia, there is a duality between the discourse on ethical AI and the reality of the deployment of AI in the government sector, as the ethics promoted are far from those being implemented around the use of AI in social welfare, from which the study (James, A., & Whelan, A., 2022) was launched. It also confirmed that the discourse of ethics ostensibly pushes us to overcome widely recognized legal and ethical failures of AI, and entrenches the implementation of AI, in an ethical manner or otherwise. Hence ethics discussions do not conflict with the legitimacy of AI, in short, ethical AI reflects the possibility of alignment with a world with AI, rather than questioning whether this is the world we want (James, A., & Whelan, A., 2022, p.p. 22-42)**.**

There are significant gaps between digital literacy for social workers and awareness regarding respect for boundaries and ethical relationships on digital platforms, with (Pink, S., et al., 2022) emphasizing that social work should pause to consider "digital knowledge gaps before rushing to push forward technology-enhanced practice approaches" (Pink, S., et al., 2022, pp. 413–430) **.**

AI is making exceptional progress at an unprecedented rate, reaching and surpassing human capabilities in many tasks, such as language translation, music composition, object detection, medical diagnostics, software programming, and many others, which was confirmed by the (Buttazzo, G., 2023) study, which indicated that the real problem is not that AI replaces many jobs and professions existing today, but rather that it will happen quickly. For this reason, it is crucial to be able to predict what will happen in the next 10 or 20 years, with the aim of mitigating the consequences while developing appropriate strategies to manage the transformation process. It is essential to provide machines with the information necessary to make valid independent decisions not

only from a technical point of view, but also from an ethical point of view (Buttazzo, G., 2023, p.p. 1-9).

A growing number of generative AI-based solutions are striving to improve the performance of organizations and their managers, a vision advanced by (Korzynski, P., et al., 2023) He pointed out that generative AI affects the management of organizations through three levels: strategic, functional and administrative. At the strategic level, generative AI can help collect and analyze data and provide visualizations and suggestions that may guide the evaluation process. Thus, managers become better able to make decisions. ChatGPT facilitates the development and dissemination of information within the organization by enabling knowledge sharing, organization and retrieval. At the functional level, generative AI can be used to improve customer service and human resources management. At the administrative level, generative AI facilitates the organization of work time, task scheduling and reminders of vital tasks (Korzynski, P., et al., 2023, p.p. 3-13).

AI is used in social work education, risk assessment, helping people in crises, strengthening prevention efforts, and identifying systemic biases in the provision of social services, which was confirmed by the study (Reamer, F. 2023) It also recommended that social work education programs should include content on AI in their curricula to ensure that the next generation of social workers use AI responsibly. Social work organizations that provide continuing education should organize workshops and webinars for practitioners who may not have been introduced to that content during their formal education in the field of social work. Practitioners should also take serious steps to evaluate the impact of AI on the profession, with a special focus on evidence of its effectiveness, limitations of its use, algorithmic bias that may be a reason

for it, and ethical standards that must be adhered to when using it (Reamer, F. 2023, p. 52-71).

AI cannot replace social workers because they possess complex attributes such as observation, empathy, and critical, abstract, and strategic thinking. Therefore, instead of trying to prove that social workers are sympathetic and smarter than AI, and trying to prove the opposite, emphasis must be placed on integrating AI into the profession to ensure efficiency and improve service delivery, which was confirmed by the study (Molala, T. S. & Mbaya, T. W., 2023). The study recommended that higher education institutions should develop educational programs, that the South African Council for the Social Work Profession should develop ethical policies and guidelines that consider e-social work as a field of specialization, and that social workers should be provided with digital training in order to maintain confidentiality, informed consent, professional boundaries, professional competence, record-keeping, and other ethical considerations (Molala, T. S. & Mbaya, T. W., 2023, p.p. 613-621).

Algorithmic decision-making has become increasingly present in social work practices, as confirmed by the (James, P., et al. 2023) study conducted on algorithmic decision-making systems that use three AI decision-making tools: the Allegheny Family Screening Tool (AFST), the Correctional Offender Management Profiling for Alternative Sanctions (COMPA), and the Australian National Disability Insurance Scheme (James, P., et al. 2023, p.p. 1-19).

It is known that many social work education programs lack a comprehensive approach to preparing social workers to intervene and evaluate using digital technologies. Therefore, it was necessary to focus on digital knowledge and practice skills to prepare students for social

work. In response, the study (Heinsch, M., et al., 2023) developed a simulated learning experience for eight weeks. Virtualization improved students' ability to provide welfare services using digital technologies and provided them with a clear understanding of the potential benefits and limitations of those technologies in various practice settings. Educators can also enhance students' preparation for the digital workforce by adopting similar educational strategies and promoting digital platforms as an important element in a variety of social work skills. The study facilitated the development of basic skills necessary for team-based communication and cooperation. The students' use of digital tools, such as online communication platforms and cooperation programs, led to the organization and facilitation of virtual group meetings, providing a comfortable way to practice those basic skills. It strengthened digital resources such as databases (Heinsch, M., et al., 2023, p. 1-7)**.**

In order to achieve its positive impact on societies, social work adopts AI as a tool, through the analysis of qualitative and quantitative data, the generation of insights, and its use in performing the roles of community organizers and planners as routine practices in AI, which are implemented through web applications to meet complex societal challenges and enhance the educational experiences of social work practitioners. This is the vision from which the (Dey, N. C., 2023) study was launched, which stressed the need to strengthen a strong basis for integrating AI into social work and using its potential to meet critical social challenges while adhering to ethical principles. AI has been integrated into the management practices of an NGO operating in both rural and urban areas, and one of the results of this has been the achievement of transformative changes in NGO management practices, which have improved the distribution of staff, increased the efficiency of

volunteers, and attracted high-quality professionals. By taking advantage of information technology trends and AI technologies, the NGO has achieved higher profits and shown enhanced capabilities to maintain order, detect and fix errors. It has also strengthened the NGO's mission and impact, and ensured its continued success in empowering communities and driving positive social change (Dey,N., 2023, p.p.1-15).

Looking at the previous presentation of a set of previous studies, the researcher can identify the most important features that contribute to different degrees in formulating the research problem, defining its objectives and formulating its hypotheses. It is also possible to identify the aspects of agreement and difference between previous studies and the current study as follows:

(A) Some previous studies have come up with a series of findings that have As well as the benefits of using AI in the macro social work practice, that digital transformation represents a great opportunity for governments to improve social service delivery and enhance participation and transparency. (Henman, P., 2018), and the dissemination of machine learning models is expected to bring economic and social benefits (Borrellas, P., Unceta, I., 2021), where the digital revolution reformulated social systems, and provided new options for dealing with inequalities and social development (Peláez, A. L. & Servós, C. M.,: 2018), AI can be integrated into many aspects of life in all kinds of communities (Musikanski, L., et al., 2020), and AI can be used in evaluating community development services and programs (Musikanski, L., et al., 2020 Barrera-Algarín, E., et al, 2021) and to assist in decision-making (Musikanski, L., et al., 2020), reaching and excelling human capacity levels in many tasks (Buttazzo, G., 2023, p.p. 1-9), AI is used in social work education, risk assessment, assistance to people in crisis,

strengthening prevention efforts, and identifying biases in the delivery of social services resulting from their delivery systems (Reamer, F., 2023).

(b) The researcher has benefited from the results of some previous studies in identifying the challenges facing the use of AI in the macro social work practice, and can be identified as follows: where the focus is more on technologies than on institutional reform of government structures and processes (Henman, P., 2018), that some governments exploit digital technologies to censor their citizens and undermine their freedoms (Henman, P., 2018), the impact of these technologies in widening the social gap and social inequality and thus leading to discrimination, exacerbating inequality, violating citizens' rights and human rights, and disproportionately harming poor and marginalized communities because the economic gap leads to the digital divide and thus negatively affects social welfare (Data justice Lab, Cardiff university, 2018 Henman, P., 2018, Rushambwa, T., 2021), the digital services provided are not customer-centric/customer-oriented, which leads to a widening digital divide (Honkala, E., 2021), the delayed adaptation of social work with the digital environment (Peláez, A. L. & Servós, C. M., : 2018, Peláez, A. L., et al, 2018), the poor understanding of the techniques used (Henman, P., 2018), limited resources, ethical and legal considerations, and lack of training (Peláez, A. L., et al, 2018), the negative impact of the non-human decision support system on service users and social workers (Gillingham, P., 2019), the mistakes made by big data analysis approaches in the social welfare sector, and therefore should not be fully relied upon (Gillingham, P., 2019), concerns about the ethics of using data without consent, and the stigmatization of children and families (Gillingham, P., 2019), the big difference between the reality of ethics around the use of AI in social care and what is promoted (James,

A., & Whelan, A., 2022), a lack of transparency about how predictive risk modeling is developed and works (Gillingham, P., 2019), the integration of digital solutions to social needs and problems, without models to guide their integration (Castillo de Mesa, J., 2021), the potential lack of interpretability, fairness, integrity, and privacy of machine learning leads to a kind of challenge for policymakers (Borrellas, P., Unceta, I., 2021), AI is replacing many existing jobs and professions at breakneck speed (Buttazzo, G., 2023, p.p. 1-9). Social service education programs lack a comprehensive approach to prepare social workers for intervention and evaluation using digital technologies (Heinsch, M., et al., 2023).

