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Test description:

**FASKU**

**French version of the General Self-Efficacy Short Scale**

Décieux, J. P., Sischka, P. E., Schumacher, A. & Willems, H. (2021)

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# Contents

## 1. Test Concept

### 1.1 Theoretical Background

General self-efficacy (GSE) is a personal coping resource (Schwarzer, 1994) reflecting "one's belief in one's overall competence to effect requisite performances across a wide variety of achievement situations" (Eden, 2001, p. 75). GSE can also be described as "individuals' perception of their ability to perform across a variety of different situations" (Judge, Erez, & Bono, 1998, p. 170). Many studies show that expectations of competency have positive effects in different areas of life, such as health behavior and learning. Furthermore, it was shown that GSE is positively related to self-esteem, locus of control, and earning expectations (Bandura, 1997; Beierlein, Kemper, Kovaleva, & Rammstedt, 2013; Luszczynska, Gutiérrez-Doña, & Schwarzer, 2005). Because GSE affects the probability of success in many areas of life, there is great interest in evaluating this construct as a context variable for different research areas.

The ASKU (Allgemeine Selbstwirksamkeit Kurzskala) is an instrument to assess GSE beliefs. It was originally developed and validated in German by Beierlein and colleagues (2013). In 2019 Dècieux, Sischka, Schumacher, and Willems (2020a) developed and tested a French version of this scale and tested it for reliability (internal consistency), validity, and measurement equivalence with the original German version. The provided evidence on the quality of the German and the French Version of ASKU (FASKU) indicates that the scales allow a reliable, valid, and economic assessment of subjective competence expectations and that the two language versions can be used to assess and compare self-efficacy in German and French speaking populations.

### 1.2 Test Procedure

As the original German Scale (ASKU) developed by Beierlein et al. (2013), FASKU contains three items that can be answered on five-point rating scales with the response options: 1 = *Ne me correspond pas du tout*, 2 = *Me correspond peu*, 3 = *Me correspond un peu*, 4 = *Me correspond relativement bien* to 5 = *Me correspond tout à fait*.

The scores on the three items are aggregated into a scale value that indicates a person's proficiency in the characteristic of general self-efficacy expectancy.

### 1.3 Interpretation Mode

To obtain an individual score for a respondent, the answers to the individual items are averaged. The mean scale value varies between 1 and 5.

### 1.4 Interpretation Aids

Due to the fact that the scale contains three items, there is no need for interpretation aids.

### 1.5 Interpretation Time

The scoring and interpretation of the FASKU should take less than one minute.

### 1.6 Items

The first item is: "Dans les situations difficiles, je peux me fier à mes aptitudes."
The second item is: "Je peux surmonter tout(e) seul(e) la plupart de mes problèmes."
The third item is: "En règle générale, je parviens à résoudre même les tâches complexes et difficiles."

## 1.7 All Items

All Items are reported in Table 1.

Table 1
Items of the FASKU

| No. | French Version (FASKU) | German Version (ASKU) (Beierlein et al., 2013) |
|---|---|---|
| 1) | Dans les situations difficiles, je peux me fier à mes aptitudes. | In schwierigen Situationen kann ich mich auf meine Fähigkeiten verlassen. |
| 2) | Je peux surmonter tout(e) seul(e) la plupart de mes problèmes. | Die meisten Probleme kann ich aus eigener Kraft gut meistern. |
| 3) | En règle générale, je parviens à résoudre même les tâches complexes et difficiles. | Auch anstrengende und komplizierte Aufgaben kann ich in der Regel gut lösen. |

Notes. English translation of the items adopted from Beierlein et al. (2013): (1) I can rely on my own abilities in difficult situations. (2) I am able to solve most problems on my own. (3) I can usually solve even challenging and complex tasks well.

# 2. Administration

## 2.1 Forms

The FASKU complements the work of Beierlein and colleagues (2013), developers of the Allgemeine Selbstwirksamkeit Kurzskala (ASKU), the German version. The French version was developed and tested by Décieux et al. (2020a).

Décieux et al. (2020a) demonstrated that the two language versions provide a reliable, valid, and economical assessment of subjective competence expectations and can be used to assess and compare self-efficacy in German and French-speaking populations.

