LETTER

Response to PCOA Letters to the Editor

To the Editor: The purpose of our review¹ was to neither promulgate nor suppress the Pharmacy Curriculum Outcomes Assessment (PCOA) examination but rather to review available data and inform the Academy. We appreciate the authors' rigorous and spirited defense of the examination and explicit scrutiny of the precise language used within the review. We do not disagree with many of the assertions made by Davis and Incrocci and, in fact, contend that most of these clarifications actually represent what is stated in the text of the manuscript. Of note, the manuscript was authored in late 2015 before the National Association of Boards of Pharmacy (NABP) conducted the aforementioned survey and when only a previous version of the registration/administration guide was available by website.

The manuscript neither endorses nor disapproves of the use of the PCOA as a high stakes examination, but rather informs the reader that some institutions do in fact use the assessment in this manner, and some do not. We appreciate the authors reiterating the advisement of NABP in this regard. We acknowledge that a new content blueprint was implemented in 2016 (of note, our review was accepted in April of that year). In our manuscript we specified some changes to the examination that transpired in mid-2015 but did not specifically term this as "implementation of a new content map." With regards to comments related to linkages between the PCOA and Accreditation Council for Pharmacy Education (ACPE) standards for doctor of pharmacy degree programs, it is unclear what argument the authors are making in so much as they reiterate that PCOA competency statements "reflect the ACPE Standards 2016, Appendix 1, and the Center for the Advancement of Pharmacy Education (CAPE) Educational Outcomes." Competency statements are derived from the standards, and CAPE outcomes are used to build a curricular survey that is then used to drive the number of items on the examination in particular areas. We contend that this demonstrates a rather strong linkage between the standards and the examination.

We concur with the authors that the Rasch item response theory is "a type of item response theory." However, we do not find that there is much value in semantics associated with the descriptor "psychometric education

model." We did not intentionally nor unintentionally imply that item difficulty scores are derived exclusively from a given test window; rather, we were referring to comparator summative scores that are provided to end users within a given test window for the purposes of making comparisons to peers within that window. The authors misconstrue our comments regarding the testing fee. All schools are required by ACPE to administer the test in accordance with Standards 2016 (eg, the first administration to a cohort nearing the end of the didactic years). Any testing beyond these parameters or repeat testing of cohorts does indeed incur an additional fee. With regards to repeat testing, we concur that if the examination is not administered multiple times that testing bias may not occur. This is self-evident. However, some schools do indeed administer the examination repeatedly, and even if multiple test forms and questions are used, these students may be at an advantage given the simple fact that they have had an opportunity to at least "practice" test-taking using this assessment. Much in the same way that the Pre-Scholastic Aptitude Test (P-SAT) is used to prepare students for the Scholastic Aptitude Test (SAT).

In terms of limitations related to the PCOA as discussed in our review, the authors acknowledge that proximal effects are possible with regards to materials that are taught closer to a given administration window. This seems to be an inevitable phenomenon associated with any assessment. The movement of material across a curriculum may or may not rectify this issue, as something will always be instructed around the time an examination is administered. Finally, we thank the authors for their clarifications and for acknowledging that the PCOA (like any assessment) does indeed have some limitations.

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REFERENCE

1. Mok T, Romanelli F. Identifying best practices for and utilities of the pharmacy curriculum outcomes examination. *Am J Pharm Educ.* 2016;80(10) Article 163.