

## The Impact of Confidence in Academic Key Skills to Artificial Intelligence Dependency Mediated by Academic Stress

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**Abstract.** The increasing use of AI in education has changed how students learn and complete tasks, while also raising concerns about increasing student dependency on these tools. This study aimed to examine the relationship between students' confidence in their academic key skills and their reliance on AI, as mediated by the presence of academic stress. The study adopted a quantitative, cross-sectional design involving students aged 16–24, using instruments: the Short Instrument for Measuring Students' Confidence with Key Skills (SICKS), the Dependence on AI (DIA) scale, and Perception of Academic Stress (PAS) Scale. Mediation analysis showed that academic stress partially mediated the relationship, with a significant direct effect of confidence on AI dependency ( $\beta = -0.370$ ,  $p < .001$ ) and a smaller but significant indirect effect through stress ( $\beta = -0.0632$ ,  $p = .016$ ). Additional analysis of moderation further revealed that academic stress significantly moderated the link between confidence and AI dependence ( $\beta = -0.447$ ,  $p = .001$ ). Lower confidence predicts higher AI reliance when stress levels are high, but not under low-stress conditions. These findings suggest that enhancing students' academic confidence and managing stress are crucial to preventing excessive reliance on AI.

**Keywords:** *artificial intelligence, academic skills, chatgpt, confidence, stress, AI dependence*

**Abstrak.** Peningkatan penggunaan AI dalam pendidikan mengubah cara siswa belajar dan menimbulkan kekhawatiran mengenai meningkatnya ketergantungan siswa. Penelitian ini bertujuan untuk menguji hubungan antara kepercayaan diri akademik terhadap ketergantungan pada AI, yang dimediasi oleh stres akademik. Penelitian ini menggunakan metode kuantitatif dengan pendekatan cross-sectional yang melibatkan mahasiswa berusia 16–24 tahun, dengan instrumen: Short Instrument for Measuring Students' Confidence with Key Skills (SICKS), Dependence on AI (DIA) Scale, dan Perception of Academic Stress (PAS) Scale. Analisis mediasi menunjukkan bahwa stres akademik memediasi hubungan tersebut secara parsial, dengan pengaruh langsung yang signifikan ( $\beta = -0.370$ ,  $p < .001$ ) serta pengaruh tidak langsung yang lebih kecil namun tetap signifikan melalui stres ( $\beta = -0.0632$ ,  $p = .016$ ). Analisis moderasi menunjukkan bahwa stres akademik secara signifikan memoderasi hubungan antara kepercayaan diri dan ketergantungan pada AI ( $\beta = -0.447$ ,  $p = .001$ ), yang menunjukkan bahwa kepercayaan diri rendah memprediksi tingginya ketergantungan pada AI ketika stres tinggi, tetapi tidak pada kondisi stres yang rendah. Hasil ini menunjukkan bahwa meningkatkan kepercayaan diri akademik dan mengelola tingkat stres penting untuk mencegah ketergantungan berlebihan pada AI

**Keywords:** *kecerdasan buatan, kemampuan akademik, chatgpt, kepercayaan diri, stres, ketergantungan AI*