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Understanding the Factors Affecting Medical Student Performance in Rural and Metropolitan Campuses

Aim: To examine the performance outcomes of the first two years of delivery of the UNSW medicine program in a rural setting.

Background: Multiple studies suggest that exposure of medical students to a rural medical environment may increase regional and rural career preferences, helping to address the shortage of medical professionals in nonmetropolitan areas. However, few studies have examined the educational outcomes of rural training programs.

Method: A multiple regression analysis was carried out on examination data from all 177 metropolitan and rural students enrolled in 2017, to investigate the factors affecting student performance. Independent variables included: demographics, admission path, admission scores and campus of study, while dependent variables consisted of student academic and clinical skills examination outcomes.

Results: The data demonstrate that the weighted average mark (WAM) of students studying in Port Macquarie was predicted to be >6 points higher compared to students studying at the Kensington campus (table 1). Gender also had a significant effect on performance in clinical communication skills (table 2) and physical examination skills (table 3) in the OSCE, with being female having a positive impact on both, while the impact of all other variables was controlled.

Model		Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B	
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound
1	(Constant)	-32.420	58.150		-.558	.578	-147.224	82.384
	Gender.rec	1.753	1.502	.092	1.167	.245	-1.213	4.719
	Admission.Path	-2.497	2.747	-.116	-.909	.365	-7.920	2.926
	UAC Rank	.966	.501	.201	1.930	.055	-.022	1.955
	Interview Score 1 (number)	-.030	.079	-.030	-.385	.701	-.186	.126
	UMAT Score 1	.123	.103	.117	1.200	.232	-.080	.327
	UMAT Score 2	.016	.088	.014	.180	.858	-.158	.190
	UMAT Score 3	.007	.110	.006	.066	.947	-.210	.225
	Age @ 1.1.2017	.269	.719	.030	.375	.708	-1.150	1.688
	Campus.rec	6.597	3.165	.174	2.084	.039	.348	12.845

a. Dependent Variable: WAM

Table 1: Studying at Port Macquarie had a positive impact on overall WAM while the impact of all other variables was controlled.

Model		Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B	
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound
1	(Constant)	85.511	33.923		2.521	.013	18.528	152.493
	Gender.rec	2.213	.882	.200	2.511	.013	.473	3.954

a. Dependent Variable: Physical Examination

Table 2: Being female had a positive impact in the General Communication component in OSCE, while the impact of all other variables was controlled

Model		Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B	
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound
1	(Constant)	47.814	28.277		1.691	.093	-8.021	103.649
	Gender.rec	2.471	.735	.270	3.362	.001	1.020	3.921

a. Dependent Variable: General Communication

Table 3: Being female had a positive impact in the Physical Examination component in OSCE, while the impact of all other variables was controlled

Conclusion and Next Steps: These preliminary results demonstrate that the Phase 1 undergraduate medical education program taught at UNSW RCS does not compromise medical students' performance and may improve their overall outcome measures. We will continue to evaluate each cohort to add to the data on the educational outcomes of rural training programs.