(c) The researcher has benefited from the results of some previous studies in determining the requirements for the use of AI in the macro social work practice and can be identified as follows: where caution and understanding of the expected challenges must be dealt with. It was therefore appropriate to comprehensively understand digital technologies while achieving appropriate organizational change by developing plans to integrate modern technologies into government structures and processes. improving organizational efficiency, transparency, and accountability (Henman, P., 2018, Buttazzo, G., 2023), and not overestimating the benefit of modern technologies while ensuring community participation (Henman, P., 2018), and to reduce as much as possible the digital divide between groups of society to ensure social justice and eliminate inequality, social exclusion and discrimination (Henman, P., 2018, Rushambwa, T., 2021), the need to create policies that enable individuals to upgrade digital skills (Rushambwa, T., 2021), the participation of socially marginalized people in the design of services and digital social policies (Honkala, E., 2021, Borrellas, P., Unceta, I., 2021, Henman, P. W. F., 2022), AI technologies should be integrated into the core

curriculum at the bachelor's and master's levels to use technology in professional life (Zgoda, K. & Shane, K.,: 2018, Reamer, F., 2023, Molala, T. S. & Mbaya, T. W., 2023, Heinsch, M., et al., 2023), the participation of social workers in the design and development of bachelor's and master's curricula (Peláez, A. L., et al, 2018), attention must be paid to the training of social workers and social work educators to ensure the mastery of AI techniques (Peláez, A. L., et al, 2018, Zgoda, K. & Shane, K.,: 2018, Molala, T. S. & Mbaya, T. W., 2023), creating digital societies the opportunity to achieve social justice (Peláez, A. L. & Servós, C. M., : 2018), provide opportunities to build, research and apply new ideas in e-social work, to support and promote social work as a scientific system and as a profession (Peláez, A. L. & Servós, C. M., : 2018), the participation of social workers in the design, development and implementation of new techniques in their field (Peláez, A. L., et al, 2018), designing new diagnostic, intervention, and evaluation methods that respect people's dignity and right to privacy (Peláez, A. L. & Servós, C. M., 2018), and discuss the ethical issues surrounding modern technologies (Peláez, A. L., et al, 2018, Buttazzo, G., 2023), designing programs that help social workers do their work in a digital society (Peláez, A. L., et al, 2018), it is essential to regulate professional practice standards by establishing work protocols that respect accessibility for professionals (Peláez, A. L., et al, 2018), the need to adopt digital techniques, how to use them, and under what conditions they can be used (Castillo de Mesa, J., 2021), the development of legal frameworks based on the research, implementation and critical analysis (Henman, P. W. F., 2022), considering digital knowledge gaps before rushing to advance technology-enhanced practice approaches (Pink, S., et al., 2022), train the algorithm accurately to predict according to the data set used

(Gillingham, P., 2019), data scientists and social workers have collaborated to ensure that both parties are clear about what the data represents (Gillingham, P., 2019), the need for a new field (digital social work) (Castillo de Mesa, J., 2021, Molala, T. S. & Mbaya, T. W., 2023), imposing the right to interpret AI decisions to improve social welfare (Borrellas, P., Unceta, I., 2021), social service organizations which deliver continuing education should organize workshops and webinars for practitioners (Reamer, F., 2023).

(D) The current study differs from previous studies that have been presented at several points, where AI applications and tools can contribute to the macro social work practice, and have also contributed to various areas of life such as health and education and helped humans deal with complex issues. To achieve this, we must consider what these applications and tools can accomplish efficiently and the challenges facing practitioners in the use of these tools, in addition to considering the requirements of using them to achieve the highest benefit from them and avoid the mistakes they produce. It is worth mentioning the scarcity of researches and the academic modernity about the research topic, which requires further research on AI tools and their uses in the practice of social work in general and macro social work practice in particular.

RESEARCH SIGNIFICANCE:

1-The use of AI tools and techniques in the macro social work practice is a variable that keeps pace with the Fourth Industrial Revolution, and provides the practitioner with vital information that helps him improve performance, and then we must be able to predict what will happen in the next ten or twenty years, with the aim of mitigating the consequences while developing appropriate strategies to manage the transformation process.

2 -Enriching the theoretical literature of social work with modern issues that affect the reality of macro social work practice, and to keep abreast of and adapt to modern developments in society.

3 -Information related to AI technology provides social work education colleges and institutes with an empirical rationale for starting curriculum development related to the uses of modern technology in practice.

4 -Practitioners can benefit from macro social work practices through the use of AI tools and techniques in their fields of work to be better able to improve the quality and effectiveness of the services provided by their institutions.

RESEARCH OBJECTIVES

There is a main objective of the research: determining the difference between the perceptions of educators and practitioners of macro social work about using AI in practice. To achieve this objective, the following sub-objectives must be achieved:

1 -determining the difference between the perceptions of educators and practitioners of macro social work about the benefits of using AI in practice.

2 .determining the difference between the perceptions of educators and practitioners of macro social work about the challenges of using AI in practice.

3 -determining the difference between the perceptions of educators and practitioners of macro social work about the requirements of using AI in practice.

RESEARCH HYPOTHESES

There is a main hypothesis of the research: there are statistically significant differences between the average responses of educators and practitioners of macro social work about using AI in practice. To verify

the validity of the main hypothesis, the validity of the sub-hypotheses must be verified**:**

1 **-**There are statistically significant differences between the average responses of educators and practitioners of macro social work on the benefits of using AI in practice**.**

2 **-**There are statistically significant differences between the average responses of educators and practitioners of macro social work on the challenges of using AI in practice**.**

3 **-**There are statistically significant differences between the average responses of educators and practitioners of macro social work on the requirements of using AI in practice**.**

RESEARCH CONCEPTS

Macro Social Work Concept

The International Association of Schools of Social Work (IASSW) and the International Federation of Social Workers (IFSW) in 2001 define social work as "a profession that works to promote social change and solve problems associated with human relations, and to promote empowerment and freedom for well-being by drawing on theories of human behavior and social patterns. Social work as an intermediary in the process of interaction between people and their environments. Human rights and social justice are among the basic principles of social work (Trevithick, P., 2005, p. 1)**.**

Macro practice (or macro social work practice that aims to influence change in macro systems) is often divided into the areas of community practice, social management, and social policy practice (Teixeira, S., et al., 2021, p.2)**.**

Macro social work is defined as an essential component of the practice of social work, targeting change in organizations, communities,

and political systems and reflecting the commitment of social work to mitigating the negative effects of social problems (Pritzker, S., & Applewhite, S. R., 2015, p. 191)

Electronic Social Work

E-social work can be understood as an area of social work in which individuals, groups and communities have needs and it is possible to develop intervention programs, conduct research projects and design public policies to meet those needs. E-social work includes online research, treatment (individual, group, and community), social worker education, and evaluation and monitoring of social work programs. E-social work has become a modern discipline in two respects: as a specific field of professional intervention (in topics related to online facts) and as a cross-cutting field that affects the lives of individuals, groups and institutions. It includes the professional activity of social workers (through interventions using modern techniques to confront traditional social problems that are redefined in the technological environment) (Peláez, A. L., et al, 2018, p. 805)

A characteristic of e-social work is that it is carried out in a technological environment where it requires IT skills, is rationalized and is therefore highly procedural, predictable and quantifiable. It can be digitized by information technology, accessible and subject to virtual supervision and control, and the relationship with customers is carried out through electronic means. It was once seen as the sole remit of trained social workers, and now transactions are replicated, replaced, or re-created by technology. The use of information technology facilitates the practice of e-social work for social workers (Coleman, N., 2011, p.p. 230-231).

macro social work Practice

The macro social work practice can be procedurally defined in the framework of the current research as a set of efforts exerted by social workers that are based on the knowledge, values and competencies of macro social work using AI techniques, to achieve professional goals and includes the practice of social policy (advocacy and lobbying - legislative relations - government policy analysis - policy development - policy management - popular mobilization), community practice (community needs assessment - community organization - community development - community empowerment), program management and evaluation of social projects (project planning - problem development - program monitoring - program evaluation - program implementation), and the management of individuals (recruitment, hiring, dismissal and employment - employee performance evaluation - grievance management - Staff development - staff supervision - volunteer management - diversity management), organizational management (internal resources - needs assessment - management of board and participants relations - inter-organizational cooperation – governance - strategic planning - service level - developing, implementing and monitoring the service delivery model), public relations (marketing - promotion - market study - media relations), information management (database management - computer uses - information technology), personal relations and leadership (interpersonal cooperation - conflict resolution - communication skills (with others) - ethical commitment – empowerment – delegation – guidance – innovation – negotiation - problem identification - problem solving - team composition).

Artificial Intelligence (AI) concept

In fact, there is no straightforward and agreed-upon definition of AI. It is perhaps best understood as a branch of computer science that seeks to replicate or simulate human intelligence in a machine, so that machines can perform tasks that typically require human intelligence efficiently – or even more efficiently. Some programmable functions of AI systems include planning, learning, reasoning, problem-solving, and decision making (Mehan, J. E., 2022, p. 26)

AI can be defined as an attempt to imitate human intelligence using a robot, software, technology, or tool. Four types can be distinguished: first, systems that think like humans (artificial neural networks), second, systems that behave like humans (robots), third, systems that use rational logic (expert systems), and fourth, systems that work rationally (intelligent factors). From a positive perspective, AI can "perform difficult, dangerous, or repetitive tasks, help us save lives, deal with disasters, entertain us, and make our daily lives more compatible." The rapid advancement of AI across the board makes it possible to develop more and more machines with the ability to learn, improve, and even make calculated decisions in a way that allows for the performance of tasks previously thought to rely solely on human potential and creativity (Diez, E. R., 2023, p. 368).

AI is both transformative and disruptive, and its evolution over the past few years has been facilitated by the availability of vast amounts of digital data, significant technological advances in computational power and storage capacity, as well as significant scientific and engineering innovation in its methods and tools (European Commission, 2019, p. 35).

In this context, it is important to build trustworthy AI systems, because humans will only be able fully confidently and reap its benefits when

the technology, including the processes and people behind the technology, is trustworthy. Trustworthy AI has three components: (1) it must be legal, ensuring compliance with all applicable laws and regulations, (2) it must be ethical, ensuring adherence to ethical principles and values, and (3) it must be robust, both from a technical and a social perspective to ensure that AI systems do not cause any unintended harm (European Commission, 2019, p. 35).

