International Journal Of Engineering Research And Development
e- ISSN: 2278-067X, p-ISSN: 2278-800X, www.ijerd.com
Volume 20, Issue 12 (December, 2024), PP 385-391

Advancing Personalized Autism Interventions in the U.S.: A Data Analytics-Driven Conceptual Framework for Social Work

Omotoke Modinat Drakeford[1], Nkoyo Lynn Majebi[2]
[1] *Eden II programs, Staten Island, NY, USA*
[2] *Independent Researcher, UK*
Corresponding author: omotoke2108@gmail.com

Abstract
This paper proposes a data analytics-driven framework for advancing personalized autism interventions in the United States, with a focus on enhancing social work practice. The framework integrates data from various sources, including electronic health records, genetic information, and real-time monitoring devices, to develop tailored intervention plans. The literature review highlights the limitations of traditional autism interventions and the potential of personalized approaches, while the conceptual framework outlines key components such as data collection, integration, analysis, intervention planning, and continuous monitoring. Implementation strategies emphasize stakeholder engagement, training, and addressing technical and ethical challenges. The paper concludes with implications for social work practice and policy, recommendations for future research, and the significance of data-driven personalized interventions in improving outcomes for individuals with autism.
Keywords*: Personalized autism interventions, Data analytics, Social work practice, Electronic health records, Continuous monitoring*

Date of Submission: 13-12-2024 Date of acceptance: 28-12-2024

I. Introduction

1.1 Background and Significance of Autism Interventions

Autism Spectrum Disorder (ASD) is a complex neurodevelopmental condition characterized by a range of symptoms, including difficulties with social communication and repetitive behaviors (Bhat, 2021). The prevalence of ASD has increased significantly over the past few decades, affecting approximately 1 in 54 children in the United States according to recent data from the Centers for Disease Control and Prevention (CDC). This rise in prevalence underscores the urgent need for effective interventions tailored to the unique needs of individuals with autism (Hirota & King, 2023).

Historically, interventions for autism have ranged from behavioral therapies, such as Applied Behavior Analysis (ABA), to educational and social support programs. These interventions aim to improve communication skills, social interactions, and adaptive behaviors, thereby enhancing the quality of life for individuals with autism and their families (Yu, Li, Li, & Liang, 2020). Despite the availability of various therapeutic options, a one-size-fits-all approach has often proven inadequate due to the heterogeneity of the autism spectrum. Each individual with autism presents a unique set of strengths and challenges, necessitating personalized interventions that can address specific needs and promote optimal outcomes (Lord et al., 2020).

1.2 The Role of Data Analytics in Enhancing Personalized Interventions

In recent years, the integration of data analytics into healthcare and social work has shown great promise in advancing personalized interventions for various conditions, including autism. Data analytics involves the systematic computational analysis of data or statistics, which can uncover patterns, correlations, and insights that may not be evident through traditional methods. In autism interventions, data analytics can be utilized to analyze large datasets from diverse sources such as electronic health records, genetic information, behavioral assessments, and even real-time monitoring through wearable devices (Washington & Wall, 2023).

By leveraging data analytics, practitioners can identify specific behavioral patterns and triggers for each individual, enabling the development of more targeted and effective intervention strategies. For instance, predictive analytics can help forecast an individual's response to a particular therapy, allowing for adjustments in treatment plans before significant issues arise. Machine learning algorithms can also assist in identifying subgroups within the autism spectrum, facilitating the creation of customized intervention plans that cater to these subgroups' specific characteristics and needs (Washington et al., 2020). Moreover, data analytics can support

continuous monitoring and evaluation of intervention effectiveness, providing valuable feedback to practitioners and caregivers. This ongoing assessment allows for timely modifications to interventions, ensuring they remain aligned with the evolving needs of the individual. Data analytics is a powerful tool that can enhance the precision, efficiency, and effectiveness of personalized autism interventions (Lindeman, Kim, Gladstone, & Apesoa-Varano, 2020).

