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New perspectives for developing short forms of tests

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As a general rule of thumb, the higher the number of items in a test, the better the measurement in terms of validity and reliability. However, there is a trade-off between the number of administered items and response quality. One of the challenges psychometrics and mathematical psychology have tackled is the development of short forms that could preserve the validity and reliability of measurements. This symposium presents five contributions where existing and new procedures for shortening tests and questionnaires are explored from different perspectives. Specifically, one contribution falls under machine learning, applying a genetic algorithm and the Spearman-Brown prophecy to shorten a typical performance test developed using Classical Test Theory. Another contribution presents a new Item Response Theory-based algorithm for shortening tests, which aims at maximizing the measurement precision while minimizing the number of administered items and accounting for the response fatigue. Two contributions present the potential of Knowledge Space Theory to generate short forms both within and outside the computerized adaptive testing framework. Finally, one contribution discusses the use of adaptive forms for monitoring mental health symptoms.

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

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