UC Irvine

Title

Visual Analog Scales as a Global Assessment Method of Acting Internship Student Clinical Performance

Permalink

https://escholarship.org/uc/item/98863587

Journal

ISSN

Authors

Hiller, K M
Stolz, U
Waters, K

Publication Date

2014

Copyright Information

Peer reviewed

27 Visual Analog Scales as a Global Assessment Method of Acting Internship Student Clinical Performance

Hiller KM, Stolz U, Waters K/University of Arizona, Tucson, AZ

Background: Visual Analog Scales (VAS) are a rapid and reliable method of global assessment that finely discriminate clustered variables. Medical student assessment in the Emergency Department (ED) is commonly performed using Likert scales (LS), which restrict the rater to predetermined, frequently anchored, categories.

Objectives: Because Acting Internship students (AI) are frequently scored very similarly on shift, VAS may better discriminate global performance between students.

Methods: In this quality improvement project, we included a 10 cm VAS (0=best student with whom I have ever worked, 10=worst student with whom I have ever worked) after traditional evaluation of AI students in the ED. Evaluation scores (ES) are an average of anchored LS (1-5) for energy/interest, fund of knowledge, judgment/problem solving ability, clinical skills and personal effectiveness. Because students had multiple evaluations, and faculty evaluated multiple students, we included both faculty and students in our final model as random effects, using mixed effects linear regression.

Results: A total of 107 VAS and ES were analyzed for 11 students by 27 faculty. Means and standard deviations of the ES and VAS were 4.1 (0.5) and 3.0 (1.7) respectively. Pearsons correlation was 0.53. For a 1 point change in ES, we observed a 1.7 mm change in VAS. For example, two students with a 1 point difference in ES, there would be a 1.7 mm change in the VAS score.

Conclusions: ES based on LS were tightly clustered and only used roughly half of the scale. VAS scores were more widely distributed across the entire scale. Much, but not all, of an end of shift global assessment of students (VAS) was predicted by their ES. The VAS appears to incorporate more information than is contained in the ES, despite the scoring of multiple domains via LS, and it had a wider distribution. When used by seasoned evaluators, VAS may be better able to discriminate students who are tightly clustered near the mean.
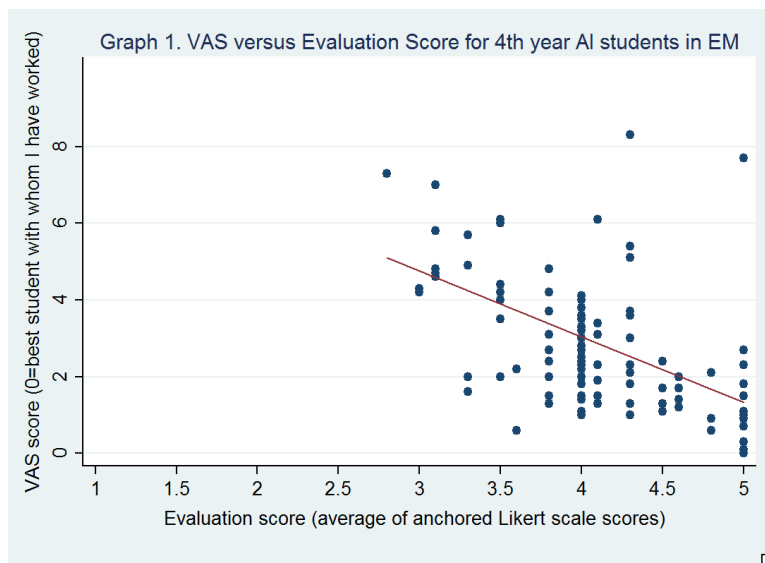

Graph 1. VAS versus Evaluation Score for 4th year AI students in EM

VAS score (0=best student with whom I have worked)

Evaluation score (average of anchored Likert scale scores)

Figure 1.