

# Scientific Reasoning Scale in Italy: Validation Studies

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Validating a scale across different cultural contexts is crucial for enhancing the construct's cross-national applicability and supporting its validity, especially regarding generalizability in varied administrative settings. Defining constructs is essential for developing psychological theories, as a reliable measurement is needed before empirical study can occur. Construct validation, gathering evidence that the instruments created by scientists actually measure the constructs that scientists claim they measure, is a necessary part of the research process.

This study presents the validation of the Italian version of the Scientific Reasoning Scale (SRS), addressing the lack of a standardized measure of scientific reasoning in the Italian context. We employed a multi-study, multi-method approach, including back-translation, pilot testing, expert interviews, cognitive interviews, and Structural Equation Modeling, to evaluate the psychometric properties and validate the scale. A representative sample of 897 adult Italians participated.

Consistent with contemporary view of validity, diverse validity evidence was collected. Confirmatory Factor Analysis confirmed the scale's unidimensional structure and good composite reliability. Multi-group analyses revealed full measurement invariance across gender, age, employment status, political orientation, and religious affiliation, enhancing generalizability and minimizing measurement bias. Notably, higher-educated individuals scored better on the SRS. Convergent validity was supported by correlations with the Cognitive Reflection Test and the Probabilistic Reasoning Scale, while criterion-related validity was established through associations with climate change awareness and various paranormal health beliefs.

The validated Italian SRS is a valuable tool for researching scientific reasoning and contributes to the global effort to improve scientific literacy, aligning with the goals of PISA 2025.

**If you're submitting a symposium talk, what's the symposium title?**

**If you're submitting a symposium, or a talk that is part of a symposium, is this a junior symposium?**

**Primary authors:** CALICIURI, Rossella (Università Cattolica del Sacro Cuore); Prof. LANZ, Margherita (Università Cattolica del Sacro Cuore)

**Presenter:** CALICIURI, Rossella (Università Cattolica del Sacro Cuore)

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