

### 1. Background

- Two independent research teams developed AI attitude assessment frameworks between 2020 and 2021, contributing distinct instruments to the field.
- The **General Attitudes Towards Artificial Intelligence Scale (GAAIS)** (Schepman & Rodway, 2020) and the second one is the **Attitudes Towards Artificial Intelligence (ATAI)** questionnaire (Sindermann et al., 2021).
- Psychometric assessment of these measures is essential to ensure their validity and reliability in capturing the intended constructs, as well as to evaluate their responsiveness in detecting changes over time

### 2. Aims

- Assess the validity and reliability of two instruments
- Identify factors associated with each attitude scale

### 3. Methodology

#### 1 Study setting and participants

- Two-wave survey
- Participants living in Australia > 1 year, >18 yo, variables include age, gender, education level, household income, use of AI apps, health status

#### 2 ATAI scale

- 5 items on 11-point Likert scale
- Trust AI, fear AI, AI will destroy humankind, AI will benefit humankind and AI causes job loses

#### 3 GAAIS scale

- 20 items on 5-point Likert scale
- Cognitive, affective, and behavioural aspects

### 3. Methodology (cont)

#### 4 Data analysis

Measurement property	Type	Measure
Reliability	Internal consistency	Cronbach's $\alpha$
	Test-retest	Intraclass correlation coefficient (ICC) will be measured at baseline and at 6-month follow-up among people who reported stable attitudes towards AI
Validity	Factorial validity	Confirmatory factor analysis (CFA); Exploratory factor analysis (EFA)
	Concurrent validity	Pearson's correlation coefficients between subscales
Responsiveness	-	Standardised mean difference among participants who reported that their attitude towards AI applications has changed since the first survey.

### 4. Findings

- Both instruments demonstrated **good internal consistency**, with Cronbach's  $\alpha$  values exceeding the acceptable threshold of 0.70 (Hair et al., 2013)
- All items from the ATAI scale and GAAIS were significant with ICC values different from zero based on reported 95% confidence interval and p-value < 0.05. ICC of the ATAI scale show **good reliability** in 4/5 items while 12/20 items in the GAAIS scale showed good reliability.
- ATAI scale: Confirm the two subscales: **Fear** (3 items) and **Acceptance** (2 items). The RMSEA = 0.016 indicated a close fit and the p-close test is non-significant. 90% CI is perfect fit. CFI = 1 and TLI = 0.999 suggest strong model fit. SRMR 0.008 is perfect fit.
- GAAIS scale: Confirm the two subscales: **Negative** (8 items) and **Positive** (12 items). The CFI (0.965) and TLI (0.957) suggested a strong model fit to the data. The SRMR = 0.040 suggested good fit of the model to the data. The RMSEA = 0.05 suggested acceptable fit of the model to the data and the 90% CI ranged from a lower bound (0.046) that suggesting a close fit to an upper bound (0.054).
- Intention to use AI or prior experience with AI** were consistently significantly associated with **more acceptance and positivity**, and **less fear and negativity**.
- Gender, education, and age were also associated with attitudes towards AI: males and those with a bachelor's degree or higher reported greater acceptance and positivity, while older adults (60+) showed lower fear or negativity and higher positivity than younger adults.
- These results support the use of ATAI and GAAIS as robust tools for assessing attitudes towards AI in Australia.

#### References

Schepman, A., & Rodway, P. (2020). Initial validation of the general attitudes towards Artificial Intelligence Scale. *Computers in Human Behavior Reports*, 1, 100014.  
 Sindermann, C., Sha, P., Zhou, M., Wernicke, J., Schmitt, H. S., Li, M., Sariyska, R., Stavrou, M., Becker, B., & Montag, C. (2021). Assessing the Attitude Towards Artificial Intelligence: Introduction of a Short Measure in German, Chinese, and English Language. *KI - Künstliche Intelligenz*, 35(1), 109–118.  
 Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2013). *Multivariate Data Analysis*.