
TO THE EDITOR: We were interested to read the article by Tan et al.1 The authors aimed to quantitatively determine how the reliability indices in standard automated perimetry affect the global indices of visual field sensitivity in nonglaucomatous eyes. A total of 830 adults aged 40 to 80 years, without visual impairment, glaucoma, significant cataract, and major eye diseases, were selected from the population-based Singapore Chinese Eye Study. Test reliability indicated by the false-negative, false-positive, and fixation loss rates. Global indices indicated by the mean deviation and pattern standard deviation. They mentioned the effects of the test reliability on global indices were analyzed with multivariable regression models.

Based on their results, at higher frequencies (≥15%), the false answers influenced the mean deviation to a greater extent, where the β for the associations with false-negative and false-positive rates was −1.15 and 1.26 dB, respectively (both P < 0.001).

It is crucial to know that reliability (precision, repeatability) and validity (accuracy) are 2 completely different methodologic issues.2 False-positive and false-negative as well as sensitivity, specificity, positive predictive value, negative predictive value, and likelihood ratios positive and negative are among the estimates to assess validity (accuracy) of a diagnostic test and have nothing to do with reliability.2-5 Reliability (precision) as a different methodologic issue should be assessed using appropriate tests. For qualitative variables, the weighted kappa can be applied with caution. Regarding quantitative variables, the intraclass correlation coefficient and Bland-Altman plot are among the well-known approaches.2-5

The authors claimed to quantify the effect of unreliable responses on the mean deviation and pattern standard deviation in standard automated perimetry. Such a sweeping conclusion should be supported by these methodologic and statistical issues on reliability and validity. In this letter, we distinguish the methodologic differences between reliability and validity. These differences should be taken into account in reliability and validity issues by clinical researchers. Otherwise, misinterpretation of the result may occur.

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