The Impact of College Diversity on Behavior Toward Minorities: Online Appendix

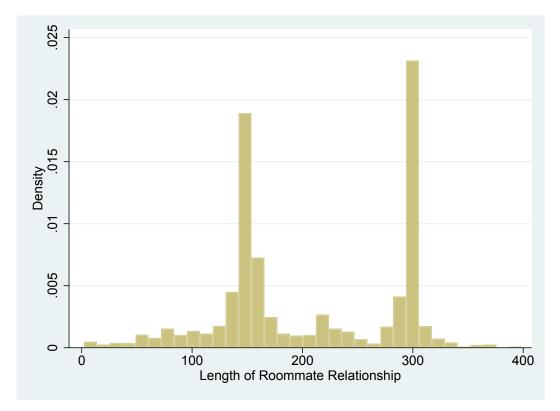*By* Scott E. Carrell, Mark Hoekstra, and James E. West

Figure A.1. : Histogram of Length of Roommate Relationships

Note: Density represents the proportion of white male students who were in roommate relationships of the indicated length.

Table A.1—: Social and Study Relationships of White Male Students

VARIABLES	(1) Full Sample mean (sd)	(2) Freshman Squadron Not Matched mean (sd)	(3) Full Sample mean (sd)	(4) Sophomore Squadron Not Matched mean (sd)
Panel A: Friends				
Both in Same Freshman Squadron	0.805	0	0.249	0.425
	(0.396)	(0)	(0.433)	(0.495)
Both in Same Sophomore Squadron	0.0338	0.0377	0.506	0
	(0.181)	(0.191)	(0.500)	(0)
Friend is Black	0.0345	0.0264	0.0262	0.0206
	(0.183)	(0.161)	(0.160)	(0.142)
Friend is Hispanic	0.0771	0.0566	0.0757	0.0796
	(0.267)	(0.232)	(0.265)	(0.271)
Friend is Asian	0.0720	0.0755	0.0816	0.0664
	(0.259)	(0.265)	(0.274)	(0.249)
Friend is White Male	0.750	0.751	0.757	0.758
	(0.433)	(0.433)	(0.429)	(0.429)
Both are Recruited Athletes	0.0602	0.230	0.0575	0.0988
	(0.238)	(0.422)	(0.233)	(0.299)
Observations	1,362	265	1,373	678
Panel B: Study Partners				
Both in Same Freshman Squadron	0.884	0	0.146	0.257
	(0.320)	(0)	(0.354)	(0.437)
Both in Same Sophomore Squadron	0.0259	0.0308	0.569	0
	(0.159)	(0.173)	(0.495)	(0)
Study Partner is Black	0.0330	0.0308	0.0255	0.0175
	(0.179)	(0.173)	(0.158)	(0.131)
Study Partner is Hispanic	0.0750	0.0385	0.0746	0.0746
	(0.264)	(0.193)	(0.263)	(0.263)
Study Partner is Asian	0.0973	0.123	0.0925	0.0877
	(0.297)	(0.330)	(0.290)	(0.283)
Study Partner is White Male	0.726	0.677	0.728	0.713
	(0.446)	(0.469)	(0.445)	(0.453)
Both are Recruited Athletes	0.0330	0.0692	0.0472	0.0746
	(0.179)	(0.255)	(0.212)	(0.263)
Observations	1,120	130	1,059	456

Note: Survey Respondents are white male students from graduating classes of 2011 and 2012 asked to name their five closest friends and study partners in freshman and sophomore years.

