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## More Validity Evidence, Please!

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Greetings from us, the editorial board of *Education in Medicine Journal*. For this issue, allow me start with my personal experience. When I started my research journey in questionnaire validation way back in 2011, I was introduced to confirmatory factor analysis (CFA) by Associate Professor Dr. Muhamad Saiful Bahri Yusoff (Dr. Saiful), this journal's editor-in-chief. This was one of the methods to provide confirmatory evidence of the internal structure of a questionnaire. This early journey resulted in an article utilising CFA (1). Later, we wrote an educational resource comparing the traditional item analysis to that of item response theory (IRT) approach (2). Recently, I wrote an educational resource highlighting a web-based sample size calculator, with specific application to calculate sample sizes for the reliability component of validation studies (3). All these are part of our effort to ensure quality internal structure evidence and sample size planning prior to starting a research among us medical educationists.

Apart from that, over the years Dr. Saiful has been promoting the use of Delphi technique, content validity index (CVI) and face validity index (FVI). Again, these are his ongoing effort to promote systematic questionnaire content development and objective assessment of the generated

content. You may have a look at several recent examples in this journal (4, 5, 6).

Now we come to the main point of this editorial, which is about validity evidence. Why I bother highlighting some of our works up there? We would like to emphasise the importance of ensuring the quality of assessment tools, most often in form of questionnaires. And with that regard, the validity of the tools being used in any research.

Generally, there are five sources of validity evidence that we should strive for: content, response process, internal structure, relations to other variables, and consequences, of which the details can be referred to Cook and Beckman (7). These sources of evidence are commonly reported in several separate articles because of the overwhelming details for each validity source. We would like to invite you to contribute to this journal by sharing your research and providing all the details about the tools that you developed or translated.

In addition, we are yet to receive any article utilising IRT despite our introduction to the topic two years ago (2). We gladly welcome research articles reporting IRT analysis results, for example the analysis can be applied to analyse knowledge-based

questionnaire consisting of binary (yes/no) items. Please take this as a challenge to all of you medical educationists to break out of your comfort zone and apply the analysis in your next research. And please do not forget to share the research with us! Best regards from us.

## REFERENCES

1. Arifin WN, Yusoff MSB, Naing NN. Confirmatory factor analysis (CFA) of USM emotional quotient inventory (USMEQ-i) among medical program applicants in Universiti Sains Malaysia (USM). *Education in Medicine Journal*. 2012;4(2):e26–44.
2. Arifin WN, Yusoff MSB. Item response theory for medical educationists. *Education in Medicine Journal*. 2017;9(3):69–81. <https://doi.org/10.21315/eimj2017.9.3.8>
3. Arifin WN. A web-based sample size calculator for reliability studies. *Education in Medicine Journal*. 2018;10(3):67–76. <https://doi.org/10.21315/eimj2018.10.3.8>
4. Ozair MM, Baharuddin KA, Mohamed SA, Esa W, Yusoff MSB. Development and validation of the knowledge and clinical reasoning of acute asthma management in emergency department (K-CRAMED). *Education in Medicine Journal*. 2017;9(2):1–17. <https://doi.org/10.21315/eimj2017.9.2.1>
5. Mahadi NF, Chin RWA, Chua YY, Chu MN, Wong MS, Yusoff MSB, Lee YY. Malay language translation and validation of the Oldenburg burnout inventory measuring burnout. *Education in Medicine Journal*. 2018;10(2):27–40. <https://doi.org/10.21315/eimj2018.10.2.4>
6. Lau S-YA, Yusoff MSB, Lee Y-Y, Choi S-B, Rashid F, Wahid N, Xiao J-Z, Liong M-T. Development, translation and validation of questionnaires for diarrhoea and respiratory related illnesses during probiotic administration in children. *Education in Medicine Journal*. 2017;9(4):19–30. <https://doi.org/10.21315/eimj2017.9.4.3>
7. Cook DA, Beckman T. Current concepts in validity and reliability for psychometric instrument: theory and application. *The American Journal of Medicine*. 2006;119(166):e7–16. <https://doi.org/10.1016/j.amjmed.2005.10.036>