1.3 **Purpose and Scope of the Paper**

The primary purpose of this paper is to propose a data analytics-driven conceptual framework aimed at advancing personalized autism interventions in the United States. This framework seeks to integrate data analytics into the social work practice, thereby enabling practitioners to deliver more tailored and impactful interventions for individuals with autism. By outlining this framework's key components and implementation strategies, the paper aims to provide a comprehensive guide for social workers, policymakers, and other stakeholders involved in autism care.

The scope of the paper encompasses a review of current autism interventions and their limitations, an exploration of the potential benefits of data analytics in enhancing these interventions, and a detailed presentation of the proposed conceptual framework. Additionally, the paper will discuss the practical steps for implementing this framework in social work practice, addressing potential challenges and ethical considerations. Finally, the paper will conclude with recommendations for future research and practice, highlighting the importance of continuous innovation and collaboration in the field of autism interventions.

II. Literature Review

2.1 **Overview of Current Autism Interventions in the U.S.**

Autism Spectrum Disorder has prompted a wide range of intervention strategies in the United States, tailored to address the diverse needs of those affected. Traditional interventions often include behavioral therapies, educational programs, and social skills training. Among these, Applied Behavior Analysis (ABA) remains one of the most widely used and researched methods (Broder Fingert et al., 2019). ABA focuses on improving specific behaviors through reinforcement strategies and is particularly effective in enhancing communication and social skills in children with autism. Speech therapy and occupational therapy are also commonly employed to address specific developmental delays and sensory processing issues (Zhang, Ding, Naumceska, & Zhang, 2022).

Educational interventions, such as individualized education programs (IEPs), provide tailored support within school settings, ensuring that children with autism receive appropriate accommodations and modifications to thrive academically. Social skills groups and peer-mediated interventions are designed to foster social interactions and reduce the social isolation often experienced by individuals with autism (Knight, Huber, Kuntz, Carter, & Juarez, 2019).

Despite the effectiveness of these interventions, challenges remain in ensuring equitable access and consistent quality across different regions and populations. Disparities in healthcare access, socioeconomic factors, and varying levels of awareness about autism contribute to inconsistencies in the delivery of these interventions. Moreover, the one-size-fits-all approach often fails to address the unique needs of each individual on the autism spectrum, highlighting the necessity for more personalized and adaptable intervention strategies (Shogren et al., 2021).

Personalized approaches in social work have gained traction in recent years, recognizing the importance of tailoring interventions to meet individuals' specific needs and circumstances. In the context of autism, personalized interventions are designed to accommodate the wide variability in symptoms, strengths, and challenges among those with ASD. This approach involves a thorough assessment of each individual's developmental history, behavioral patterns, and environmental factors to inform the design of customized intervention plans (Shogren et al., 2021).

Social workers play a critical role in implementing personalized approaches, often acting as coordinators of care and advocates for individuals with autism and their families. By leveraging their understanding of the social determinants of health, social workers can identify barriers to effective intervention and work to mitigate these obstacles. This might include connecting families with community resources, advocating for appropriate educational accommodations, or providing support during transitions such as entering adulthood (Shogren et al., 2021).

Personalized interventions also emphasize the importance of family involvement and collaboration. Families are often the primary caregivers and play a pivotal role in the success of any intervention. Engaging families in the intervention process ensures practical and sustainable strategies within the home environment. Additionally, integrating cultural competence into personalized approaches helps address families' diverse backgrounds and values, fostering more effective and respectful interventions (McCabe, Yeh, & Zerr, 2020).

2.2 **Existing Applications of Data Analytics in Healthcare and Social Work**

Integrating data analytics into healthcare and social work has revolutionized how services are delivered, providing a foundation for more informed and precise interventions. In healthcare, data analytics has been employed to enhance patient care through predictive modeling, risk assessment, and personalized treatment plans. For example, predictive analytics can identify high-risk patients for certain conditions, enabling early intervention and prevention strategies (Kelvin-Agwu, Adelodun, Igwama, & Anyanwu, 2024a, 2024b).

In social work, data analytics has been used to identify trends and patterns in service utilization, assess the effectiveness of interventions, and allocate resources more efficiently. By analyzing large datasets, social workers can gain insights into the social determinants of health and the impact of various interventions on different populations. This information can inform policy decisions and improve the overall quality of social services (Sciences, Division, & Health, 2019).