In principle, the FASKU can be used in different survey modes. In the validation study, the scale was used in CAWI (Computer Assisted Web Interviewing) mode and in paper form (self-completion). However, before using the FASKU in mixed-mode designs, measurement invariance between the different data collection modes should be checked.

## 2.2 Application Ages

There are no restrictions concerning age of the test takers, but the FASKU was only applied and tested in samples of individuals older than 15 years.

## 2.3 Application Time

An online pretest (n = 209) revealed that respondents spent on average 37.1 seconds on average to complete the FASKU (see Décieux et al., 2020a).

## 2.4 Material

For administering the FASKU, the test description with all information and the scale itself are needed.

## 2.5 Instructions

The instructions are standardized.

## 2.6 Administration Prerequisites

No administration prerequisites.


# 3. Test Construction

The FASKU complements the work of Beierlein and colleagues (2013), who developed the ASKU based on the 10-item scale by Schwarzer and Jerusalem (1999), though the ASKU uses only three items to assess GSE. This scale is especially useful as it meets all scientific criteria for collecting and providing objective and valid data. Furthermore, given its brevity, this short scale is relatively easy to incorporate as a supplement to a variety of survey types (Beierlein et al., 2013).

*Scale Development*

The French version was developed and tested by Décieux et al. (2020a). Based on the TRAPD approach (Translation, Review, Adjunction, Pretesting, and Documentation; Harkness, 2003), the items of the scale ASKU were translated from the original German version by two independent translators who are both native French speakers. In the second step, the translated drafts were discussed and modified by a group of experts including translators, scientists, and other stakeholders. In a review process, the research team decided on one version. The final draft was evaluated using several steps implying a backtranslation and feedback from field staff and bilingual respondents before a final version was developed.

*Test Data:*

Data was collected in 2014 as part of a quantitative study reported in the Luxembourgish Youth Report 2015 (Schumacher, Haas, Weis, & Heinen, 2015). The study was implemented by the University of Luxembourg in collaboration with the Ministère de l'Education nationale, de l'Enfance et de la Jeunesse (MENJE) of Luxembourg and entailed a paper-and-pencil survey with 1.716 young people between the ages of 15 and 35 years. Data were collected from 937 males (54.9 %) and 770 females (45.1 %).

*Scale Testing:*

The factor structure was tested with a confirmatory factor analysis (CFA; Décieux et al., 2020a). As in the original study by Beierlein et al. (2013), the factor loadings of all three indicators were set to be equal (representing an essentially tau-equivalent measurement model; Graham, 2006). The MLR $\chi 2$-test statistic with robust standard error (Yuan & Bentler, 2000) was calculated and full information maximum likelihood was used to account for missing data. Analysis was done with R version 3.6.0 (R Core Team, 2019) and the lavaan package (Rosseel, 2012). Results indicated that the single factor model presented a good fit to the data for the total and the German version (Décieux et al., 2020a). However, for the French version, the root mean square error of approximation (RMSEA) was quite high (see Table 2). Nevertheless, the confidence interval of the RMSEA covers a good model fit. Thus, the high RMSEA might also be due to a sample error. As the other fit indices were in an acceptable range, measurement invariance testing was conducted with the essentially tau-equivalent model as the basis for the configural model. The change in the comparative fit index (ΔCFI) was used to assess goodness of fit of

measurement invariance models. A CFI change of ≥ -.01 between a baseline model and the resulting model indicates measurement invariance (Little, 2013). According to the change in CFI values, configural and metric invariance as well as scalar invariance were confirmed for the two language versions: ASKU and FASKU (see Table 3).

Table 2

Fit Indexes of the Self-Efficacy Factorial Structures From Confirmatory Factor Analysis (Décieux, Sischka, Schumacher, & Willems, 2020a, 2020b)

| Version | χ2 | P | RMSEA [90% CI] | SRMR | CFI |
|---------|------|------|-------------------|------|-------|
| Total   | 4.489 | .106 | .027 [.000; .055] | .022 | .996  |
| German  | 1.546 | .462 | .000 [.000; .046] | .016 | 1.000 |
| French  | 13.400 | .001 | .095 [.057; .138] | .060 | .942  |

Notes. df = 2. RMSEA = root mean square error of approximation; RMSEA 90% CI = 90% confidence interval of root mean squared error of approximation; SRMR = standardized root mean square residual; CFI = comparative fit index.

