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Exploring the relationships between knowledge and skills assessments in Dental Therapy and Hygiene students as a function of prior qualifications

Daniel Zahra, Louise Belfield, Clare Mcilwaine, Kamran Ali, Jon Bennett, and Sveta Zanic

AIM: To explore the relationships between knowledge and skills based assessments within a 3-year Dental Therapy and Hygiene (DTH) programme, and assess differences in performance as a function of prior qualifications

INTRODUCTION: Plymouth's DTH students follow a programme of study in which their modules are integrated with colleagues enrolled on the Bachelor of Dental Science (BDS) programme. The DTH course accepts candidates with a range of backgrounds, providing an excellent opportunity to investigate effects of prior qualifications, knowledge and skills.

METHODS: Relationships between assessments were explored with correlational analyses, the impact of demographic factors and prior qualifications were evaluated using linear regression. Qualifications data were derived from entry applications. Data are from 43 students across stages.

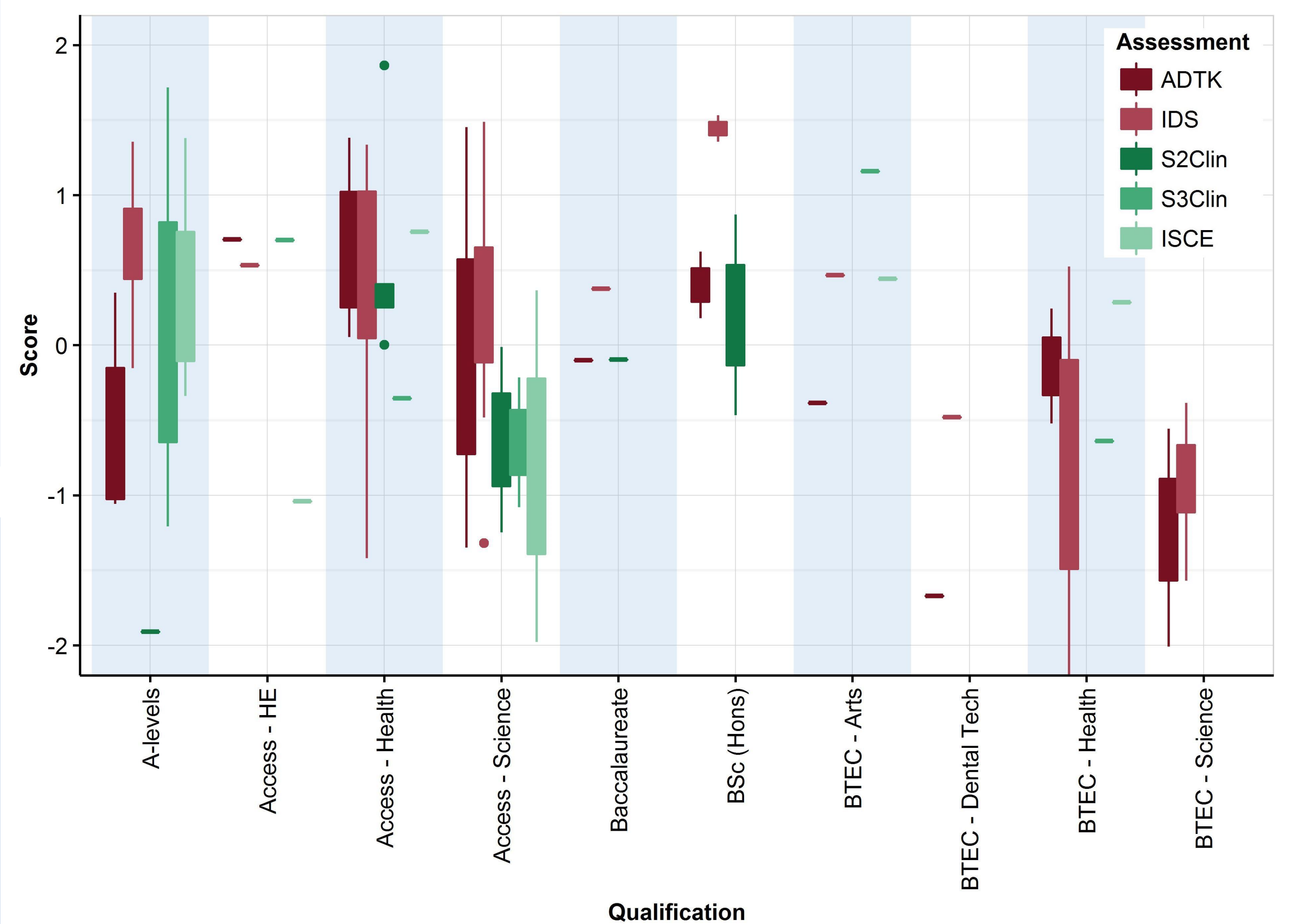
Knowledge:

- Average z-score for Applied Dental Therapy Knowledge (ADTK) MCQs.
- Average z-score for Integrated Dental Science (IDS) MCQs.

Clinical:

- Average of the latest clinical assessments for stages two and three (S2 and S3 Clinical).
- Stage three Integrated Structured Examination (ISCE) scores.

RESULTS: Initial exploration of the data reveals strong positive correlations between knowledge-based assessments. ADTK also shows a positive correlation with clinical performance, particularly in Stage 2. Prior-qualifications show some impact on performance in all assessments. Access courses to Health and HE are associated with better overall performance, whereas BTEC courses are generally associated with poorer knowledge and clinical performance, after controlling for demographic factors. Undergraduate degrees tended to be associated with higher performance in both domains where data was available.



CONCLUSIONS: Although based on data from a relatively small sample, knowledge-based assessments appear to show some evidence of differential impact of prior qualifications. Undergraduate degrees, and access courses with a Health and HE focus as prior qualifications are associated with better performance in both knowledge and clinical assessments than BTEC or general science-focussed qualifications. We hope to develop this work as the programme matures and more students progress through the stages.

Correlations between performance in different assessments:

Assessment	ADTK	ISCE	S2 Clinical	S3 Clinical
IDS	0.687 ^{p<0.001}	0.385 ^{p=0.306}	0.010 ^{p=0.986}	-0.074 ^{p=0.850}
ADTK		0.432 ^{p=0.245}	0.701 ^{p=0.016}	0.203 ^{p=0.560}
ISCE				0.520 ^{p=0.153}

