

**Table 5a**

Summary of differences in demographic variables in BIO1 and BIO2 courses when comparing pre- and postcourse sums for each construct on the Self-Efficacy Survey. For ethnicity, Kruskal Wallis tests were performed, and for all other variables, Mann-Whitney U tests were performed. Asterisks indicate significantly different results between pre- and postcourse construct sums.

ED = Experimental Design; CO = Communication/Collaboration; SL = Scientific Literacy

\* $p < 0.05$ ; \*\* $p < 0.01$ ; \*\*\* $p < 0.001$

	Demographic variable	PreED	PostED	PreCO	PostCO	PreSL	PostSL
BIO1	Ethnicity						
	Pell eligibility	*		**		**	
	Gender		*	**	*	*	
	First-generation status						
BIO2	Ethnicity	*		**		***	**
	Pell eligibility					*	
	Gender						
	First-generation status						

**Table 5b**

All demographic variable results for BIO1. For the ethnicity variable,  $p$  values are from Kruskal Wallis tests, effect sizes are eta-squared (Tomczak & Tomczak, 2014), and the test statistic is  $\chi^2$ . For all other variables,  $p$  values are from Mann-Whitney U tests, effect sizes are Vargha and Delaney  $\hat{A}_{12}$  (Vargha & Delaney, 2000), and the test statistic is  $U$ . SD = standard deviation, ED = experimental design, CO = communication/collaboration, SL = scientific literacy. \* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$

BIO1		PreED				PostED			
Demographic variable		$M$ (SD)	Median	Statistic	Effect size	$M$ (SD)	Median	Statistic	Effect size
Ethnicity	Asian	6.16 (0.78)	6.0	0.74285	-0.007	6.89 (1.12)	7.0	1.7882	-0.0013
	URM	6.28 (1.16)	6.0			6.73 (1.22)	7.0		
	White	6.33 (1.21)	6.0			7.08 (0.97)	7.0		
Pell grant eligibility	Eligible	6.17 (0.94)	6.0*	4460.5	0.6	6.78 (1.20)	7.0	4053	0.542
	Not eligible	6.52 (1.17)	6.0			6.98 (1.05)	7.0		
Gender	Female	6.21 (1.07)	6.0	2903	0.42	6.73 (1.20)	7.0*	2806.5	0.405
	Male	6.57 (1.04)	6.0			7.14 (0.95)	7.0		
First-generation status	Continuing generation	6.31 (0.94)	6.0	2496.5	0.47	6.86(1.16)	7.0	2617.5	0.492
	First generation	6.45 (1.43)	6.0			6.93 (1.02)	7.0		
		PreCO				PostCO			
Ethnicity	Asian	9.20 (1.29)	9.0	1.9084	-0.001	10.30 (1.52)	10.0	3.82	0.0107
	URM	9.19 (1.89)	9.0			9.69 (1.80)	9.0		
	White	9.64 (1.84)	10.0			10.25 (1.48)	10.0		
Pell grant eligibility	Eligible	9.11 (1.59)	9.0**	4672.5	0.63	9.98 (1.76)	10.0	4011.5	0.54
	Not eligible	9.75 (1.75)	10.0			10.19 (1.67)	10.0		
Gender	Female	9.16 (1.64)	9.0*	2582	0.37	9.85 (1.80)	10.0*	2804	0.41

	Male	9.89 (1.70)	10.0			10.48 (1.49)	11.0		
First-generation status	Continuing generation	9.41 (1.55)	9.0	2519.5	0.47	10.01 (1.76)	10.0	2409	0.45
	First generation	9.50 (2.12)	9.5			10.33 (1.56)	10.0		
		PreSL			PostSL				
Ethnicity	Asian	11.48 (2.11)	12.0	0.1	-0.001	13.17 (2.21)	12.5	0.58	0.011
	URM	11.61 (2.59)	12.0			12.81 (2.41)	12.0		
	White	11.56 (2.86)	11.5			13.25 (1.93)	12.5		
Pell grant eligibility	Eligible	11.26 (2.36)	11.5**	4607	0.62	12.94 (2.25)	12.5	3995.5	0.53
	Not eligible	12.2 (2.55)	12.0			13.24 (2.25)	13.0		
Gender	Female	11.28 (2.30)	12.0**	2461.5	0.36	12.9 (2.72)	12.0	3015	0.44
	Male	12.49 (2.08)	12.0			13.42 (2.12)	13.0		
First-generation status	Continuing generation	11.83 (1.71)	12.0	2942	0.55	13.05 (2.27)	13.0	2543	0.48
	First generation	11.35 (4.17)	9.0			13.25 (2.20)	13.0		