In the realm of autism interventions, data analytics holds significant promise. For instance, wearable devices and mobile applications can collect real-time data on an individual's behavior, providing valuable information for developing and adjusting intervention strategies. Machine learning algorithms can analyze this data to identify patterns and predict future behaviors, allowing for more proactive and personalized interventions. Additionally, data analytics can facilitate the evaluation of intervention outcomes, ensuring that strategies are continually refined and optimized based on empirical evidence (Nwosu, Babatunde, & Ijomah, 2024).

Despite the advancements in autism interventions and the integration of data analytics, several gaps remain in both research and practice. One significant gap is the lack of large-scale, longitudinal studies that can provide robust evidence on the long-term effectiveness of personalized interventions. Most current studies are limited by small sample sizes and short follow-up periods, making it difficult to draw definitive conclusions about the sustainability of intervention outcomes (Cresswell et al., 2020).

Another gap is the limited integration of data analytics in routine practice. While the potential benefits of data-driven approaches are well recognized, practical implementation often lags due to barriers such as limited access to technology, insufficient training for practitioners, and concerns about data privacy and security. Overcoming these barriers requires concerted efforts to invest in technology infrastructure, provide ongoing education and support for practitioners, and establish robust data governance frameworks (Adelodun & Anyanwu, 2024b; Majebi, Adelodun, & Anyanwu, 2024b).

Furthermore, there is a need for more research on the cultural and contextual factors that influence the effectiveness of autism interventions. The majority of existing studies are conducted in homogeneous populations, limiting the generalizability of findings to diverse groups. Understanding how cultural, socioeconomic, and environmental factors impact intervention outcomes is crucial for developing more inclusive and equitable strategies (Kamyab et al., 2023). Lastly, the voices of individuals with autism and their families are often underrepresented in research and decision-making processes. Engaging these stakeholders in designing, implementing, and evaluating interventions can ensure that their perspectives and experiences are adequately reflected, leading to more relevant and effective strategies (Javaid, 2024).

III. Conceptual Framework

3.1 **Proposed Data Analytics-Driven Framework**

The proposed data analytics-driven framework aims to revolutionize personalized autism interventions by leveraging the power of data to inform decision-making and tailor strategies to individual needs. This framework integrates various data sources and analytical techniques to create a dynamic, responsive intervention model that evolves with the individual's progress and changing needs. The goal is to move beyond the traditional, static intervention models to a more adaptive and personalized approach that can provide better outcomes for individuals with autism.

The framework is designed to be holistic, encompassing data collection, analysis, and intervention planning in a continuous feedback loop. This iterative process ensures that interventions are constantly refined based on real-time data, enabling a more precise and effective approach to autism care. By utilizing data analytics, practitioners can uncover insights that inform the development of highly personalized intervention plans, monitor progress, and adjust strategies as needed to achieve the best possible outcomes for each individual.

3.2 **Key Components and Their Interactions**

The proposed framework comprises several key components, each playing a crucial role in the overall process. The first step in the framework involves the systematic collection of data from multiple sources. This can include electronic health records (EHRs), genetic data, behavioral assessments, educational records, and real-time monitoring through wearable devices and mobile applications. The integration of these diverse data sources provides a comprehensive view of the individual's health, behavior, and environmental factors, which is essential for developing personalized interventions.

Once collected, the data must be integrated and stored in a centralized, secure database. This ensures that all relevant information is accessible and can be analyzed collectively. Data integration involves harmonizing different data formats and ensuring data quality, which is critical for accurate analysis.

The framework's core is analyzing the integrated data using advanced analytical techniques. Machine learning algorithms and predictive analytics are employed to identify patterns, correlations, and trends within the data. For example, machine learning models can classify individuals into subgroups based on their behavioral and genetic profiles, allowing for more targeted interventions. Predictive analytics can forecast an individual's response to specific therapies, enabling proactive adjustments to intervention plans. Personalized intervention plans are developed based on the insights derived from data analysis. These plans are tailored to each individual's unique needs and characteristics, incorporating evidence-based strategies that are most likely to be effective. The intervention plans are designed to be flexible and adaptive, allowing for continuous modifications based on real-time data and ongoing assessments.

