

ANALYZING CHILDHOOD TRAUMA USING ARTIFICIAL INTELLIGENCE IN COGNITIVE DEVELOPMENT OF SENIOR HIGH SCHOOL STUDENTS OF BESTLINK COLLEGE OF THE PHILIPPINES

ABSTRACT

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Artificial Intelligence (AI) is transforming the fields of education and psychology by providing advanced tools for behavioral analysis and decision-making support. A significant concern in these fields is the underassessment of childhood trauma, which can profoundly affect students' cognitive development and academic performance. Traditional assessment tools often fall short in terms of accuracy and real-time analysis. This study examines the effectiveness of AI-driven tools in detecting and analyzing signs of childhood trauma among senior high school students at Bestlink College of the Philippines. By addressing the limitations of current assessment methods, the research aims to support timely interventions and promote better cognitive and educational outcomes. A descriptive-correlational research design was employed to examine the relationship between childhood trauma and cognitive development with the integration of AI-based tools. Participants were selected through purposive sampling, targeting senior high school students at Bestlink College of the Philippines. Data were collected using a modified version of the Feifer Assessment of Childhood Trauma (FACT), which assessed trauma exposure, demographic characteristics, and cognitive functioning. To enhance the depth of analysis, AI-powered tools such as sentiment analysis and behavioral prediction models were utilized. The questionnaire was distributed both online and in print to ensure wider accessibility and participation. Statistical analyses, including frequency distribution, mean computation, and Chi-square tests, were conducted to interpret the data and identify significant relationships. A total of 67.14% of respondents reported experiencing trauma, with emotional abuse (20.12%), bullying (13.99%), and physical abuse (12.83%) emerging as the most common types. These experiences were strongly associated with challenges in emotional regulation, academic performance, and social interaction. AI tools demonstrated moderate to high effectiveness in enhancing behavioral responses (56%) and decision-making abilities (48%). However, their impact on emotional expression and language use was relatively limited. Most students assessed their attention, memory, and critical thinking skills as average to good, although emotional regulation and learning retention showed varying levels across individuals. The findings highlight the critical role of Artificial Intelligence in trauma-informed education, particularly in improving behavioral regulation and decision-making. Emotional and physical abuse were identified as significant factors affecting cognitive function. The study calls for enhanced AI tools capable of accurately interpreting emotional data and stresses the importance of collaboration among educators, mental health experts, and AI developers. It also recommends implementing targeted interventions based on demographic profiles to increase impact and effectiveness.

RECOMMENDED CITATION

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