THEORITICAL FRAMEWORK

Digital Social Work Models and Evidence-Based Macro Practice

Evidence-based macro-practice involves the methodological identification of scientific data, and the use of an ethical framework, within a societal or organizational context. Practitioners should be explicit about the outcomes and rationale for choosing the professional interventions and knowledge they use to make practice decisions. However, the differences are multiple levels of interventions, different arenas and styles of practice, and more diverse communities. Macro social work practitioners should use research evidence to guide their development, implementation, and evaluation of policies and programs. In addition, both macro social work practitioners must be prepared to be evidence-based decision makers when developing interventions in the context of an organization or community. They should have access to a broad base of reliable and better evidence about service outcomes, interventions, and program effectiveness, thereby improving program planning decisions, strategy development, and participation in advocacy procedures. In addition, macro-social work practitioners can benefit greatly from finding successful interventions and applying them to the

community they serve. By selecting programs that have proven to be effective and successful, there is a strong potential to improve program outcomes in the long term, leading to a positive impact on community quality of life and organizational behavior. This requires searching for reports from websites, bibliographic databases, online scholarly journals, and other web-based sources. The process of constructing the question, searching for evidence, evaluating evidence, and applying evidence to their practice can then be learned and practiced. Reports can also be critically reviewed and ethical questions asked about research studies (Salcido, R. M., 2008, p.p. 623-645)**.**

In fact, the adoption and applied development of technology by social workers is not based on a particular model, but occurs spontaneously, without following a reflective approach that answers how technology is adopted and used, under what conditions, and in what way. Digital social work can be considered at the intersection between digitization and social work, and then refers to the ability of social work to analyze, find and develop solutions to social needs and problems with the support of technology. Four models can be presented that study different approaches towards digital transformation in social work. can be discussed through its different characteristics**.**

(1) Digital Adaptation Model (Castillo de Mesa, J., 2021, p.p. 119-126)

The techniques were adopted by social workers and the organizations in which they work spontaneously, with the adoption of digital media not specifically designed for professional practice but served as solutions to basic needs. These digital services were adopted without full knowledge of the ethical standards that should have been

observed for their correct use. This situation resulted in the vital need for a digital strategy for social work**.**

(2) Digital transition Model (Castillo de Mesa, J., 2021, p.p. 119-126)

It is a process for improving existing services, procedures, and tools through the digitization of data. Digital transformation focuses on the fundamental exchange of data that is stored or retrieved through digitization. An example of this is the automation of manual steps, and the upgrade to newer technology. More advanced digital transformation models use “algorithms” for one of the Arab mathematicians Mohamad bin Musa Al-Khwarizmi, through which machine learning and deep learning techniques were developed, which are types of AI techniques that are used for their ability to analyze big data and their ability to predict and guess behaviors. The impact of policies can then be measured more accurately and quickly and can improve actions and influence changes in social behavior. It can also be designed to be socially inclusive and have a positive impact on the lives of citizens**.**

(3) Digital disruption Model (Castillo de Mesa, J., 2021, p.p. 119-126)

The framework of digital change is often set as a type of environmental change, caused by digital innovation, leading to the collapse of boundaries and approaches that were previously used as a basis for regulating a particular activity or service, as processes to bring about digital change arise through digital innovations, leading to changes in the existing structures of sectors or organizations, and changes in their own procedures or tools. It can result in changes in the identities of organizations and professionals**.**

(4) SAMR model of practice using technology (Puentedura, R. R., 2021, p.p. 1-31)**.**

Puentedura: 2021 introduces the SAMR model where the process of implementing technology in social work is explored through the SAMR model (Substitution, Augmentation, Modification, and Redefinition), in the Substitution component, the technology acts as a direct alternative to the tool without changing the activity functionally. An example in a social work environment is recording role-plays in advance rather than performing them in the classroom. In the Augmentation component, the technology acts as a direct replacement for the instrument with a functional change. For example, record a role-play and then use the editor to reduce the recording to five minutes. In the case of Modification, technology allows for a significant change in design, for example, recording role-playing on video as well as using an editing tool to highlight the skills used. Finally, redefinition involves technology working to find a new role. In that case, the role play is recorded, edited, annotated, and then placed on a public participation website **.**

Methods to Integrate AI into Social Services Delivery Systems (Minguijón, J.; Serrano-Martínez, C. 2022, p. 334)**.**

It is necessary to propose an analytical scheme that allows the monitor (and design) of possible ways of integrating AI into social services, and four stages can be identified, regardless of the theoretical currents through which professional practice is nurtured or even organized**:**

- A diagnostic or analytical phase, in which a study of the context (society) in which the intervention is planned is carried out**.**

- The stage of designing and implementing the program during which a number of activities and procedures are designed.
- The implementation phase, or the intervention itself, during which those activities and procedures are implemented.
- An evaluation phase, to determine what has been attained, and with lessons learned, to start other future processes with more evidence and guarantees of success.

Other parallel or derivative procedures must be taken as well, such as first contact and access to the system, the planning of the system itself, or preventive procedures. All these stages and areas of activity take place in a local, i.e. institutional environment. This is due not only to the fact that the social services delivery system is a public legal system (legislative), but also to the fact that it is a public system that occurs mainly within the administration and based on its funding lines for projects, different ways of integrating AI into social work can be discovered. It will be fully implemented through computer applications or AI systems, where the role of professionals is small or absent, and on the basis of a good information system, technically known as a data warehouse, which is an objective, integrated, time-changing and non-volatile data set to support the decision-making process in the administration, and then it is a technology that collects structured data from one or more sources so that it can be compared and analyzed, as the step towards smart public administration has been taken. In addition, sharing information from different sources about interventions is a necessary condition for developing interaction Intelligent with the user himself, based on complex social and technical processes, the target is problem solving .

The Role of AI in Community Planning (Hollander, J. B., et al., 2020, p.p. 507-521)**.**

In the past decade, AI-enabled social media has become the latest tool in the participatory methods used by planners to engage with various population groups and stakeholders on societal issues. Multiple studies of the use of AI-enabled social media in planning practice have focused on online forums, Facebook, Twitter (X), and web applications, and focused on the opportunities and return of those platforms to enhance the participation of communities in decision-making. In recent decades, planning scientists have announced the opportunities provided by social media such as the ability to promote information sharing and dialogue, build social capital, and provide planners with insight into communities and their interests. Accordingly, local authorities and planning departments have established social media accounts, particularly Twitter (X) and Facebook, to increase their channels of participation in planning processes. Many communities now use social media to express their concerns and build bottom-up momentum to work and engage with other individuals on place-based issues and government planning processes**.**

The impact of AI-supported social media occurs in humans from the bottom up, and social media as a channel for disseminating planning-related information may be able to help build the sense of the social media community by developing feelings of membership, influence, reinforcement, and shared emotional communication. This process can be used to shape discourse on a topic in a positive or negative direction, including discourse on key planning decisions, or online planning processes. Meeting societal needs on social media is a strong reason to increase trust and thus increase the individual's sense of belonging to the community. In turn, the risk to online communities is linked to

misinformation disseminated by others. In the case of planning, the discussion through which information is manipulated can mislead public decisions and thus distort the feelings of the social media community. Thus, the question to protect that community becomes: How is the content and source of original ideas determined? Furthermore, what threat models should be considered when estimating the impact of automated social media accounts on public discourse**?**

AI and Social Planning in Social Work (Diez, E. R., 2023, p.p. 376-378)

Scientists have identified some ethical standards that should govern the behavior of robots in three laws: first, robots cannot harm humans, second, robots must comply with human orders, and third, robots must protect their existence if it does not conflict with previous laws. It has now become necessary to develop ethical principles that allow technological development and human well-being, from Asia to Europe to the United States. The debate continues to find AI that will gain human trust**.**

Technology companies try to align with the various goals of AI to achieve good and propose technological solutions to address social problems. At the same time, it seems that the practice of social work is oblivious to the potential of all these techniques to achieve the goal of social transformation. During the Covid-19 pandemic, the Department of Social Services revealed the need to enhance the training of professionals, as AI applications meet not only the needs of our daily lives, but the needs of our professional lives as well. Regarding the digital gap that AI may entrench, that fact is especially worrying if we consider that digital gaps lie behind social gaps. Social work must play a proactive and critical role as a key actor and not only as a non-prietary user in digital agendas,

but social work also contains elements that make it a key active profession to promote the development of the three conditions of reliable AI**:**

The first refers to the fact that it must be legal, in addition, it is necessary to be aware of the risks involved in innovations, both from potential violations towards community groups and from the lack of opportunities for certain segments of the population **.**

Through its accumulated experience in working with various population sectors, social work has the experience, methodology of research and intervention to identify those critical points and enhance the processes that expand the returns of AI to those population sectors, while at the same time helping to prevent the risks of their application. Regarding the ethical nature that should guide AI systems, in addition to the convergence between the ethical principles of social work and reliable AI, social work has a long history of addressing the ethical dilemmas raised by intervention in social context**.**

Finally, strong AI (one type of AI) refers to the architecture of intelligent systems and their ease of use for different types of users. In this regard, the multidisciplinary formation of teamwork is essential for the design of good applications. It is worth highlighting the comprehensive multidisciplinary approach to social work, along with the expert knowledge of certain sectors of the population, which gives them added value in the formation of AI systems design teams**.**

For this, social work as a scientific discipline and professional practice must move from an interactive/negative role in relation to ICT to a proactive role, generating research spaces on AI applied to social interventions, specialized AI training, and active participation in AI-related events for good. Similarly, the power of social networks is

sufficient reason to foster the development of ethical norms appropriate to the practice of social work in digital contexts, as happens in other disciplines. In addition to all the above, and from the perspective of the processes of change, it is possible to refer to the social risks we face as a society through the specialization of social work, especially among the most vulnerable social groups**.**

Ethical Principles of AI in the welfare State

The principles of AI ethics, its design and implementation are determined in human, social and environmental well-being, human-centered values, equity, privacy and security protection, reliability and safety, transparency and interpretability, competitiveness, and accountability. The discourse on ethics of AI differs from the reality of AI deployment in the public sector. The critical public discourse on information technology and social welfare is separate from the discourse on ethics of AI, and while the discourse of ethics ostensibly pushes us to transcend widely recognized legal and ethical AI failures, it entrenches the implementation of AI in an ethical or otherwise manner. Ethics discussions therefore do not conflict with the legitimacy of AI, or the underlying power dynamics through which it is developed, but instead reinforce the understanding of AI as imminent and inevitable. Codifying ethical approaches may lead to better outcomes, but this still ignores the structural contexts in which AI is implemented. AI inevitably operates within strong institutional systems and is applied to the “problems” that those systems identify. Digital transformation promotes and codifies neoliberal agendas, limiting expression, transparency, negotiation, and democratic control. This can also be demonstrated by combining the discourse of AI ethics with how AI is implemented in social welfare.