Continuous monitoring is essential to evaluate the effectiveness of the intervention and make necessary adjustments. Real-time data from wearable devices and regular assessments provide ongoing feedback on the individual's progress. This feedback loop ensures that the intervention remains aligned with the individual's evolving needs and can be adjusted promptly to maximize effectiveness. Effective framework implementation requires collaboration among various stakeholders, including healthcare providers, social workers, educators, and family members. Communication channels must be established to ensure that all parties are informed and can contribute to the intervention planning and evaluation process. This collaborative approach enhances the support network for the individual and ensures that interventions are well-coordinated and comprehensive (Adelodun & Anyanwu, 2024a; Majebi, Adelodun, & Anyanwu, 2024a; Soyombo, Kupa, Ijomah, & Stephen, 2024).

3.3 **Theoretical Foundations and Models Supporting the Framework**

The proposed data analytics-driven framework is grounded in several theoretical foundations and models that support its design and implementation. Among these are the biopsychosocial, precision medicine, and continuous quality improvement (CQI) models.

- Biopsychosocial Model: This model emphasizes the importance of considering biological, psychological, and social factors in understanding health and illness. In the context of autism interventions, the biopsychosocial model supports the integration of diverse data sources to capture a holistic view of the individual's health and well-being. The framework can develop more comprehensive and personalized intervention plans by considering genetic, behavioral, and environmental factors.
- Precision Medicine: Originating from healthcare, precision medicine aims to tailor medical treatment to the individual characteristics of each patient. This approach aligns with the framework's emphasis on using data analytics to develop personalized interventions. Precision medicine principles guide the use of genetic and behavioral data to identify the most effective strategies for each individual, enhancing the precision and efficacy of autism interventions.
- Continuous Quality Improvement (CQI) Model: The CQI model focuses on the iterative process of assessing and improving interventions based on ongoing data and feedback. This model underpins the framework's emphasis on continuous monitoring and evaluation, ensuring that interventions are constantly refined and optimized. The CQI model encourages a proactive approach to intervention planning, where data-driven insights lead to continuous improvements in care quality and outcomes.
- Ecological Systems Theory: This theory, developed by Urie Bronfenbrenner, highlights the complex interplay between an individual and their environment. It underscores the importance of considering multiple environmental contexts (e.g., family, school, community) when designing interventions. The framework incorporates ecological systems theory by integrating data from various contexts to develop comprehensive, context-sensitive intervention plans.
- Behavioral Theories: Behavioral theories, such as those underpinning Applied Behavior Analysis (ABA), inform the framework's approach to understanding and modifying behavior. These theories provide a foundation for developing targeted behavioral interventions based on data-driven insights, ensuring that strategies are evidence-based and effective.

IV. Implementation Strategies

4.1 **Steps for Integrating the Framework into Social Work Practice**

Integrating a data analytics-driven framework into social work practice involves several critical steps to ensure successful adoption and effectiveness. The first step is assessment and planning, where social work agencies evaluate their current capabilities and identify areas that need enhancement. This involves understanding the specific needs of the population they serve, the types of data currently collected, and the existing technological infrastructure.

The next step is stakeholder engagement. Successful implementation requires the buy-in and active participation of all stakeholders, including social workers, healthcare providers, educators, families, and individuals with autism. Conducting workshops, training sessions, and meetings to explain the benefits and workings of the new framework helps gain support and address any concerns.

Following stakeholder engagement is the development of a comprehensive data strategy. This strategy should outline the types of data to be collected, the methods of collection, and how this data will be integrated and analyzed. Establishing partnerships with healthcare providers, schools, and other relevant organizations is crucial to ensure comprehensive data collection.

Training and capacity building is another essential step. Social workers and other practitioners need training on using data analytics tools, interpreting data, and applying insights to intervention planning. Continuous professional development programs should be instituted to keep practitioners updated on the latest advancements in data analytics and personalized intervention strategies.

After training, the next step is the pilot implementation. A pilot program allows for testing the framework on a small scale, identifying potential issues, and making necessary adjustments before a full-scale rollout. This phase involves close monitoring and evaluation to assess the framework's effectiveness and gather participant feedback. Finally, the full implementation and scaling phase involves rolling out the framework across the entire organization or practice. This includes ongoing support, continuous data collection and analysis, and regular evaluation to ensure that the framework remains effective and is continuously improved based on new insights and feedback.

