

# Professionalism in medical students: what actually makes a difference? [Letter]

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Kiran Pillai   
Muhammed Kermali   
Ahsan Rashid 

Faculty of Medicine, Medical Student at St  
George's, University of London, London, UK

## Dear editor

We read with great interest the study by Selic et al.<sup>1</sup> regarding the influence of personal values and characteristics on attitudes towards professionalism. Their results were fascinating, demonstrating that female gender, acceptability and striving for professional goals were positively associated with professionalism. It seems that there are no previous studies that have focused on similar factors.<sup>1</sup> Thus, the study provides a novel insight into the determinants of professionalism amongst medical students.

We commend the work performed by Selic et al.<sup>1</sup> However, we believe some factors need to be addressed. Firstly, the samples of the two faculties were analysed together. Although they “did not differ in any demographic characteristics”,<sup>1</sup> we wonder whether there are differences in teaching between both faculties, which may shape students’ attitudes to professionalism. As a result, the larger sample size from the Faculty of Medicine in Ljubljana could skew the results. Analysing the two faculties separately may allow these potential differences to be observed.

Secondly, the questionnaire required 45 mins to complete, which is a significant amount of time for students to dedicate to an optional questionnaire. It is entirely possible that those who gave consent tend to have a shared characteristic, which may introduce selection bias. For example, those who agreed to participate may be more agreeable and conscientious. Consequently, any inferences made from the results may only apply to the sample itself. This point is emphasised further when we consider the modest response rate of 56.1%. Adapting the questionnaire to reduce the approximate completion time may increase the response rate, and improve the representation of sub-groups in the target population.

Furthermore, the study used the Scale for Assessment Attitudes towards Professionalism (PAS) as the instrument to assess professionalism in medical students. Klemenc-Ketis et al.<sup>2</sup> found that PAS was valid and reliable for this purpose. However, concerns over PAS were raised in a recent systematic review by Li et al.,<sup>3</sup> which evaluated various instruments’ measurement properties and studies’ methodological quality. Using Terwee’s criteria and Consensus-based Standards for the Selection of health status Measurement Instruments (COSMIN) checklist, this review found that although PAS performed positively in internal consistency, it performed negatively in structural validity. Subsequently, PAS was not included in the three recommended instruments identified by the review. We propose that one of these recommended instruments may be more appropriate in assessing professionalism, such as the Perceived Faculty Competency Inventory (PFCI).<sup>3</sup>

Correspondence: Ahsan Rashid  
Medical Student at St George's, University  
of London, Cranmer Terrace, London  
SW17 0RE, London, UK  
Email m1600794@sgul.ac.uk

Interestingly, hierarchical linear regression modelling “explained only 36% of the variance of attitudes to professionalism”.<sup>1</sup> This suggests that there may be other factors that influence professionalism, which has not been evaluated in the study. For example, one study found that nurses who participated in professional ethical training scored higher in professional values.<sup>4</sup> We wonder whether offering similar ethical training programmes to medical students would also be beneficial. Further studies that explore this, in addition to other determinants, are indicated. Provided these factors are modifiable, this research may help to transform the current medical curriculum, encouraging a more positive attitude to professionalism.

## Disclosure

The authors report no conflicts of interest in this communication.

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