Ultimately, AI ethics talks about the prospect of adapting to a world with AI (James, A., & Whelan, A., 2022, p.p. 30-37)**.**

In an approach between the principles of social work and the principles of AI, (Diez: 2023) emphasizes that when the principle of respect for human dignity is applied to AI systems, it means that these systems must be developed in a way that respects, protects and serves the physical and mental integrity of human beings, their sense of personal and cultural identity, and their basic needs. And pay attention to those uses that undermine the dignity of the third sector. In other hand the principles of individual freedom and respect for human autonomy and self-determination, Intelligent systems must be able to avoid unlawful enforcement, unwarranted monitoring, and manipulation, and AI systems' respect for human autonomy means that people who interact with AI systems must be able to maintain full and effective autonomy and be able to participate in democratic processes. This means that AI systems must not unjustifiably subdue, coerce, deceive, manipulate, adapt, or orient humans. AI systems must follow human-centered design principles and leave ample room for human choice. As for the principles of respect for human rights, democracy and the rule of law, AI systems must work to preserve and strengthen democratic systems, as well as ensure respect for laws and regulations and equality before the law. In relation to the principle of non-discrimination, AI systems must respect the rights of people at risk of exclusion, must not generate unfairly biased outcomes and must be as inclusive as possible. Ethical principles that would make AI trustworthy are the principles of harm prevention, equity, and interpretability, which mean that AI systems should not cause harm to humans or exacerbate existing harms. AI systems must be technically safe and must not be used maliciously. Equity presupposes the ability of

people to oppose decisions made by AI systems and the people who run them. Finally, the principle of interpretability is a necessary condition. Interpretation means that processes are transparent, that the capabilities and purpose of AI systems are known, and that they are understood by their target audience (Diez, E. R., 2023, p.p. 371-373).

AI and Social Policy

The use of technology to facilitate daily life has been present throughout the history of humanity, since the first man picked up a stone to defend himself. The dilemma lies not in the use of techniques or not, but in understanding the dimensions of the dilemmas posed by those smart devices, as well as the issue of ensuring that the benefits of AI reach all social groups, including people and groups in fragile situations. The great challenge posed by AI is the inequality associated with the use of and access to techniques (Diez, E. R., 2023, p. 376).

To clarify the relationship between the use of AI techniques and the development of social policy and management, (Henman: 2022) emphasis that digital techniques have provided mechanisms for changes in the essence of social policy, and the shift to a more rationed social policy. The policy and its implementation have become more differentiated. Policies have become more accurate, respond better to human diversity, and what has been enabled through administrative or professional discretion becomes codified in complex algorithms. Networked computer systems have also increasingly supported the increasing conditions of social policy, by making eligibility for certain services and benefits conditional on the conditions or behaviors proven in digital databases. Computer modeling and simulation tools have also supported the development of such complex policies and enhanced the ability of policymakers to develop more accurate, long-sighted and long-

term policies. Over time, social service delivery agencies have collected enormous digital administrative datasets, from “big data,” and using data analysis techniques, data sets are used to shape social policies. Social policy governance has shifted as a result of digital techniques. It is also noted that computing is linked to automation and informatics, that is, the production of data and information, and thus knowledge, that knowledge is of increasing central importance in the management of social policy for: operational management, understanding citizens' needs and attitudes, thinking about and revising social policy (Henman, P., 2022, p.p. 535-550)**.**

To illustrate the role of AI techniques in the development of social policy in the welfare state, (Borodin, Y., et al.2023) emphasized that The existence of a networked society represents a serious challenge for the welfare state, where the political authority must facing the exacerbation of the problem of social inequality resulting from the "digital gap", where unequal access to information technology resources leads to the emergence of a phenomenon called the "digital gap", which results from economic and social demographic factors, and must distinguish between three types of that problem: the first means the absence or lack of access to techniques , the second means differentiation based on the possession of digital competencies, and the third refers to unequal opportunities due to the difficulty or lack of access to information technologies, This problem can be solved through the development of education, training and digital literacy. However, it requires a new institutional approach and a look at the role of participants in that process (workers, the private sector and the state). However, when considering social problems, it is necessary to take into account the increase in the size of a phenomenon such as "network employment". The development of such structures leads

to a change in social relations and traditional labor relations. It is necessary to consider the growth of income-based social differentiation due to those situations. Therefore, to maintain a social Dynamic balance, it may be necessary to increase spending on government welfare programs. This may not happen because the state has financial problems, so social policy does not affect or slightly affects the growth of income-based social discrimination, depriving workers of social support, (Borodin, Y., et al., 2023) emphasized on the existence of the current model based on the balance of interests between the welfare state and socio-political relations, and modern developed society depends on that balance and cannot develop effectively without it, because that is the general structure based on the principle of dynamic balance (social, economic, and political), because the loss of balance will lead to very strong conflicts , and one of the tasks of the state is to ensure that its social activity does not lag behind recent changes, and from an official point of view, the goal is to replace the large but "negative" welfare state, whose activities are related to poverty prevention and the payment of monetary benefits, with an economically "positive" state that is tighter, but more effective in terms of social spending and the achievement of tangible results, aimed at achieving a coordinated partnership around solving the welfare problems and community development**.**

In order to take many decisions and actions to correct social policy in many countries, the search for new connections to the basic principles of social policy began, such as the sizes and forms of social guarantees that will not limit work incentives, and will not hinder economic growth and human efficiency, and then environmental, social and administrative indicators must be integrated into social policy models, and with the increase of the use of artificial intelligence, it has become increasingly

clear that digital skills and digital capital of individuals greatly affect the success of their social activities in a wide range of areas from education to health care, and as a result of that situation, Better digital users gain skill and advantage over those with modest skills, and this leads to the basis of social differentiation. Thus, the second dimension of the digital gap is manifested, with regard to the characteristics of Internet use. Thus, the digital gap is based on social discrimination that already exists. At the same time, specific digital forms of inequality emerge, which do not coincide with the already existing types of social discrimination but reflect the individual experience of using digital techniques. Another area where the digital gap is acute is the growing field of telehealth, which involves On the provision of telemedicine services using digital techniques , it is used to reduce the cost of health care and achieve equality in access to medical services, however, the serious problem in that case is that the groups most in need of medical services (low-income people, social minorities, the elderly, etc.), as a rule, do not have the capabilities and skills to use digital techniques , hence the need to achieve "digital justice" by connecting rural areas to the Internet in digital integration, and thus facing the problem of the digital gap (i.e. digital inequality) has become one of the important areas of social policy in most countries, and therefore, it can be seen that government policy is changing in response to the challenges of the rapidly evolving information society. In this regard, it is important to orient state policy in the field of digital transformation towards the establishment of a high-quality legal-regulatory framework, as well as development institutions that will serve as a driver for the development of the entire digital transformation mechanism in the public and private sectors (Borodin, Y., et al., 2023, p.p. 1-16)**.**

The term “artificial intelligence” covers a variety of technical innovations, and with reference to its relationship to the topic of social policy, there are four areas of key importance, the first of which is health care through remote surgery, and online consultations, care has become virtual. The impact of the new genetics is arguably more revolutionary. due to genetic screening and testing**.**

Second, in education, the nature of parenting is changing due to new learning and the Internet. educators and lecturers become one among a range of educational authorities, as their roles drift towards those of ' gatekeepers', enabling their students to apply critical analysis skills. Third, public administration systems also begin to change by speeding up the points of contact between citizens and government authorities, and themselves become sites of conflict where the balance between freedom and security can be said to swing in favor of the latter and thus in favor of governmental and semi-governmental organs. Finally, the topic of social exclusion can be said to be very central to that relationship. To what extent do new techniques represent new forms of exclusion, for example, the digital gap? What social inclusion potential does these techniques hold? New techniques do not emerge out of nowhere, but they are always embedded in the social contexts whose contours shape the ways in which techniques are built and used. In other words, it is necessary to refer to the social environment. One implication is that we must approach new techniques with a sense of cautious realism, as new techniques have more potential for exclusion in unequal, market-dominated societies than in societies that still fundamentally support equality and cohesion (Fitzpatrick, T., 2023, p.p. 132–134)**.**

METHODOLOGY PROCEDURES

Research Design

The researcher used the type of descriptive research to describe the phenomenon and determine its qualitative and quantitative characteristics by collecting data, information and facts, then analyzing and interpreting them. The research seeks to describe using AI in macro social work practice. Find the difference between the average responses of macro social work educators and practitioners about the benefits, challenges, and requirements of using AI in practice**.**

Method

The researcher used the comprehensive social survey method for managers and heads of departments in the Directorate of Social Solidarity in Dakahlia, and a sample social survey for macro social work educators in the departments of community organization and social planning in the faculties and institutes of social work in the Arab Republic of Egypt**.**

Research Fields

Location Field

Directorate of Social Solidarity in Dakahlia, and the departments of community organization and social planning in the faculties and institutes of social work in the Arab Republic of Egypt**.**

Human Field :

A sample of (63) educators was identified in the departments of community organization and social planning in the faculties and institutes of social work in the Arab Republic of Egypt, and they were selected using the random sample in a deliberate manner, as the questionnaire was sent through social media (Microsoft Docs.), according to the access of

the researcher to them. Practitioners were also identified, their number was (124) practitioners**.**

Time Field

It is the period during which the scientific material and data were collected from the field until the conclusions were drawn. The current study was conducted from 1/3/2023 to 1/9/2023**.**

Data Collection Tool :

The researcher used a three points questionnaire to measure using AI in the macro social work practice. The first section relates to the benefits of using AI in the macro social work practice, and it contains (12) statements, The second section relates to the challenges of using AI in the macro social work practice, and it contains (15) statements. The third section relates to the requirements of using AI in the macro social work practice, and it contains (18) statements, with a total of (45) statements.

