

Supplemental Material

CBE—Life Sciences Education

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Supplemental Text for “Challenging Misconceptions About Race in Undergraduate Genetics”

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Table S1*Biological essentialism Regression Table for Spring 2022*

Post - Pre	b_0	b_{LC}	b_{Pre}	$b_{(LC \times Pre)}$	R^2
LC	0.416 (0.159) *	-0.707 (0.208) **			0.112
LC + Pre	0.452 (0.159) **	-0.768 (0.209) ***	-0.168 (0.104)		0.129
LC + Pre + (LC x Pre)	0.485 (0.160) **	-0.782 (0.208) ***	-0.323 (0.153) *	0.252 (0.207)	0.138
Follow-up - Pre	b_0	b_{LC}	b_{Pre}	$b_{(LC \times Pre)}$	R^2
LC	0.276 (0.165)	-0.470 (0.216) *			0.112
LC + Pre	0.295 (0.167)	-0.502 (0.220) *	-0.089 (0.109)		0.129
LC + Pre + (LC x Pre)	0.293 (0.168)	-0.486 (0.221) *	-0.055 (0.118)	-0.209 (0.208)	0.138

Table S1. Regression equations are determined by best-fit model (in bold); Dependent Variable = Post-test – Pre-test or Follow-up test – Pre-test; LC = laboratory completed, where Lizard Lab = 0 and Human Genetics Lab = 1; Pre = standardized pre-test score; LC x pre = Interaction term of laboratory completed and standardized pre-test score; R^2 is adjusted R^2 ; $***p < 0.001$, $**p < 0.01$, $*p < 0.05$.

Table S2*Racial Privilege Regression Table for Spring 2022*

Post-test – Pre-test	b_0	b_{LC}	b_{Pre}	b_{Race}	$b_{(LC \times Pre)}$	$b_{(LC \times Race)}$	R^2
LC	0.151 (0.162)	-0.259 (0.219)					0.005
LC + Pre	0.105 (0.156)	-0.180 (0.211)	-0.312 (0.106) **				0.091
LC+ Pre + Race	0.203 (0.185)	-0.232 (0.221)	-0.347 (0.091) ***	-0.656 (0.242) **			0.120
LC + Pre + Race + (LC x Pre)	0.201 (0.187)	-0.231 (0.223)	-0.381 (0.118) ***	-0.671 (0.252) **	0.056 (0.169)		0.110
LC + Pre + Race + (LC x Pre) + (LC x Race)	0.190 (0.195)	-0.211 (0.239)	-0.372 (0.126) **	-0.591 (0.309)	0.046 (0.175)	-0.211 (0.499)	0.099
Follow-up – Pre-test	b_0	b_{LC}	b_{Pre}	b_{Race}	$b_{(LC \times Pre)}$	$b_{(LC \times Race)}$	R^2
LC	0.106 (0.163)	-0.189 (0.221)					-0.003
LC + Pre	0.072 (0.161)	-0.131 (0.218)	-0.232 (0.109)				0.038
LC+ Pre + Race	0.085 (0.185)	-0.138 (0.222)	-0.236 (0.087) **	-0.086 (0.310)			0.027
LC + Pre + Race + (LC x Pre)	0.087 (0.186)	-0.139 (0.224)	-0.208 (0.127)	-0.073 (0.324)	-0.048 (0.173)		0.015
LC + Pre + Race + (LC x Pre) + (LC x Race)	0.052 (0.196)	-0.077 (0.242)	-0.179 (0.139)	0.175 (0.439)	-0.080 (0.180)	-0.658 (0.553)	0.012

Table S2. Regression equations are determined by best-fit model (in bold); Dependent Variable = Post-test – Pre-test or Follow-up test – Pre-test; LC = laboratory completed, where Lizard Lab = 0 and Human Genetics Lab = 1; Pre = standardized pre-test score; LC x pre = Interaction term of laboratory completed and standardized pre-test score; R^2 is adjusted R^2 ; Coefficient standard error in parentheses. *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$.

