

## **DAS (Digitalisation Anxiety Scale) instrument**

The growing prevalence of digital technologies, along with their impact on how we live, work, and communicate, can generate feelings of tension and unease. This phenomenon, often referred to as digitalisation anxiety, pertains to both current and emerging technologies, encompasses the integration of digitalisation into daily life, and operates across multiple levels, including individuals, organisations, and society as a whole (Pfaffinger et al., 2020)

### **Instrument**

Current project used DAS (Digitalisation Anxiety Scale) developed by Pfaffinger et al. (2021). The instrument consists of 35 items with a four-factor structure (a) societal triggers for digitalisation anxiety, (b) triggers related to interaction and leadership, (c) triggers within oneself and (d) triggers resulting from the digitalisation implementation process). The scale can inform interventions aiming at reducing digitalisation anxiety and stress resulting from digitalisation. The scale allows practitioners and researchers to measure and benchmark individuals' levels of digitalisation anxiety, and to track changes over time.

### **Data Analysis**

The analysis of the study data was carried out using descriptive and comparative statistical methods. For data processing, the statistical software IBM SPSS Statistics 25 (Statistical Package for the Social Sciences) was used.

To check the reliability of the instrument, Cronbach's  $\alpha$  values were calculated to assess internal consistency. A value of  $\alpha > 0.60$  was considered an indicator of strong internal consistency (Hajjar, 2018).

A correlation measures the strength and direction of a relationship between two variables. Rough interpretation (Cohen, 1988):  $\leq .10$  to  $.29$  = small;  $\leq .30$  to  $0.49$  = moderate;  $\leq 0.50$ – $0.69$  = strong correlation;  $\leq 0.70$  to  $0.89$  = very strong;  $\leq 0.90$  to  $1.00$  nearly perfect correlations.

Statistical significance was determined using the threshold  $p$  value of  $p \leq 0.05$  (95% probability that the result is not random), which was marked with \*. A value of  $p \leq 0.01$  (99% probability that the result is not random) was marked with \*\*, and a value of  $p \leq 0.001$  was marked with \*\*\*, indicating 99.9% certainty that the result is not random.

### **Results**

The data analysis was conducted only on the basis of students ( $N=27$ ) from Estonia, as students from Iceland were unable to use the questionnaire distributed via Google Forms due to national restrictions in that year. Although the Google Form data were collected in Estonia at Tartu Raatuse School's server system. Although 30 Estonian

students participated in the project, it was not possible to collect data for the instrument in which all Estonian students had simultaneously participated in both the pre- and post-questionnaire

The instrument worked very well. The overall reliability of the instrument  $\alpha = .931$ , which is considered excellent [When the scale was developed by Pfaffinger et al. (2021), the reliability score was .96 (N=109), indicating that the instrument is very well developed even for international users].

Based on our results for the overall reliability, analysis for internal consistency of the scales was made also for each factor:

- Factor no 1 (15 items). Societal level (General digitalisation anxiety) with  $\alpha = 0.899$ ;
- Factor no 2 (8 items). Individual level (Self-related digitalisation anxiety) with  $\alpha = 0.851$ ;
- Factor no 3 (7 items). Organisational level (Interaction- and leadership-related digitalisation anxiety), with  $\alpha = 0.664$ ;
- Factor no 4 (5 items) = Organisational level (Implementation-related digitalisation anxiety) with  $\alpha 0.744$ .

First factor was statistically relevant and correlated well based on our instrument pre and post-test.

**Factor no 1** (15 items): Societal level (General digitalisation anxiety), correl = .459\*. Based on this, factor no 2 „individual level“ had moderate correlation level = .337, but it was not statistically relevant.

Factor no 3 (correl= -.007) and factor no 4 (correl =.210) indicated that students didn't feel any pressure during the project with organisational level, suggesting that they felt more collectively related not regulated by the school during project period.

The general pre- and post-test correlation (.459\*) of factor no 1 indicates a moderate positive relationship, suggesting that students' concerns about digitalisation were relatively consistent over time while still allowing for some change or development due to potential interventions or reflections during the Nordplus junior project period.

Given the moderate correlation, it appears that mobilities and mutual activities targeting digital literacy, security awareness, and critical reflection on technology's societal role may influence students' perceptions and reduce anxiety over time. This finding aligns with prior literature indicating that structured engagement with digital technologies can help individuals develop a sense of competence and control, thereby mitigating anxiety (Pfaffinger et al., 2020).

## References

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Lawrence Erlbaum Associates.

Pfaffinger, K. F., Reif, J. A. M., Spieß, E., & Berger, R. (2020). Anxiety in a digitalised work environment. *Group & Organization Management*. <https://doi.org/10.1007/s11612-020-00502-4>.

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