Table (1) shows the values and levels of the arithmetic mean according to the five-degree Likert Scale

Amount	Level	Responses
1 - Less than 1.8	Very low	disagree at all
1.8 to less than 2.6	low	Disagree
2.6 to less than 3.4	Medium	Neutral
3.4 to less than 4.2	High	Agree
4.2 to less than 5	Very High	Strongly agree

Validity and reliability of the data collection tool

Face Validity

The data collection tool was presented to (4) professors of social work, (5) assistant professors and (6) teachers. The agreement percentage was not less than (90%), and the necessary adjustments were made based on their views.

Validity of the internal consistency

The correlation coefficient between the degree of each dimension and the degree of the total sum of the dimensions to which it belongs was calculated after applying the questionnaire to a survey sample of (20) items of the same vocabulary of the research sample as shown in the following table:

Table (2) shows the validity of the internal consistency between the phrases and the dimensions of the questionnaire

DIMENSION	phrases	Correlation	DIMENSION	phrases	Correlation	DIMENSION	phrases	Correlation
Benefits	1	0.775**	Challenges	16	0.821**	Requirements	31	0.883**
	2	0.751**		17	0.784**		32	0.905**
	3	0.654**		18	0.782**		33	0.875**
	4	0.652**		19	0.759**		34	0.872**
	5	0.745**		20	0.863**		35	0.883**
	6	0.663**		21	0.805**		36	0.905**
	7	0.657**		22	0.893**		37	0.901**
	8	0.725**		23	0.745**		38	0.875**
	9	0.675**		24	0.882**		39	0.791**
	10	0.745**		25	0.821**		40	0.882**
	11	0.745**		26	0.775**		41	0.815**
	12	0.752**		27	0.893**		42	0.745**
Challeng	13	0.825**	Require	28	0.945**		43	0.663**
	14	0.863**		29	0.893**		44	0.659**
	15	0.778**		30	0.882**		45	0.747**

(* *) All significant correlation are coefficients

at the level of ($\alpha \geq 0.01$).

It is clear from the previous table that the values of the correlation coefficients are statistically significant at the level of significance (0.01), and this confirms the internal consistency between the statements and the dimensions of the questionnaire.

Data collection tool reliability

The researcher verified the reliability of the Data collection tool by applying the Cronbach's Alfa coefficient because it is the most indicative stability analysis method in estimating the degree of internal consistency between the components of the tool and its dimensions, through which it is possible to obtain the minimum reliability of the tool and does not require re-application. The results of the reliability after applying the tool to a sample of (25) individuals from the research sample are as follows:

Table (3) shows the values of Cronbach's alpha reliability coefficient for the research variables

No.	DIMENSION	PHRASES	Alpha coefficient Cronbach's Alpha
1	Benefits	12	0.861
2	Challenges	15	0.897
3	Requirements	18	0.809
Total Stability Value		45	0.947

It is clear from the previous table that all alpha coefficients are high, which confirms the confidence in the reliability of the data collection tool, and it should be noted that all statistical coefficients were processed by the Statistical Program for the Social Sciences (SPSS: V. 27).

Presentation, analysis and interpretation of the resultsPart

1- Benefits of Using AI in Macro Social Work Practice

Table (4) shows the responses of both educators and practitioners on the benefits of using AI in macro social work practice

Phrases	Educators N=63			Practitioners N=124		
	M	S	Rank	M	S	Rank
The use of AI improves the delivery of social services	4.35	0.77	V. high	3.18	0.94	Med.
The use of AI enhances participation and transparency	4.04	0.95	High	2.68	0.64	Med.

Deployment of machine learning models brings economic and social benefits	4.60	0.61	V. high	2.98	0.62	Med.
Its use offers new options for dealing with inequalities	4.44	0.67	V. high	2.69	0.76	Med.
Its use enables social development	4.48	0.74	V. high	2.72	0.79	Med.
Can be integrated into many aspects of life	4.63	0.49	V. high	2.74	0.77	Med.
Can be used to evaluate programs and community development services	4.15	0.96	High	3.18	0.49	Med.
Can be used to help with decision making	4.24	0.74	V. high	2.69	0.76	Med.
It reaches the level of human capabilities and surpasses them in many tasks	4.18	0.67	High	2.81	0.78	Med.
It is used in social work education	4.26	0.57	V. High	2.75	0.74	Med.
It is used to assess risk and help people in crisis	4.84	0.77	V. high	2.72	0.79	Med.
It is used to identify biases in the delivery of social services	4.56	0.62	V. high	2.72	0.76	Med.
Benefits (total)	4.29	0.67	V. high	2.82	0.66	Med.

The previous table shows the arithmetic mean and standard deviation and then the rank of responses by both educators and practitioners on the benefits of using AI in the macro social work practice, where the phrase "the use of AI improves the provision of social services" seems to have a "very high" rank from the perspective of macro social work educators with an arithmetic mean (4.35) and a standard deviation (0.77), and a "medium" rank from the perspective of macro social work practitioners with an arithmetic mean (3.18) and a standard deviation (0.94). This result is consistent with the findings of the study (Henman, P., 2018), which concluded that digital transformation represents a great opportunity for governments to improve the delivery of social services , and with the findings of studies by (Musikanski, L., et

al., 2020 Barrera-Algarín, E., et al, 2021), which concluded that the use of AI in the evaluation of services, and with the findings of a study (Reamer, F., 2023), which concluded that the use of AI in identifying systemic biases in the provision of social services.

The phrase "The use of AI enhances participation and transparency" appears to be "high" from the perspective of macro social work educators with an arithmetic mean of (4.04) and a standard deviation of (0.95), and "medium" from the perspective of macro social work practitioners with an arithmetic mean of (2.68) and a standard deviation of (0.64), and this result is consistent with the findings of a study (Henman, P., 2018), which concluded that digital transformation represents a great opportunity for governments to enhance participation and transparency, and with the findings of the studies of (Hollander, J. B., et al., 2020, Singer, J. B., & Sage, M., 2015, p.p. 176-188) which concluded that social media users have higher levels of political and civic engagement, and what he asserted (James, A., & Whelan, A., 2022) which concluded that the principles of AI design ethics and implementation determine human, social and environmental well-being, human-centered values, equity, privacy protection and security, reliability and safety, transparency and interpretability, competitiveness, and accountability.

The phrase "the dissemination of machine learning models achieves economic and social benefits" appears to have a "very high" rank from the perspective of macro social work educators with an arithmetic mean of (4.60) and a standard deviation of (0.61), and a "medium" rank from the perspective of macro social work practitioners with an arithmetic mean of (2.98) and a standard deviation of (0.62) , and this result is consistent with the findings of the studies of (Borrellas, P.,

Unceta, I., 2021, Peláez, A. L. & Servós, C. M., : 2018) which concluded that the deployment of machine learning models is expected to bring economic and social benefits and achieve social development.

The phrase "its use provides new options for dealing with inequalities" seems to have a "very high" rank from the perspective of macro social work educators with an arithmetic mean (4.44) and a standard deviation (0.67), and a "medium" rank from the perspective of macro social work practitioners with an arithmetic mean (2.69) and a standard deviation (0.76), and this result is consistent with the findings of a study (Peláez, A. & Servós, C.: 2018) which concluded that the digital revolution has reshaped social systems that provide new options for dealing with human inequalities.

The phrase "its use allows the achievement of social development" appears to have a "very high" rank from the perspective of macro social work educators with an arithmetic mean (4.48) and a standard deviation (0.74), and a "medium" rank from the perspective of macro social work practitioners with an arithmetic mean (2.72) and a standard deviation (0.79), and this result is consistent with the findings of a study (Peláez, A. & Servós, C.: 2018) which concluded that the digital revolution has reshaped social systems that provide new options for social development.

The phrase "can be integrated into many aspects of life" appears to have a "very high" rank from the perspective of macro social work educators with an arithmetic mean of (4.63) and a standard deviation of (0.49), and a "medium" rank from the perspective of macro social work practitioners with an arithmetic mean of (2.74) and a standard deviation of (0.77). This result is consistent with the findings of a study (Musikanski, L., et al., 2020) which concluded that the possibility of integrating AI into many aspects of life in all types of communities.

The phrase "can be used to evaluate community development services and programs" appears to be at a "high" rank from the perspective of macro social work educators with an arithmetic mean of (4.15) and a standard deviation of (0.96), and at a "medium" rank from the perspective of macro social work practitioners with an arithmetic mean of (3.18) and a standard deviation of (0.49). This result is consistent with the findings of the studies of (Musikanski, L., et al., 2020, Barrera-Algarín, E., et al, 2021) which concluded that the possibility of using AI in communities in evaluating community development services and programs.

The phrase "can be used to help decision-making" appears to be at a "very high" rank from the perspective of macro social work educators with an arithmetic mean (4.24) and a standard deviation (0.74), and at a "medium" rank from the perspective of macro social work practitioners with an arithmetic mean (2.69) and a standard deviation (0.76). This result is consistent with the findings of a study (Musikanski, L., et al., 2020) which concluded that the use of AI to help decision-making.

The phrase "reaches the level of human capabilities and surpasses them in many tasks" appears to be "high" from the perspective of macro social work educators with an arithmetic mean of (4.18) and a standard deviation of (0.67), and it is "medium" from the perspective of macro social work practitioners with an arithmetic mean of (2.81) and a standard deviation of (0.78). This result is consistent with the findings of the study (Buttazzo, G., 2023), which concluded that AI is making exceptional progress at an unprecedented rate, as it reaches and surpasses human capabilities in many tasks, such as language translation, music composition, detection of objects, medical diagnostics, programming, and many others.

