

VALIDATION OF THE LATER LIFE WORKPLACE INDEX (LLWI)

Process and Standards Formulated by the LLWI International Research Group

The LLWI International Research Group is an informal project group dedicated to facilitating research on aging workforces and organizational practices using the Later Life Workplace Index (LLWI). The group and number of LLWI language versions available are growing rapidly. Hence, we have created a structured procedure for researchers interested in validating a new language version of the LLWI to get an overview of our validation and publication quality assurance process. We developed these guidelines based on our prior experience of validating more than fifteen different LLWI language versions across the globe. If you plan to validate a new LLWI language version, we would like you to carefully read over the information on the next couple of pages.

The information includes details on

- the translation procedure,
- the sample requirements,
- and the measurement requirements

for LLWI validation studies. For the translation and adaptation of the LLWI for every country, we strongly recommend following the ITC Guidelines for Translating and Adapting Tests (second edition) published by the International Test Commission (2017). You can download these guidelines here:

https://www.intestcom.org/files/guideline_test_adaptation_2ed.pdf

Please look into legal and cultural necessities to reflect the conditions in the respective countries. If you have any questions regarding the information, please do not hesitate to contact Mattea Wehage (mattea.wehage@leuphana.de).

We are happy to share our experience and collaborate with you. Simply read through the material and create a proposal for your LLWI validation study, including an overview of the variables you plan to collect data on for validation testing and the type of sample you intend to collect. Please send this document to Mattea Wehage. We will then review your proposal within our Research Group and get back to you with feedback. Upon successful validation of the LLWI, we are happy to invite you to join our LLWI International Research Group to facilitate further opportunities for scientific exchange and collaboration.

Validation studies conducted to develop new language versions of the LLWI long or short form should adhere to the following requirements:

1. Translation Method

(see Beaton et al., 2000; Brislin, 1970; Guillemin et al., 1993; van de Vijver & Poortinga, 1997)

The translation process should follow a translation-back-translation technique. The following description shows the minimum requirements. Feel free to use a more elaborate procedure (e.g., pretesting, several translation rounds).

- a. Forward translation
 - Selection of source language: Ideally, the original German items should be used for the translation. Alternatively, the English-language items can be used. If you use the English-language items, please look at the adaptations that had to be made to fit the U.S. context to examine if the original German-language item's meaning might be more fitting for your country's context.
 - A **first** bilingual translator translates source language items into the target language. You may use more than one bilingual translator for this step.
- b. Back translation
 - A **second** independent bilingual translator (independent from the first translator and without background knowledge of the LLWI) translates the target language items back into the source language. Again, you may use more than one bilingual translator for this step.
- c. Expert committee review
 - Compare the original and back-translated items within your team to judge equivalence. If needed, consult the translators and LLWI International Group Members.
 - If you used the English-language items and want to make adaptations, please take a look to ensure that the adaptations are also in line with the original German-language items.
 - Reach a consensus on the discrepancies and revise the translated items where necessary.

2. Sample Requirements

- a. Sample size: $N = 300$ (employees, about 30% with supervising position if possible)
- b. Characteristics
 - Aged 50 and older
 - Target language as the first language
 - Working at least 20 hours (50% full-time) for one employer
 - No employees of a temporary work agency
 - Employers with at least 30 employees

3. Measurement Requirements

- a. **Later Life Workplace Index (80 items from Wilckens et al., 2021; Finsel et al., 2023; translated into your language)**

b. Discriminant validity

At least one construct has to be included to test for discriminant validity.

In prior validation studies, we have applied the following constructs and scales for this purpose:

- Positive and negative affect (10 items from Thompson, 2007)
- Extraversion (BFI-10; Rammstedt & John, 2007)

You can choose to select a different construct that is (un)related to the LLWI's nomological network.

c. Convergent validity

At least one construct has to be included to test for convergent validity.

In prior validation studies, we have applied the following construct and scale for this purpose:

- Age Inclusive HR Practices (5 items from Boehm et al., 2014)

You can choose to select a different construct that is related to the LLWI's nomological network.

d. Criterion validity

At least three constructs have to be included to test for criterion validity.

The first of these constructs should be an attitudinal outcome. In prior validation studies, we have applied the following construct and scale for this purpose:

- UWES-3 Utrecht Work Engagement Scale (3 items from Schaufeli et al., 2017)

The second of these constructs should be a health-related outcome. In prior validation studies, we have applied the following construct and scale for this purpose:

- WHO5 Well-Being Index (5 items from Topp et al., 2015)
- Perceived health (4 items from Adams & Beehr, 1998)

The third of these constructs should be an intentional or behavioral outcome. In prior validation studies, we have applied the following construct and scale for this purpose:

- Turnover intentions (3 items from Kim & Stoner, 2008)
- Post-retirement work intention (3 items from Wöhrmann et al., 2013)
- Self-rated performance (4 items from Eisenberger et al., 2001)

You can choose to select constructs that are related to the LLWI's nomological network other than the ones listed here.