4.2 **Required Resources and Tools**

Implementing a data analytics-driven framework requires several key resources and tools. Software and technological infrastructure are at the core of this framework. This includes data management systems, analytics software, and secure databases to store and process the data. Tools like machine learning platforms, predictive analytics software, and data visualization tools are also necessary to analyze and interpret the data effectively.

Human resources are equally important. This includes data analysts, IT specialists, and trainers who can support the technical aspects of the framework. Hiring or training social workers to become proficient in data analytics is crucial for the framework's success. Investing in continuous professional development ensures that staff remain skilled and knowledgeable about the latest tools and techniques (Blanchard & Thacker, 2023).

Financial resources are needed to cover the costs of technology acquisition, training programs, and ongoing support and maintenance. Securing funding through grants, partnerships, or budget reallocations is essential to ensure the framework's sustainability. Collaborative networks are also vital. Establishing partnerships with healthcare providers, educational institutions, and other relevant organizations enables comprehensive data collection and a holistic approach to intervention planning. These partnerships facilitate the sharing of data and resources, enhancing the overall effectiveness of the framework (Davis, Raines, Benson, McDonald, & Altizer, 2021).

4.3 **Potential Challenges and Solutions**

Implementing a data analytics-driven framework is not without challenges. One major challenge is resistance to change. Social workers and other practitioners may be hesitant to adopt new technologies and methodologies. Addressing this requires effective communication about the framework's benefits and providing ample training and support to ease the transition.

Another challenge is data integration and quality. Collecting and integrating data from diverse sources can be complex and may result in issues with data quality. Implementing robust data management practices, including data cleaning, validation, and standardization, helps ensure the accuracy and reliability of the data.

Technical challenges related to implementing and maintaining new software and systems are also common. Ensuring that there is adequate IT support and infrastructure can mitigate these issues. Regular updates and maintenance of the systems are necessary to prevent technical problems from disrupting the framework's operation.

Privacy and ethical concerns are significant challenges that need careful consideration. Ensuring that data collection and use comply with legal and ethical standards is paramount. Implementing strong data protection measures, obtaining informed consent, and being transparent about how data will be used are essential steps in addressing these concerns (Majebi, Adelodun, & Chinyere).

4.4 **Ethical Considerations and Data Privacy Issues**

Ethical considerations and data privacy issues are critical in implementing a data analytics-driven framework. Informed consent is a fundamental ethical principle. Individuals and their families must be fully informed about what data will be collected, how it will be used, and the potential risks and benefits. Consent must be obtained before data collection begins. Data privacy and security are paramount to protect sensitive information. Implementing strong data encryption, access controls, and secure storage solutions helps safeguard

personal information. Regular security audits and compliance with regulations such as the Health Insurance Portability and Accountability Act (HIPAA) ensure that data privacy standards are maintained.

Transparency and accountability are also important. Organizations must be transparent about their data practices and be accountable for any misuse or breaches of data. Establishing clear policies and procedures for data handling, and ensuring that all staff are trained on these policies, helps maintain trust and integrity.

Equity and fairness should guide the implementation of the framework. Ensuring that all individuals, regardless of socioeconomic status, have access to personalized interventions is crucial. Efforts must be made to address any disparities and ensure that the framework's benefits are distributed equitably. Confidentiality is another key ethical consideration. It is essential to ensure that data is used only for its intended purpose and that individuals' privacy is protected. Developing protocols for de-identifying data and limiting access to sensitive information helps maintain confidentiality (Wu, 2022).

V. Conclusion and Recommendations

This paper has explored the advancement of personalized autism interventions in the United States through a data analytics-driven framework. The literature review highlighted the limitations of traditional autism interventions, emphasizing the need for personalized approaches that consider the unique needs of each individual. The proposed framework leverages data from various sources to develop tailored intervention plans, including electronic health records, genetic information, and real-time monitoring devices. Key components of the framework include data collection, integration, analysis, intervention planning, and continuous monitoring and evaluation. The theoretical foundations supporting the framework include the biopsychosocial model, precision medicine, and continuous quality improvement.