The phrase "It is used in social work education" appears to have a "very high" rank from the perspective of macro social work educators with an arithmetic mean of (4.26) and a standard deviation of (0.57), and a "medium" rank from the perspective of macro social work practitioners with an arithmetic mean of (2.75) and a standard deviation of (0.74). This result is consistent with the findings of a study (Reamer, F., 2023) which concluded that AI is used in social work education.

The phrase "It is used in estimating risks and helping people in crises" appears to be at a "very high" rank from the perspective of macro social work educators with an arithmetic mean (4.84) and a standard deviation (0.77), and at a "medium" rank from the perspective of macro social work practitioners with an arithmetic mean (2.72) and a standard deviation (0.79). This result is consistent with the findings of a study (Reamer, F., 2023) which concluded that AI is used in estimating risks and helping people in crises.

The phrase "It is used to identify biases in the provision of social services" appears to have a "very high" rank from the perspective of macro social work educators with an arithmetic mean of (4.56) and a standard deviation of (0.62), and a "medium" rank from the perspective of macro social work practitioners with an arithmetic mean of (2.72) and a standard deviation of (0.76). This result is consistent with the findings of the study (Reamer, F., 2023), which concluded that AI is used to identify systemic biases in the provision of social services.

Table (5) shows the difference between the average responses of both educators and practitioners about the benefits of using AI in macro social work practice

Description	Educators N=63		Practitioners N=124		t-Statistic	df
Benefits	M	S	M	S	14:33**	185
	4.29	0.67	2.82	0.66		

(**) significant at the level of ($\alpha \geq 0.001$).

The above table shows the difference between the average responses of both educators and practitioners about the benefits of using AI in the macro social work practice, which concluded that the average responses of macro social work educators on the benefits of using AI is "very high" rank with an arithmetic mean (4.29) and a standard deviation (0.67), while the average responses of macro social work practitioners are "medium" rank with an arithmetic mean (2.82) and a standard deviation (0.66), and the value of the T-statistic (14.33), which was a significant value indicating statistically significant differences between the average responses of educators and macro social work practitioners about the benefits of using AI at a level of significant (0.001), and then the zero hypothesis was rejected and the first research hypothesis was accepted:

There are statistically significant differences between the average responses of macro social work educators and practitioners about the benefits of using AI in macro social work practice.

These results may be due to the scarcity of the use of AI tools and techniques in practice, which affected the responses of practitioners about the benefits of using it and then questioning the full technological solutions. On the other hand, the responses of macro social work educators are "very high" due to their knowledge of modern variables through their focus on research and development, and their strategic vision on technological integration as the future of all professions. The benefits of using AI in macro social work practice can be identified as follows:

1-The use of AI improves the delivery of social services.

2-The use of AI enhances participation and transparency.

3. The deployment of machine learning models brings economic and social benefits.

4. The use of AI technologies offers new options for dealing with inequalities.

5-The use of AI technologies leads to social development.

6. AI technologies can be integrated into many aspects of life.

7- AI can be used to evaluate community development services and programs.

8. AI can be used to aid decision making.

9- Reaches the level of human capabilities and surpasses them in many tasks.

10- AI is used in social work education.

11. AI is used to assess risks and help people in crisis.

12. AI is used to identify biases in the delivery of social services.

2- Challenges of Using AI in Macro Social Work Practice

Table (6) shows the responses of both educators and practitioners about the challenges of using AI in macro social work practice

Phrases	Educators N=63			Practitioners N=124		
	M	S	Rank	M	S	Rank
Focus more on AI techniques than on institutional reform	4.48	0.80	V. High	3.46	0.64	High
Exploit AI techniques to censor citizens and undermine their freedoms	4.33	0.95	V. High	2.75	0.77	Med.
The Impact of AI Techniques on Widening Social Gap and Inequality	4.60	0.71	V. High	2.81	0.89	Med.
AI use exacerbates inequality and violates human rights	4.59	0.64	V. High	2.96	0.99	Med.
Harm caused by AI to poor and marginalized communities and their level of care	4.63	0.58	V. High	3.53	0.85	High
Delayed social work in aligning with and catching	4.76	0.53	V. High	3.69	0.95	High

up with technology						
Poor understanding of AI techniques	4.60	0.58	V. High	3.63	1.03	High
The negative impact of AI use on service users and social workers	3.98	1.04	High	3.61	1.08	High
Errors resulting from big data analysis entries in the social welfare sector.	3.46	1.06	High	3.69	1.14	High
There are concerns about the ethics of using data without the consent of its owners.	4.44	0.74	V. High	3.60	1.27	High
Lack of transparency on how risk prediction modeling operates.	3.49	1.03	High	2.80	0.88	Med.
Integrating digital solutions to social needs and problems without models.	4.43	0.86	V. High	2.93	1.05	Med.
13. AI's lack of explanation presents challenges for policymakers.	4.32	0.84	V. High	3.69	1.14	High
AI replaces many existing jobs and professions at breakneck speed.	4.63	0.66	V. High	3.89	1.14	High
Lack of a comprehensive approach to prepare social workers to deal with AI	4.65	0.63	V. High	3.94	1.12	High
Challenges (total)	4.36	0.71	V. High	3.40	0.93	High

The previous table shows the arithmetic mean and standard deviation and then the rank of responses by both educators and practitioners about the challenges of using AI in the macro social work practice, where the phrase "Focus more on AI techniques than on institutional reform" seems to have a "very high" rank from the perspective of macro social work educators with an arithmetic mean (4.48) and a standard deviation (0.80), and a "high" rank from the

perspective of macro social work practitioners with an arithmetic mean (3.46) and a standard deviation (0.64), and this result is consistent with a study of (Henman, P., 2018), which emphasized that one of the challenges of using AI is focusing on techniques rather than institutional reform of government structures and processes.

The phrase "Exploit AI techniques to censor citizens and undermine their freedoms" appears to be at a "very high" rank from the perspective of macro social work educators with an arithmetic mean (4.33) and a standard deviation (0.95), and at a "medium" rank from the perspective of macro social work practitioners with an arithmetic mean (2.75) and a standard deviation (0.77). This result is consistent with a study of (Henman, P., 2018), which concluded that some governments exploit digital techniques to monitor their citizens and undermine their freedoms. It is also consistent with studies of (Peláez, A. L., et al, 2018, Gillingham, P., 2019, James, A., & Whelan, A., 2022, Borrellas, P., Unceta, I., 2021) which concluded that ethical considerations and invasion of privacy are two of the challenges facing the use of AI.

The phrase "The Impact of AI Techniques on Widening Social Gap and Inequality" appears to be at a "very high" rank from the perspective of macro social work educators with an arithmetic mean (4.60) and a standard deviation (0.71), and at a "medium" rank from the perspective of macro social work practitioners with an arithmetic mean (2.81) and a standard deviation (0.89). This result is consistent with studies of (Henman, P., 2018, Data justice Lab, Cardiff university, 2018, Rushambwa, T., 2021), which emphasized the impact of the use of AI techniques in widening the social gap and social inequality and thus leads to discrimination.

The phrase "AI use exacerbates inequality and violates human rights" appears to be at a "very high" rank from the perspective of macro social work educators with an arithmetic mean (4.59) and a standard deviation (0.64), and at a "medium" rank from the perspective of macro social work practitioners with an arithmetic mean (2.96) and a standard deviation (0.99). This result is consistent with studies of (Henman, P., 2018, Data justice Lab, Cardiff university, 2018, Rushambwa, T., 2021), which emphasized the impact of the use of AI techniques in exacerbating inequality and violating citizens' rights and human rights.

The phrase "Harm caused by AI to poor and marginalized communities and their level of care" appears to have a "very high" rank from the perspective of macro social work educators with an arithmetic mean (4.63) and a standard deviation (0.58), and a "high" rank from the perspective of macro social work practitioners with an arithmetic mean (3.53) and a standard deviation (0.85). This result is consistent with studies of (Henman, P., 2018, Data Lab justice, Cardiff university, 2018, Rushambwa, T., 2021, Honkala, E., 2021,), which emphasized the impact of the use of AI techniques in harming poor and marginalized communities as the digital services provided are not customer-centric/not oriented towards them because the economic gap leads to the digital gap and thus negatively affects social welfare.

The phrase "delayed social work in aligning with and catching up with technology" appears to be "very high" rank from the perspective of macro social work educators with an arithmetic mean (4.76) and a standard deviation (0.53), and it is "high" rank from the perspective of macro social work practitioners with an arithmetic mean (3.69) and a standard deviation (0.95). This result is consistent with studies of (Peláez, A). L. & Servós, C. M., : 2018, Peláez, A. L., et al, 2018, Pink, S., et al.,

2022) which concluded that the delay in adapting social work to the digital environment and catching up with technology, by considering digital knowledge gaps before using technology-enhanced practice methods.

the phrase "Poor understanding of AI techniques that can be used in practice" appears to be "very high" rank From the perspective of macro social work educators with an arithmetic mean (4.60) and a standard deviation (0.58), and it is “high" rank from the perspective of macro social work practitioners with an arithmetic mean(3.63) and a standard deviation (1.03), This result is consistent with a study of (Henman, P., 2018), which confirmed the lack of a full understanding of artificial intelligence technologies that can be used in practice.

The phrase "The negative impact of AI use on service users and social workers" appears to be at a "high" rank from the perspective of macro social work educators with an arithmetic mean (3.98) and a standard deviation (1.04), and at a "high" rank from the perspective of macro social work practitioners with an arithmetic mean (3.61) and a standard deviation (1.08). This result is consistent with a study of (Gillingham, P., 2019) that emphasized the negative impact of the non-human decision support system on service users and social workers.

The phrase "Errors resulting from big data analysis entries in the social welfare sector" appears to have a "high" rank from the perspective of macro social work educators with an arithmetic mean (3.46) and a standard deviation (1.06), and a "high" rank from the perspective of macro social work practitioners with an arithmetic mean (3.69) and a standard deviation (1.14). This result is consistent with a study of (Gillingham, P., 2019), which concluded that the approaches to analyzing big data in the social welfare sector are wrong and unreliable.

