

General Information About AI Addiction Scale (AIAS-10)

Citation: Kasap, S., & Babayiğit, M. V. (2026). Development and validation of the AI Addiction Scale (AIAS-10): Measuring compulsive and emotional dependence on AI tools among EFL learners. *Register Journal*, 19(1), 1–27. <https://doi.org/10.18326/register.v19i1.1-27>

- **Scale Name:** Artificial Intelligence Addiction Scale (AIAS-10).
- **Authors:** Süleyman Kasap and Mehmet Veysi Babayiğit.
- **Primary Purpose:** To assess behavioral, emotional, and functional aspects of problematic AI use and overreliance on conversational AI tools (like ChatGPT) in educational and professional settings.
- **Context:** Originally developed and validated within a predominantly higher education context, specifically targeting English as a Foreign Language (EFL/ELT) learners.

Scale Structure and Theoretical Framework

- **Theoretical Basis:** The scale is theoretically grounded in the Interaction of Person-Affect-Cognition-Execution (I-PACE) model and Griffiths' Components Model of Addiction.
- **Item Count:** The final validated scale consists of 10 items (refined from an initial pool of 15).
- **Dimensions/Factors:** The scale reliably identifies a two-factor structure:
 1. *Compulsive Use and Cognitive Dependence:* Captures obsessive engagement and excessive reliance on AI for cognitive tasks.
 2. *Functional Impairment and Emotional Attachment:* Captures the negative consequences of excessive AI use, anthropomorphism (treating AI like a human), and emotional distress when AI is unavailable.

Psychometric Properties (Validation Results)

Reliability and Sampling Adequacy

- The dataset's suitability for factor analysis was confirmed by a Kaiser-Meyer-Olkin (KMO) value of 0.785, which exceeds the recommended threshold of 0.70.
- Bartlett's Test of Sphericity was highly significant ($\chi^2(45) = 369.30, p < .001$), indicating that the correlation matrix was appropriate for exploratory factor analysis.
- The 10-item scale demonstrated strong internal consistency, with the document reporting Cronbach's alpha coefficients of 0.728 and 0.87, both of which exceed the accepted 0.70 threshold for psychological instruments.

- The corrected item-total correlations for the items generally ranged from .35 to .50, showing acceptable psychometric properties.
- Scale means and variances remained stable across item deletions, suggesting that all retained items contribute meaningfully to the measurement of AI addiction.

Exploratory Factor Analysis (EFA)

- EFA was conducted using Principal Component Analysis (PCA) with Varimax rotation.
- The analysis yielded a distinct two-factor solution that explained a cumulative 40.33% of the total variance.
- Following the rotation, the first factor (Compulsive Use and Cognitive Dependence) explained 22.14% of the variance, and the second factor (Functional Impairment and Emotional Attachment) explained 18.19%.

Confirmatory Factor Analysis (CFA) and Model Fit

- CFA was conducted using maximum likelihood estimation to validate the two-factor structure identified in the EFA.
- The CFA results indicated that the two-factor model demonstrated an excellent fit to the data across multiple established criteria.
- The Root Mean Square Error of Approximation (RMSEA) was 0.044, which indicates an excellent fit as it is below 0.05.
- Incremental fit indices confirmed strong comparative model performance, with the Comparative Fit Index (CFI), Incremental Fit Index (IFI), and Goodness-of-Fit Index (GFI) all reaching 0.96.
- The Non-Normed Fit Index (NNFI/TLI) was 0.95, and residual fit indices were well below the 0.08 threshold (RMR = 0.023; SRMR = 0.045).

Known-Groups (Discriminative) Validity

- Independent samples t-test results showed that university students scored significantly higher on the AIAS-10 than working professionals, with a large effect size ($d = 0.96$), suggesting greater vulnerability among students.
- A one-way ANOVA indicated a large effect regarding age-based differences, where individuals aged 18–25 scored significantly higher than those aged 26–40 and 41+.
- These comparisons confirm the scale's ability to discriminate between demographic groups and suggest that younger individuals in academically demanding environments are more prone to AI-related overuse.

Key Research Findings Using the Scale

- **Vulnerable Populations:** University students score significantly higher on the AIAS-10 compared to working professionals, indicating greater vulnerability to problematic AI use in academically demanding environments.
- **Age Factor:** Younger individuals (ages 18–25) score significantly higher and are more prone to AI dependency than older age groups (26+).

Researchers can use this scale to measure multidimensional AI dependency rather than just general digital overuse, as it accounts for the unique interactive features of AI

Appendix 1: AI Addiction Scale (AIAS-10)

Instructions:

Please read each statement and choose how often it applies to you. Answer honestly—there are no right or wrong answers.

Rating Scale:

1 = Never | 2 = Rarely | 3 = Sometimes | 4 = Often | 5 = Always

1. I try to use AI less, but I can't stop.

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

2. I need AI's answers to feel sure about my choices.

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

3. I feel tired, get headaches, or lose sleep from using AI too long.

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

4. Using AI makes me less productive at work/school.

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

5. I feel stressed or upset when I can't use AI tools.

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

6. My relationships are worse because I use AI too much.

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

7. I worry about not being able to use AI in the future.

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

8. I think a lot about using AI (like ChatGPT) even when I'm not using it.

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

9. I treat AI like it's a human (e.g., saying "thank you" or feeling like it understands me).

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

10. I choose using AI over spending time with friends or doing hobbies.

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

Score Range Meaning

10–20	Healthy use
21–35	Moderate dependence – Be mindful
36–50	High dependence – May need to cut back