The integration of data analytics into social work practice has profound implications for the field, particularly in the context of autism interventions. By adopting a data-driven approach, social workers can develop more precise and effective intervention strategies, ultimately leading to better outcomes for individuals with autism. This approach promotes a shift from one-size-fits-all models to more individualized care plans that address each person's specific strengths and challenges. For policy, the adoption of a data analytics-driven framework necessitates changes in how social services are structured and funded. Policies should support the implementation of advanced data analytics tools and training social workers in these new methodologies. Furthermore, ensuring equitable access to these advanced interventions requires policies that address disparities in resources and access to technology across different communities. Funding should be directed towards building the necessary technological infrastructure and providing continuous professional development for social workers.

While the proposed framework offers a promising approach to personalized autism interventions, further research is needed to refine and optimize its components. Future research should focus on large-scale, longitudinal studies to assess the long-term effectiveness of data-driven interventions. These studies should identify the most critical data points contributing to successful outcomes and determine the best practices for integrating and analyzing these data. Additionally, research should explore the impact of cultural, socioeconomic, and environmental factors on the effectiveness of personalized interventions. Understanding these factors will help in developing more inclusive and equitable intervention strategies that can be adapted to diverse populations. Investigating the ethical implications of data use in social work, including issues of privacy and consent, is also crucial for ensuring that the framework is implemented responsibly and ethically.

Research should also examine the practical aspects of implementing data analytics in social work practice, including the challenges and barriers practitioners face. This can inform the development of training programs and support systems that address these challenges and facilitate the successful adoption of the framework. Furthermore, there should be a focus on developing and validating tools and methods that can be seamlessly integrated into the daily practice of social workers. Understanding the practical hurdles and providing solutions to overcome them is essential for successfully implementing a data-driven approach in social work.

References

[1]. Adelodun, M. O., & Anyanwu, E. C. (2024a). Environmental and patient safety: Advances in radiological techniques to reduce radiation exposure.

[2]. Adelodun, M. O., & Anyanwu, E. C. (2024b). Health Effects of Radiation: An Epidemiological Study on Populations near Nuclear Medicine Facilities. Health, 13(9), 228-239.

[3]. Bhat, A. N. (2021). Motor impairment increases in children with autism spectrum disorder as a function of social communication, cognitive and functional impairment, repetitive behavior severity, and comorbid diagnoses: A SPARK study report. Autism research, 14(1), 202-219.

[4]. Blanchard, P. N., & Thacker, J. W. (2023). Effective training: Systems, strategies, and practices: SAGE Publications.

[5]. Broder Fingert, S., Carter, A., Pierce, K., Stone, W. L., Wetherby, A., Scheldrick, C., . . . Ibañez, L. (2019). Implementing systems-based innovations to improve access to early screening, diagnosis, and treatment services for children with autism spectrum disorder: An Autism Spectrum Disorder Pediatric, Early Detection, Engagement, and Services network study. Autism, 23(3), 653-664.

[6]. Cresswell, K., Callaghan, M., Khan, S., Sheikh, Z., Mozaffar, H., & Sheikh, A. (2020). Investigating the use of data-driven artificial intelligence in computerised decision support systems for health and social care: a systematic review. Health Informatics Journal, 26(3), 2138-2147.