The phrase "There are concerns about the ethics of using data without the consent of its owners" appears to be at a "very high" rank from the perspective of macro social work educators with an arithmetic mean (4.44) and a standard deviation (0.74), and at a "high" rank from the perspective of macro social work practitioners with an arithmetic mean (3.60) and a standard deviation (1.27). This result is consistent with studies of (Gillingham, P., 2019 , James, A., & Whelan, A., 2022, Peláez, A. L., et al, 2018, Henman, P., 2018), which concluded that there are concerns about the ethics of using data without the consent of its owners, and the stigmatization of children and families, in addition to the ethics that are promoted far from those that are implemented about the use of AI in social care.

The phrase "Lack of transparency on how risk prediction modeling operates" appears to be "high" rank from the perspective of macro social work educators with an arithmetic mean (3.49) and a standard deviation (1.03), and it is "medium" rank from the perspective of macro social work practitioners with an arithmetic mean (2.80) and a standard deviation (0.88). This result is consistent with a study of (Gillingham, P., 2019), which emphasized the lack of transparency on how to develop risk prediction modeling and its work.

The phrase "Integrating digital solutions to social needs and problems without models" appears "very high" rank from the perspective of macro social work educators with an arithmetic mean (4.43) and a standard deviation (0.86), and "medium" rank from the perspective of macro social work practitioners with an arithmetic mean (2.93) and a standard deviation (1.05). This result is consistent with a study of (Castillo de Mesa, J., 2021) that emphasized the integration of digital

solutions to social needs and problems without models to guide their integration.

The phrase "AI's lack of explanation presents challenges for policymakers" with a "very high" rank from the perspective of macro social work educators with an arithmetic mean (4.32) and a standard deviation (0.84), and with a "high" rank from the perspective of macro social work practitioners with an arithmetic mean (3.69) and a standard deviation (1.14). This result is consistent with a study of (Borrellas, P., Unceta, I., 2021), which highlighted that machine learning lacks interpretability, fairness, integrity, and privacy as challenges facing policymakers.

The phrase "AI replaces many existing jobs and professions at breakneck speed" appears to have a "very high" rank from the perspective of macro social work educators with an arithmetic mean (4.63) and a standard deviation (0.66), and a "high" rank from the perspective of macro social work practitioners with an arithmetic mean(3.89) and a standard deviation (1.14). This finding is consistent with a study of (Buttazzo, G., 2023), which concluded that the real problem is not that AI replaces many jobs and professions existing today, but rather that it is due to the speed with which this will happen.

The phrase "Lack of a comprehensive approach to prepare social workers to deal with AI" appears at a "very high" rank from the perspective of macro social work educators with an arithmetic mean (4.65) and a standard deviation (0.63) and a "high" rank from the perspective of macro social work practitioners with an arithmetic mean (3.94) and a standard deviation (1.12). This result is consistent with a study of (Heinsch, M., et al., 2023) that confirmed the lack of a

comprehensive approach to preparing social workers for intervention and evaluation using digital techniques.

Table (7) shows the difference between the average responses of both educators and practitioners about the challenges of using AI in macro social work practice

Description	Educators N=63		Practitioners N=124		t-Statistic	df
Challenges	M	S	M	S	7.83	185
	4.36	0.71	3.40	0.93		

(* *) A significante at a level ($\alpha \geq 0.001$).

The above table shows the difference between the average responses of both educators and practitioners about the challenges of using AI in macro social work practice. The average responses of macro social work educators about the challenges of using AI shows at a "very high" rank with an arithmetic mean (4.36) and a standard deviation (0.71), while the average responses of macro social work practitioners show at a "high" rank with an arithmetic mean (3.40) and a standard deviation (0.93). Then the value of the T-statistic (7.83), which was a significante value indicating that there are statistically significant differences between the average responses of macro social work educators and practitioners about the challenges of using AI in the macro social work practice at a level of significante (0.001). So, the zero hypothesis was rejected, and the second research hypothesis was accepted:

There are statistically significant differences between the average responses of macro social work educators and practitioners about the challenges of using AI in macro social work practice.

These results may be due to practitioners' fear from replaced them by AI and its techniques and then their concern about early retirement, in addition to the lack of training in AI techniques. On the other hand,

aspects of the challenges were estimated according to the perspective of macro social work educators in a more sober manner and a greater theoretical understanding of the integration between humans and modern technology, the possibility of digital transformation, and the adaptation of modernization requirements. The challenges of using AI in the macro social work practice can be identified as follows:

1. Focus more on AI techniques than on institutional reform.
2. Exploit AI techniques to censor citizens and undermine their freedoms.
3. The Impact of AI Techniques on Widening Social Gap and Inequality.
4. AI use exacerbates inequality and violates human rights.
5. Harm caused by AI to poor and marginalized communities and their level of care.
6. Delayed social work in aligning with and catching up with technology.
7. Poor understanding of AI techniques.
8. The negative impact of AI use on service users and social workers.
9. Errors resulting from big data analysis entries in the social welfare sector.
10. There are concerns about the ethics of using data without the consent of its owners.
11. Lack of transparency on how risk prediction modeling operates.
12. Integrating digital solutions to social needs and problems without models.
13. AI's lack of explanation presents challenges for policymakers.
14. AI replaces many existing jobs and professions at breakneck speed.
15. Lack of a comprehensive approach to prepare social workers to deal with AI.

Part 3: Requirements of using of AI in the macro social work practice

Table (8) shows the responses of both educators and practitioners about the requirements of using AI in macro social work practice

Phrases	Educators N=63			Practitioners N=124		
	M	S	Rank	M	S	Rank
cautious dealing with AI and understanding the expected challenges	4.22	0.92	V. High	3.51	0.72	High
comprehensive understanding of AI techniques in conjunction with achieving appropriate organizational change	4.35	0.81	V. High	3.36	1.14	Med.
not to overestimate the benefits of AI techniques and ensuring community participation	4.25	0.78	V. High	2.82	0.74	Med.
reducing the digital gap between groups of society to achieve social justice	4.48	0.72	V. High	3.64	0.87	High
Creating policies to improve the digital skills of citizens	4.35	0.77	V. High	3.55	0.88	High
participation of the marginalized in the design of digital social services and policies	4.37	0.45	V. High	3.96	0.96	High
integrating AI techniques into the curricula at the bachelor's and master's levels	3.49	1.18	High	3,44	0.99	High
participation of social workers in the development of bachelor's and master's curricula	3.68	1.13	High	4.03	0.91	High
training social workers and social work educators to proficiency in AI techniques	4.29	0/91	V. High	4.27	0.87	V. High
creating new ideas in e-social work	4.43	0.76	V. High	3,44	1.05	High
the participation of social workers in using new AI techniques in practice	3.63	1.18	High	3.62	1.17	High
discussing the ethical issues associated with the use of AI techniques	4.68	0.47	V. High	3.89	0.97	High
development of legal frameworks based on study,	4.62	0.49	V. High	3.95	0.87	High

implementation and critical analysis						
cooperation between data scientists and social workers	4.41	0.46	V. High	3.89	0.97	High
The need for a new field (digital social work)	4.56	0.50	V. High	3.37	0.91	Med.
organizing workshops and webinars for practitioners about AI	4.30	0.80	V. High	3.63	1.18	High
imposing the right to interpret the decisions of AI techniques to improve social welfare	4.40	0.68	V. High	3.24	1.02	Med.
identifying digital knowledge gaps before using AI techniques in practice	4.37	0.81	V. High	3.93	1.02	High
Requirements (total)	4.33	0.73	V. High	3.63	0.88	High

The previous table shows the arithmetic mean and standard deviation and average responses of both educators and practitioners about the requirements for using AI in the macro social work practice. The phrase "cautious dealing with AI and understanding the expected challenges" seems to have a "very high" rank from the perspective of macro social work educators with an arithmetic mean of (4.22) and a standard deviation of (0.92), and "high" from the perspective of macro social work practitioners with an arithmetic mean of (3.51) and a standard deviation of (0.72). This result is consistent with a study of (Henman, P., 2018) that emphasized cautious dealing with the use of digital techniques and understanding of the expected challenges.

The phrase "comprehensive understanding of AI techniques in conjunction with achieving appropriate organizational change" appears at a "very high" rank from the perspective of macro social work educators with an arithmetic mean of (4.35) and a standard deviation of (0.81), and at a "medium" rank from the perspective of macro social work practitioners with an arithmetic mean of (3.36) and a standard deviation

of (1.14). This result is consistent with the study of (Henman, P., 2018), which emphasized the comprehensive understanding of digital techniques in conjunction with achieving appropriate organizational change by developing plans to integrate modern techniques into government structures and processes. And improve organizational efficiency, transparency, and accountability.

The phrase "not to overestimate the benefits of AI techniques and ensuring community participation" appears to be "very high" rank from the perspective of macro social work educators with an arithmetic mean of (4.25) and a standard deviation of (0.78), and it is "medium" from the perspective of macro social work practitioners with an arithmetic mean of (2.82) and a standard deviation of (0.74). This result is consistent with the study of (Herman, P., 2018), which confirmed that one should not overestimate the benefits of modern AI techniques while ensuring the achievement of community participation.

The phrase "reducing the digital gap between groups of society to achieve social justice" appears to be at a "very high" rank from the perspective of macro social work educators with an arithmetic mean of (4.48) and a standard deviation of (0.72), and at a "high" rank from the perspective of macro social work practitioners with an arithmetic mean of (3.64) and a standard deviation of (0.87). This result is consistent with studies of (Henman, P., 2018, Rushwa, T., 2021), which concluded the need to reduce as much as possible the digital gap between groups of society to ensure the achievement of social justice and the elimination of inequality, social marginalization, and discrimination.