**Table 5c**

All demographic variable results for BIO2. For the ethnicity variable,  $p$  values are from Kruskal Wallis tests, effect sizes are eta-squared, and the test statistic is  $\chi^2$ . For all other variables,  $p$  values are from Mann-Whitney U tests, effect sizes are Vargha and Delaney  $\hat{A}_{12}$ , and the test statistic is  $U$ . SD = standard deviation, ED = experimental design, CO = communication/collaboration, SL = scientific literacy. \* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$

BIO2		PreED				PostED				
Demographic variable		$M$ (SD)	Median	Statistic	Effect size	$M$ (SD)	Median	Statistic	Effect size	
Ethnicity	Asian	6.29 (1.09)	6.0*	8.23	0.04	6.45 (1.11)	6.00	5.3	0.02	
	URM	6.13 (0.89)	6.0			URM-White	6.38 (0.98)			6.00
	White	6.72 (1.06)	7.0				6.85 (1.06)			7.00
Pell grant eligibility	Eligible	6.29 (1.08)	6.0	3087	0.56	6.51 (1.13)	6.00	2828	0.52	
	Not eligible	6.56 (1.01)	6.0			6.58 (1.02)	6.00			
Gender	Female	6.35 (1.06)	6.0	2424	0.45	6.45 (1.15)	6.00	2468.5	0.46	
	Male	6.50 (1.05)	6.0			6.67 (0.97)	6.00			
First-generation status	Continuing generation	6.38 (0.91)	6.0	1686.5	0.45	6.51 (1.02)	6.00	1711	0.46	
	First generation	6.53 (1.48)	6.5			6.63 (1.20)	7.00			
		PreCO				PostCO				
Demographic variable		$M$ (SD)	Median	Statistic	Effect size	$M$ (SD)	Median	Statistic	Effect Size	
Ethnicity	Asian	9.31 (1.67)	9.0**	13.003	0.08	9.52 (1.78)	9.00	4.41	0.02	
	URM	9.09 (1.55)	9.0			Asian-White	9.53 (1.42)			9.00
	White	10.28 (1.46)	10.0				URM-White			10.15 (1.71)
Pell grant eligibility	Eligible	9.46 (1.79)	9.0	2903	0.53	9.67 (1.61)		10.00	2798.5	0.51
	Not eligible	9.71 (1.42)	9.5			9.71 (1.89)	9.00			

Gender	Female	9.57 (1.63)	9.0	2728	0.51	9.61 (1.77)	9.00	2493	0.47
	Male	9.57 (1.66)	9.0			9.82 (1.68)	9.50		
First-generation status	Continuing generation	9.52 (1.52)	9.0	1748	0.47	9.63 (1.74)	9.00	1695	0.45
	First generation	9.75 (2.02)	9.5			9.91 (1.71)	10.00		
		PreSL				PostSL			
Demographic variable		<i>M</i> (SD)	<i>Median</i>	Statistic	Effect size	<i>M</i> (SD)	<i>Median</i>	Statistic	Effect size
Ethnicity	Asian	11.86 (2.30)	12.0***	14.35	0.08	12.62 (2.25)	12.0**	11.07	0.06
	URM	11.24 (2.09)	11.0	URM-White		12.33 (1.41)	12.00	URM-White	
	White	12.98 (1.98)	13.0			13.60 (1.90)	14.00		
Pell grant eligibility	Eligible	11.69 (2.49)	12.0*	3379	0.62	12.77 (2.09)	12.00	2888.5	0.53
	Not eligible	12.59 (1.95)	12.0			12.80 (2.04)	13.00		
Gender	Female	11.85 (2.27)	12.0	2317.5	0.43	12.67 (2.16)	12.00	2433	0.46
	Male	12.43 (2.33)	12.0			12.95 (1.92)	13.00		
First-generation status	Continuing generation	11.93 (1.59)	12.0	1572	0.42	12.68 (1.93)	12.00	1625	0.43
	First generation	12.66 (3.95)	16.0			13.16 (2.49)	13.00		