

# Computer Literacy and Attitudes toward the Computer: On the Equivalence of Online- und Paper-Pencil-Assessments

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Conducting online-assessment of psychological variables one is faced with the question if and how the measurement is affected by the particular structure of this assessment method. A further problem consists in the (self-)selectivity of samples. In the present study, the equivalence of the online- and the paper-pencil-version of an instrument for the comprehensive assessment of computer literacy (declarative and procedural computer knowledge, self-confidence in using the computer and familiarity with computer applications) and attitudes toward the computer was tested. For that purpose comparisons between four different samples were conducted: one sample of WWW-users ( $n_1 = 51$ ), one sample of university undergraduates who responded online but in a standardized test situation ( $n_2 = 25$ ), one sample of student users of university computer pools ( $n_3 = 52$ ), and one sample of university undergraduates ( $n_4 = 104$ ) who both filled in the paper-pencil-version of the instrument. Although differences in the group means of some of the variables were found, both versions of the instrument can be regarded as equivalent in view of psychometric properties and scale intercorrelations. The results are interpreted in the light of the composition of the subsamples. General consequences for the design of equivalence studies are discussed.

Keywords: Computer literacy - attitudes toward the computer - online-assessment - paper-pencil-assessment

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