The phrase "Creating policies to improve the digital skills of citizens" appears to be at a "very high" rank from the perspective of macro social work educators with an arithmetic mean of (4.35) and a

standard deviation of (0.77), and at a "high" rank from the perspective of macro social work practitioners with an arithmetic mean of (3.55) and a standard deviation of (0.88). This result is consistent with the study of of (Rushambwa, T., 2021), which emphasized the need to create policies that enable individuals to upgrade digital skills.

The phrase "participation of the marginalized in the design of digital social services and policies" appears to be at a "very high" rank from the perspective of macro social work educators with an arithmetic mean (4.73) and a standard deviation (0.45), and at a "high" rank from the perspective of macro social work practitioners with an arithmetic mean (3.96) and a standard deviation (0.96) . This result is consistent with studies of (Honkala,E., 2021, Borrellas, P., Unceta, I., 2021, Henman, P. W. F., 2022), which emphasized the need for the participation of the socially marginalized in the design of digital social services and policies.

The phrase "integrating AI techniques into the curricula at the bachelor's and master's levels" appears to be "high" rank from the perspective of macro social work educators with an arithmetic mean of (3.94) and a standard deviation of (1.18), and "high" from the perspective of macro social work practitioners with an arithmetic mean of (3.44) and a standard deviation of (0.99), and this result is consistent with studies of (Zgoda, K. & Shane, K.,: 2018, Reamer, F., 2023, Molala, T. S. & Mbaya, T. W., 2023, Heinsch, M., et al., 2023), which emphasized the need to integrate AI techniques into the core curriculum at the bachelor's and master's levels to use technology in professional life.

The phrase "participation of social workers in the development of bachelor's and master's curricula" appears to be "high" rank from the perspective of macro social work educators with an arithmetic mean of (3.86) and a standard deviation of (1.13), and "high" rank from the

perspective of macro social work practitioners with an arithmetic mean of (4.03) and a standard deviation of (0.91). This result is consistent with a study of (Peláez, A. L., et al, 2018), which emphasized the need for the participation of social workers in the design and development of bachelor's and master's curricula.

The phrase "training social workers and social work educators to proficiency in AI techniques" appears to have a "very high" rank from the perspective of macro social work educators with an arithmetic mean of (4.29) and a standard deviation of (0.91), and a "very high" rank from the perspective of macro social work practitioners with an arithmetic mean of (4.27) and a standard deviation of (0.87), and this result is consistent with the findings of the studies of (Peláez, A). L., et al, 2018, Zgoda, K. & Shane, K., 2018, Molala, T. S. & Mbaya, T. W., 2023) which emphasized the need to provide training for social work educators and practitioners to ensure their proficiency in using AI techniques.

The phrase "creating new ideas in e-social work" seems to have a "very high" rank from the perspective of macro social work educators with an arithmetic mean (4.43) and a standard deviation (0.76), and a "high" rank from the perspectiveof macro social work practitioners with an arithmetic mean (3.44) and a standard deviation (1.05), This result is consistent with the study of (Peláez, A. L. & Servós, C. M.,: 2018), which emphasized the need to provide opportunities to build, research and apply new ideas in e-social work, to support and promote social work as a scientific system and as a profession.

The phrase "the participation of social workers in using new AI techniques in practice" appears to have a "high" rank from the perspective of macro social work educators with an arithmetic mean (3.63) and a standard deviation (1.18), and a "high" rank from the perspective of

macro social work practitioners with an arithmetic mean (3.62) and a standard deviation (1.17). This result is consistent with the study of (Peláez, A. L., et al, 2018), which emphasized the need for the participation of social workers in the design, development and implementation of new techniques in their field.

The phrase "discussing the ethical issues associated with the use of AI techniques" seems to have a "very high" rank from the perspective of macro social work educators with an arithmetic mean (4.68) and a standard deviation (0.47), and a "high" rank from the perspective of macro social work practitioners with an arithmetic mean (3.89) and a standard deviation (0.97). This result is consistent with the study of (Pelaez, A. L., et al. 2018), which emphasized the need to discuss the ethical issues surrounding modern techniques, including AI techniques.

The phrase "development of legal frameworks based on study, implementation and critical analysis" seems to have a "very high" rank from the perspective of macro social work educators with an arithmetic mean of (4.62) and a standard deviation of (0.49), and a "high" rank from the perspective of macro social work practitioners with an arithmetic mean of (3.95) and a standard deviation of (0.87). This result is consistent with the study of (Henman, PW. F. , 2022), which emphasized the need to develop important legal frameworks that need to be studied, implemented and criticized more widely, and (Bill ermez, A. L., et al., 2018) also emphasized the need to regulate the standards of professional practice by developing work protocols that respect the accessibility of professionals. This result points to the legal requirements of using AI in the practice of macro social work.

The phrase "cooperation between data scientists and social workers" appears to have a "very high" rank from the perspective of

macro social work educators with an arithmetic mean of (4.41) and a standard deviation of (0.64), and a "high" rank from the perspective of macro social work practitioners with an arithmetic mean of (3.89) and a standard deviation of (0.97). This result is consistent with the study of (Gillingham, P., 2019), which emphasized the need for data scientists and social workers to cooperate to ensure clarity on what the data represents.

The phrase "the need for a new field (digital social work)" appears to be at a "very high" rank from the perspective of macro social work educators with an arithmetic mean of (4.56) and a standard deviation of (0.50) and at a "medium" rank from the perspective of macro social work practitioners with an arithmetic mean of (3.37) and a standard deviation of (0.91). This result is consistent with studies of (Castillo de Mesa, J., 2021, Molala, T. S. & Mbaya, T. W., 2023) who emphasized the need for a new field (digital social work).

The phrase "organizing workshops and webinars for practitioners about AI" appears to be at a "very high" rank from the perspective of macro social work educators with an arithmetic mean of (4.30) and a standard deviation of (0.80), and at a "high" rank from the perspective of macro social work practitioners with an arithmetic mean of (3.63) and a standard deviation of (1.18). This result is consistent with the findings of the studies of (Reamer, F., 2023), which emphasized the need for social work organizations that sponsor continuous education to organize workshops and webinars for practitioners.

The phrase "imposing the right to interpret the decisions of AI techniques to improve social welfare" appears to be "very high" from the perspective of macro social work educators with an arithmetic mean of (4.40) and a standard deviation of (0.68), and it is "medium" from the perspective of macro social work practitioners with an arithmetic mean of

(3.24) and a standard deviation of (1.02). This result is consistent with studies of (Borrellas, P., Unceta, I., 2021, Henman, P. W. F., 2022), which emphasized the need to enforce the right to interpret AI decisions to improve social welfare.

The phrase "identifying digital knowledge gaps before using AI techniques in practice" appears to have a "very high" rank from the perspective of macro social work educators with an arithmetic mean of (4.37) and a standard deviation of (0.81) and a "high" rank from the perspective of macro social work practitioners with an arithmetic mean of (3.93) and a standard deviation of (1.02). This result is consistent with the study of (Pink, S., et al., 2022), which emphasized the need that social work consider digital knowledge gaps before rushing to push forward the methods of technology-enhanced practice.

Table (9) shows the difference between the average responses of both educators and practitioners about the requirements of using AI in macro social work practice

Description	Educators N=63		Practitioners N=124		t-Statistic	df
Challenges	M	S	M	S	(5.77)	185
	4.33	0.73	3.63	0.88		

(* *) A significante at a level ($\alpha \geq 0.001$).

The above table shows the difference between the average responses of both educators and practitioners about the requirements of the use of AI in macro social work practice. The average responses of macro social work educators about the requirements of using AI shows at a "very high" with an arithmetic mean (4.33) and a standard deviation (0.73), while the average responses of macro social work practitioners show at a "high" with an arithmetic mean (3.63) and a standard deviation (0.88). Then the value of the T-statistic (5.77), which was a significante value indicating that there are statistically significant differences between

the average responses of macro social work educators and practitioners about the requirements of using AI in the macro social work practice at a level of significance (0.001). So, the zero hypothesis is rejected, and the third hypothesis is accepted:

There are statistically significant differences between the average responses of macro social work educators and practitioners about the requirements of using AI in macro social work practice.

These results may be due to the interest of macro social work educators in developing curricula and keeping pace with modern changes in that regard, in addition to the interest in standards related to professional competence, while practitioners are interested in training in modern digital techniques and the use of AI techniques and how to use them correctly in practice, and then develop the digital skills of practitioners. Both educators and practitioners agree on considering ethical and legal requirements and standards of practice in the framework of digital transformation and the use of AI techniques. The requirements of using AI in macro social work practice can be identified as follows:

1- Cautious dealing with AI and understanding the expected challenges.

2- Comprehensive understanding of AI techniques in conjunction with achieving appropriate organizational change.

3- Not to overestimate the benefits of AI techniques and ensuring community participation.

4- Reducing the digital gap between groups of society to achieve social justice.

5- Creating policies to improve the digital skills of citizens.

6- Participation of the marginalized in the design of digital social services and policies.

7- Integrating AI techniques into the curricula at the bachelor's and master’s levels.

8- Participation of social workers in the development of bachelor's and master's curricula.

9- Training social workers and social work educators to proficiency in AI techniques.

10- Creating new ideas in e-social work.

11- The participation of social workers in using new AI techniques in practice.

12- Discussing the ethical issues associated with the use of AI techniques.

13- Development of legal frameworks based on study, implementation and critical analysis.

14- Cooperation between data scientists and social workers.

15- The need for a new field (digital social work).

16- Organizing workshops and webinars for practitioners about AI.

17- Imposing the right to interpret the decisions of AI techniques to improve social welfare.

18- Identifying digital knowledge gaps before using AI techniques in practice.

Future research

1- The use of artificial intelligence in Social Work Education.

2- Requirements for the use of artificial intelligence in social welfare policymaking.

3- Using artificial intelligence to assess the needs of poor communities.

4-The use of artificial intelligence in activating advocacy campaigns for the neediest groups.

5- The use of artificial intelligence in evaluating the effectiveness of social welfare services and programs

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