[7]. Davis, M. J., Raines, J. A., Benson, C. L., McDonald, C. H., & Altizer, R. A. (2021). Toward a framework for developing virtual reality skills training in human services. Journal of Technology in Human Services, 39(3), 295-313.
[8]. Hirota, T., & King, B. H. (2023). Autism spectrum disorder: a review. Jama, 329(2), 157-168.
[9]. Javaid, H. A. (2024). The Future of Financial Services: Integrating AI for Smarter, More Efficient Operations. MZ Journal of Artificial Intelligence, 1(2).
[10]. Kamyab, H., Khademi, T., Chelliapan, S., SaberiKamarposhti, M., Rezania, S., Yusuf, M., . . . Ahn, Y. (2023). The latest innovative avenues for the utilization of artificial Intelligence and big data analytics in water resource management. Results in Engineering, 101566.
[11]. Kelvin-Agwu, M. C., Adelodun, M. O., Igwama, G. T., & Anyanwu, E. C. (2024a). The role of biomedical engineers in enhancing patient care through efficient equipment management.
[12]. Kelvin-Agwu, M. C., Adelodun, M. O., Igwama, G. T., & Anyanwu, E. C. (2024b). Strategies For Optimizing The Management Of Medical Equipment In Large Healthcare Institutions. Strategies, 20(9), 162-170.
[13]. Knight, V. F., Huber, H. B., Kuntz, E. M., Carter, E. W., & Juarez, A. P. (2019). Instructional practices, priorities, and preparedness for educating students with autism and intellectual disability. Focus on Autism and Other Developmental Disabilities, 34(1), 3-14.
[14]. Lindeman, D. A., Kim, K. K., Gladstone, C., & Apesoa-Varano, E. C. (2020). Technology and caregiving: emerging interventions and directions for research. The Gerontologist, 60(Supplement_1), S41-S49.
[15]. Lord, C., Brugha, T. S., Charman, T., Cusack, J., Dumas, G., Frazier, T., . . . State, M. W. (2020). Autism spectrum disorder. Nature reviews Disease primers, 6(1), 1-23.
[16]. Majebi, N. L., Adelodun, M. O., & Anyanwu, E. C. (2024a). Early childhood trauma and behavioral disorders: The role of healthcare access in breaking the cycle.
[17]. Majebi, N. L., Adelodun, M. O., & Anyanwu, E. C. (2024b). Integrating trauma-informed practices in US educational systems: Addressing behavioral challenges in underserved communities.
[18]. Majebi, N. L., Adelodun, M. O., & Chinyere, E. Community-Based Interventions to Prevent Child Abuse and Neglect: A Policy Perspective.
[19]. McCabe, K. M., Yeh, M., & Zerr, A. A. (2020). Personalizing behavioral parent training interventions to improve treatment engagement and outcomes for culturally diverse families. Psychology Research and Behavior Management, 41-53.
[20]. Nwosu, N. T., Babatunde, S. O., & Ijomah, T. (2024). Enhancing customer experience and market penetration through advanced data analytics in the health industry.
[21]. Sciences, N. A. o., Division, M., & Health, C. o. I. S. N. C. i. t. D. o. H. C. t. I. t. N. s. (2019). Integrating social care into the delivery of health care: Moving upstream to improve the nation's health.
[22]. Shogren, K. A., Mosconi, M. W., Raley, S. K., Dean, E. E., Edwards, B., Wallisch, A., . . . Kiblen, J. C. (2021). Advancing the personalization of assessment and intervention in autistic adolescents and young adults by targeting self-determination and executive processes. Autism in Adulthood, 3(4), 289-299.
[23]. Soyombo, D. A., Kupa, E., Ijomah, T. I., & Stephen, A. (2024). Food security challenges: A comparative review of USA and African Policies.
[24]. Washington, P., Park, N., Srivastava, P., Voss, C., Kline, A., Varma, M., . . . Patnaik, R. (2020). Data-driven diagnostics and the potential of mobile artificial intelligence for digital therapeutic phenotyping in computational psychiatry. Biological Psychiatry: Cognitive Neuroscience and Neuroimaging, 5(8), 759-769.
[25]. Washington, P., & Wall, D. P. (2023). A review of and roadmap for data science and machine learning for the neuropsychiatric phenotype of autism. Annual review of biomedical data science, 6(1), 211-228.
[26]. Wu, H.-C. (2022). Priority criteria for community-based care resource allocation for health equity: socioeconomic status and demographic characteristics in the multicriteria decision-making method. Paper presented at the Healthcare.
[27]. Yu, Q., Li, E., Li, L., & Liang, W. (2020). Efficacy of interventions based on applied behavior analysis for autism spectrum disorder: a meta-analysis. Psychiatry investigation, 17(5), 432.
[28]. Zhang, M., Ding, H., Naumceska, M., & Zhang, Y. (2022). Virtual reality technology as an educational and intervention tool for children with autism spectrum disorder: current perspectives and future directions. Behavioral Sciences, 12(5), 138.