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## Technical Brief

# Kuder Skills Confidence Assessment<sup>®</sup> - Adult 2012 (KSCA-A 2012)

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The **Kuder Skills Confidence Assessment®-Adult 2012 (KSCA-A 2012)** is designed to be optimally efficient, while meeting or exceeding the latest technical standards of reliability, validity, and fairness set forth by the Joint Committee of the American Psychological Association, the American Educational Research Association, and the National Council on Measurement in Education (Standards, 1999).

The aim of the KSCA-A 2012 is to determine the relative self-efficacy of the respondent in each of the six areas of the respondent's Holland profile. These self-efficacy scores are then used to identify the O\*NET occupations, and 16 National career clusters and pathways, that best match the respondent's self-efficacy, based on the value of a Euclidean distance similarity index. The average time to complete the KSCA-A 2012 is seven minutes. The Holland scores for O\*NET occupations are compiled from the most recent version of the O\*NET database (as of Aug. 6, 2012, this will be version 17.0). The Holland scores for National clusters and pathways are based upon the median scores for occupations that the National Association of State Directors of Career Technical Education Consortium (NASDCTEc) has identified as composing the respective clusters and pathways.

To ensure that the KSCA-A 2012 scores reliably and validly reflect self-efficacy in the six Holland areas, with efficiency and without bias, a number of psychometric research and development activities were undertaken prior to its release. These activities involved the use of a) an initial pool of 170 potential Likert-type items aimed at measuring self-efficacy in the six Holland areas; b) a panel of five incontrovertible international leaders<sup>1</sup> in career counseling and guidance for various formal judgmental exercises; and c) item-by-item response data from a national sample of 2,000 respondents for various statistical analyses. To date, five sets of analytic activities addressing five aspects of reliability, validity, and fairness have been undertaken and additional research and analyses are currently planned and continuing. Below is a summary of the developmental and analytic activities thus far:

1. Reliability and item analyses (classical true-score approach) to optimize reliability and item discrimination, while minimizing the number of items needed. Final reliability coefficient values range from .85 to .93. All item discrimination values are above .50.
2. Formal iterative content validation exercises to optimize validity based on content representation and relevance. Only items with higher than 80% consensus are retained.
3. Formal sensitivity reviews to detect potentially biased items for elimination or modification. Items with more than 20% responses indicating potential concerns are flagged for discussion followed by either revision or removal.
4. Factor analyses (alpha factoring, parallel analyses, oblimin rotation) to derive and optimize evidence of validity based on internal structure. Results provided strong evidence of structural consistency with the Holland model.
5. Differential item functioning (DIF) analyses (polytomous logistic regression, Zumbo-Thomas criterion) to detect potential gender and race/ethnic biases. All final items meet the Zumbo-Thomas criterion of fairness.

The result of these R&D activities is the final version of the KSCA-A 2012 that includes only 52 of the best items from the initial pool of 170. These 52 items together measure the level of self-efficacy of a respondent in the six Holland areas with high levels of reliability, strong evidence of validity based on content, strong evidence of validity based on internal structure, strong evidence of freedom from gender or race/ethnic bias, and strong evidence of freedom from biased, insensitive, stereotypic, or offensive content, context, or language.

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<sup>1</sup> Drs. JoAnn Harris-Bowlsbey, Spencer Niles, Jack Rayman, Jerry Trusty, and Donald Zytowski  
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