Table S3*Institutional Discrimination Regression Table for Spring 2022*

Post-test – Pre-test	b_0	b_{LC}	b_{Pre}	b_{Race}	$b_{(LC \times Pre)}$	$b_{(LC \times Race)}$	R^2
LC	0.117 (0.162)	-0.235 (0.219)					0.002
LC + Pre	0.122 (0.156)	-0.249 (0.210)	-0.298 (0.105) **				0.081
LC + Pre + Race	0.086 (0.201)	-0.227 (0.228)	-0.297 (0.103) **	0.229 (0.387)			0.075
LC + Pre + Race + (LC x Pre)	0.085 (0.203)	-0.228 (0.230)	-0.176 (0.132)	0.222 (0.375)	-0.216 (0.196)		0.076
LC + Pre + Race + (LC x Pre) + (LC x Race)	0.119 (0.210)	-0.287 (0.242)	-0.176 (0.132)	0.010 (0.380)	-0.211 (0.197)	0.595 (0.843)	0.072
Follow-up – Pre-test	b_0	b_{LC}	b_{Pre}	b_{Race}	$b_{(LC \times Pre)}$	$b_{(LC \times Race)}$	R^2
LC	-0.033 (0.163)	0.042 (0.221)					-0.012
LC + Pre	-0.028 (0.158)	0.029 (0.213)	-0.227 (0.106) *				0.055
LC + Pre + Race	0.005 (0.178)	0.010 (0.218)	-0.297 (0.106) **	-0.209 (0.206)			0.047
LC + Pre + Race + (LC x Pre)	0.004 (0.181)	0.009 (0.219)	-0.216 (0.120)	-0.212 (0.198)	-0.112 (0.202)		0.039
LC + Pre + Race + (LC x Pre) + (LC x Race)	0.024 (0.192)	-0.024 (0.241)	-0.216 (0.122)	-0.336 (0.270)	-0.110 (0.202)	0.346 (0.365)	0.029

Table S3. Regression equations are determined by best-fit model (in bold); Dependent Variable = Post-test – Pre-test or Follow-up test – Pre-test; LC = laboratory completed, where Lizard Lab = 0 and Human Genetics Lab = 1; Pre = standardized pre-test score; LC x pre = Interaction term of laboratory completed and standardized pre-test score; R^2 is adjusted R^2 ; Coefficient standard error in parentheses. *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$.

Table S4*Color-evasive Ideologies Regression Table for Fall 2022*

Pre-Post	b_0	b_{Pre}	b_{Race}	$b_{(PreXRace)}$	R^2
Racial Privilege	0.032 (0.088)	-0.335 (0.092) *	-0.155 (0.307)	-0.060 (0.282)	0.101
Institutional Discrimination	-0.039(0.090)	-0.211 (0.092) *	0.685 (0.406)	0.103 (0.393)	0.087

*Table S4. Regression equation determined by mixed model analysis. Dependent Variable = Post-test – Pre-test; Race = Student Race, where white = 0 and non-white = 1; Pre = standardized pre-test score; Pre X Race = Interaction term of standardized pre-test score and student race; R^2 is psuedo- R^2 ; *** $p < 0.001$, * $p < 0.05$, $p < 0.05$.*

Finalized Survey Subscales

Race Conceptions Scale (Biological Essentialism)

1. The same racial categories have pretty much always existed.
2. If a white American family traveled around the world, people they met would probably think of them as white, too.
3. Generally speaking, two Black people will always look more similar to each other than a Black person and a white person ever would.
4. A person's race is fixed at birth.
5. There's agreement across cultures about which racial groups people fall into.
6. It's easy to tell what race people are by looking at them.
7. Racial groups are primarily determined by biology.

Color-Blind Racial Attitudes Scale

Factor 1: Unawareness of *Racial Privilege*

1. Race plays a major role in the type of social services (such as type of health care or day care) that people receive in the U.S. (Reverse Scored)
2. Race is very important in determining who is successful and who is not. (Reverse Scored)
3. Racial and ethnic minorities do not have the same opportunities as white people in the U.S. (Reverse Scored)
4. White people in the U.S. have certain advantages because of the color of their skin. (Reverse Scored)
5. White people are more to blame for racial discrimination in the U.S. than racial and ethnic minorities. (Reverse Scored)
6. Race plays an important role in who gets sent to prison. (Reverse Scored)

Factor 2: Unawareness of *Institutional Discrimination*

1. It is important that people begin to think of themselves as American and not African American, Mexican American or Italian American.
2. White people in the U.S. are discriminated against because of the color of their skin.
3. Social policies, such as affirmative action, discriminate unfairly against white people.
4. Racial and ethnic minorities in the U.S. have certain advantages because of the color of their skin.