Table 3

Test of Measurement Invariance and Fit Indices for Self-Efficacy One-Factor Model Across Language Versions (Décieux, Sischka, Schumacher, & Willems, 2020a, 2020b)

| Form of invariance | χ2 | df | p | RMSEA | ΔRMSEA | CFI | ΔCFI |
|--------------------|-----------|----|------|-------|--------|------|-------|
| Configural invariance | 14.104** | 4 | .007 | .055 |        | .985 |       |
| Metric invariance     | 14.513*  | 5 | .013 | .048 | -.007  | .986 | +.001 |
| Scalar invariance     | 21.310** | 8 | .006 | .044 | -.002  | .981 | -.005 |

Notes. RMSEA = root mean square error of approximation; CFI = comparative fit index.

# 4. Criteria

## 4.1 Objectivity

Objectivity refers to the degree to which a measurement is independent of the examiner (cf. Jacob, Heinz, & Décieux, 2019). This refers to different phases of an empirical study: the implementation, the evaluation and the interpretation. In the case of a paper and pencil interview (PAPI), the implementation objectivity depends on the situation in which the respondent completes the questionnaire. Here, for example, the presence of third parties or other distractions may cause a bias. Evaluation objectivity concerns the numerical and categorical evaluation of respondents' answering behaviour according to fixed rules (cf. Lienert & Raatz, 1998). According to Beierlein et al. (2013), these are fully given for ASKU

and thus also for FASKU, as the rules for calculating the values of the items are clearly defined and do not allow any room for interpretation. Interpretation objectivity is given if the conclusions drawn from the survey results are comparable across different researchers. To maximize the objectivity of interpretation, researchers' knowledge of the measuring intention of the scale and of the interpretation of the quantitatively measured values should be comparable (Rammstedt, 2010). By standardizing the evaluation and assigning a numerical measured value that describes respondents' level of general self-efficacy, the evaluation objectivity is given.

## 4.2 Reliability

Beierlein et al. (2013) already tested the reliability of ASKU. In Décieux et al. (2020a) reliability was satisfactory for the total sample (McDonald's ω = .77) as well as for the two language versions (German: ω = .80; French: ω = .73).

## 4.3 Validity

Beierlein et al. (2013) showed that the ASKU is a valid measure of general self-efficacy. Décieux et al. (2020a) additionally tested the construct validity of FASKU using intercorrelations to theoretically related constructs and corroborated the construct validity of the (F)ASKU scale (see Table 5 and Décieux et al., 2020a). Moreover, we tested the original German version of ASKU and the newly developed French version (FASKU) for different forms of measurement invariance. According to the change in CFI, configural and metric invariance as well as scalar invariance were confirmed across the two language versions (see Table 3 and Décieux et al., 2020a).

Table 4 details the results of the descriptive data analysis for the whole sample and the two language versions, ASKU and FASKU.

Table 4

Sample Size, Means, Standard Deviations, Skewness, Kurtosis, Reliability, and Completely Standardized Factor Loadings for the One-Factor Self-Efficacy Model (Décieux, Sischka, Schumacher, & Willems, 2020a, 2020b)

| Scale items | $n$ | Mean | *SD* | Skewness | Kurtosis | ML λ [95% CI] (ω) |
|---|---|---|---|---|---|---|
| Total | | | | | | (.77) |
| Item 1 ("Trust in own skills") | 1663 | 3.87 | 0.93 | -0.78 | 0.62 | .708 [.680; .737] |
| Item 2 ("Problem solving") | 1659 | 3.91 | 0.94 | -0.87 | 0.62 | .723 [.693; .754] |
| Item 3 ("Exhausting exercises") | 1659 | 3.91 | 0.89 | -0.75 | 0.57 | .756 [.727; .786] |
| German version | | | | | | (.80) |
| Item 1 | 1033 | 3.91 | 0.92 | -0.86 | 0.87 | .737 [.701; .773] |
| Item 2 | 1039 | 3.95 | 0.87 | -0.85 | 0.82 | .765 [.731; .799] |
| Item 3 | 1033 | 3.92 | 0.85 | -0.68 | 0.53 | .777 [.743; .811] |
| French version (FASKU) | | | | | | (.73) |
| Item 1 | 630 | 3.81 | 0.95 | -0.66 | 0.27 | .673 [.627; .719] |
| Item 2 | 620 | 3.86 | 1.05 | -0.82 | 0.49 | .663 [.609; .718] |
| Item 3 | 626 | 3.91 | 0.96 | -0.82 | 0.49 | .719 [.665; .773] |

Notes. ML = maximum likelihood estimation; λ = factor loading; McDonalds's ω in brackets.

Table 5

Correlations Between FASKU and Relating Factors (Décieux, Sischka, Schumacher, & Willems, 2020a, 2020b)

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
|---|---|---|---|---|---|---|---|---|---|
| 1. ASKU | | | | | | | | | |
| 2. Gender[a] | -.07** | | | | | | | | |
| 3. Age | .06** | -.02 | | | | | | | |
| 4. Int. locus of control | .44** | .00 | -.01 | | | | | | |
| 5. Ext. locus of control | -.09** | -.06** | .02 | -.15** | | | | | |
| 6. Engagement | -.13** | .06* | .12** | -.13** | .13** | | | | |
| 7. Work climate | .11** | -.03 | -.06* | .15** | -.09** | -.06* | | | |
| 8. Personal learning | .08** | .04 | -.18** | .12** | -.03 | -.10** | .47** | | |
| 9. Work self-realization | .11** | .12** | .04 | .12** | -.03 | .00 | .12* | .17** | |
| 10. Goal achievement | .28 | .03 | -.02 | .19 | -.06 | -.01 | .25 | .11 | .17 |
| 11. Self -esteem | -.15 | .02 | -.01 | -.28 | .31 | -.01 | -.10 | -.03 | -.02 |

Note. * $p < .05$, ** $p < .01$, *** $p < .001$; n varies between 1,095 and 1,679; [a] higher values depict female. Int = internal; Ext = external.

## 4.4 Norms

The overall mean of the FASKU was M = 3.86 (*SD* = 0.80). Men scored slightly higher on GSE (*M* = 3.91, *SD* = 0.81) than women (*M* = 3.80, SD = 0.79, *t*(1; 1,670) = 2.76, *p* = .001 *d* = −.14; 95 % CI [−.23, −.04]). Participants who chose to complete the German language version of the ASKU had a mean score of M = 3.90 (*SD* = 0.77), and participants who completed the French version (FASKU) had a mean score of M = 3.79 (*SD* = 0.84, *t*(1; 1,677) = 2.200, *p* = .01, *d* = −.14; 95 % CI [−.23, −.04]).

# 5. Applications

The ASKU was developed as a research instrument for inclusion in social science studies of various kinds and questions. Therefore, the general population can be seen as the target group. Excluded are persons whose linguistic or cognitive abilities or whose perceptive skills, e.g., due to visual or hearing impairment, are insufficient to understand the items (see Décieux et al., 2020a).

In principle, the ASKU can be used in different survey modes–online or in a paper-and-pencil format. However, before using the ASKU in mixed-mode designs, measurement invariance between the different data collection modes should be checked.

# 6. Abstract

Diagnostic Scope: The FASKU is an economical instrument for recording individual competence expectations of dealing with difficulties and obstacles in daily life. It was originally developed and validated in German by Beierlein, Kemper, Kovaleva, and Rammstedt (2013).

Procedure: The FASKU contains three items.

Background and Construction: In 2019, the authors developed and tested a French version of this scale (FASKU) and tested it for reliability (internal consistency), validity, and measurement equivalence towards the original German Version (see Décieux et al., 2020a).

Empirical Examination and Criteria: The provided evidence on the quality of the German and the French Version of ASKU (FASKU) indicates that the scales allow a reliable, valid, and economical assessment of subjective competence expectations and that the two language versions can be used to assess and compare self-efficacy in German- and French-speaking populations.

# 7. Evaluation

The FASKU provides a provide reliable, valid, and economical assessment of subjective competence expectations concerning GSE and, together with ASKU, it can be used to assess and compare self-efficacy in German- and French-speaking populations.

# 8. References

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