Table A.2—: Social and Study Relationships of Black Male Students

VARIABLES	(1) Full Sample mean (sd)	(2) Squadron Not Matched mean (sd)	(3) Full Sample mean (sd)	(4) Squadron Not Matched mean (sd)
		Freshman		Sophomore
Panel A: Friends				
Both in Same Freshman Squadron	0.702	0	0.227	0.269
	(0.462)	(0)	(0.424)	(0.452)
Both in Same Sophomore Squadron	0.0426	0.0714	0.409	0
	(0.204)	(0.267)	(0.497)	(0)
Friend is Black	0.149	0.429	0.318	0.423
	(0.360)	(0.514)	(0.471)	(0.504)
Friend is Hispanic	0.191	0	0.0455	0.0385
	(0.398)	(0)	(0.211)	(0.196)
Friend is Asian	0.0426	0.0714	0.114	0.0769
	(0.204)	(0.267)	(0.321)	(0.272)
Friend is White Male	0.489	0.286	0.432	0.308
	(0.505)	(0.469)	(0.501)	(0.471)
Both are Recruited Athletes	0.0638	0.214	0.0909	0.154
	(0.247)	(0.426)	(0.291)	(0.368)
Observations	47	14	44	26
Panel B: Study Partners				
Both in Same Freshman Squadron	0.811	0	0.175	0.176
	(0.397)	(0)	(0.385)	(0.393)
Both in Same Sophomore Squadron	0.0270	0	0.575	0
	(0.164)	(0)	(0.501)	(0)
Study Partner is Black	0.108	0.286	0.125	0.176
	(0.315)	(0.488)	(0.335)	(0.393)
Study Partner is Hispanic	0.162	0	0.0500	0.118
	(0.374)	(0)	(0.221)	(0.332)
Study Partner is Asian	0.135	0.143	0.0500	0
	(0.347)	(0.378)	(0.221)	(0)
Study Partner is White Male	0.405	0.286	0.550	0.412
	(0.498)	(0.488)	(0.504)	(0.507)
Both are Recruited Athletes	0	0	0.125	0.176
	(0)	(0)	(0.335)	(0.393)
Observations	37	7	40	17

Note: Survey Respondents are black male students from graduating classes of 2011 and 2012 asked to name their five closest friends and study partners in freshman and sophomore years.

Table A.3—: Black Friends Outside Freshman Squadron

(a) Academic Ability and Number Separate

VARIABLES	Outside Black Friends
Black Freshman HS Performance	0.0066
	(0.010)
Black Freshman SAT	-0.0022
	(0.007)
Number of Black Freshmen	-0.0330***
	(0.012)
Observations	345
R^2	0.049

(b) Terciles of Academic Ability

VARIABLES	Outside Black Friends
Number of Low HS Performance Black Freshmen	-0.0313**
	(0.013)
Number of Med. HS Performance Black Freshmen	-0.0411***
	(0.015)
Number of High HS Performance Black Freshmen	-0.0219
	(0.014)
Observations	346
R^2	0.041

Note: Dependent variable is the frequency of white male freshman naming a black friend who is not a member of his freshman squadron. Mean of the dependent variable is 7/345. High School Performance and SAT Score are normalized. Standard errors are clustered at the squadron and year level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table A.4—: Falsification - Freshman White Male Attributes on Average Freshman Black Attributes

VARIABLES	(1) High School Performance	(2) SAT	(3) Leadership Score	(4) Fitness Test
Panel A: USAFA Algorithm - χ^2_{10} p-value = 0.074				
Black Freshman HS Performance	-0.036**	-0.026*	-0.008	0.004
	[0.0252]	[0.0716]	[0.632]	[0.785]
Black Freshman SAT Score	-0.020	-0.014	-0.001	-0.014
	[0.200]	[0.317]	[0.966]	[0.378]
Black Freshman Leadership Score	0.015	-0.010	-0.001	-0.024
	[0.357]	[0.490]	[0.959]	[0.116]
Black Freshman Fitness Score	-0.013	-0.022	0.004	-0.024
	[0.442]	[0.125]	[0.821]	[0.124]
Number of Black Freshmen	-0.018	-0.023	-0.008	0.020
	[0.396]	[0.194]	[0.683]	[0.134]
Observations	4,096	4,102	3,981	4,102
R^2	0.002	0.002	0.000	0.002
Panel B: Random Assignment - χ^2_{10} p-value = 0.055				
Black Freshman HS Performance	-0.036**	-0.026	-0.008	0.004
	[0.0356]	[0.118]	[0.672]	[0.811]
Black Freshman SAT Score	-0.020	-0.014	-0.001	-0.014
	[0.271]	[0.414]	[0.926]	[0.437]
Black Freshman Leadership Score	0.015	-0.010	-0.001	-0.024
	[0.395]	[0.579]	[0.968]	[0.160]
Black Freshman Fitness Score	-0.013	-0.022	0.004	-0.024
	[0.477]	[0.190]	[0.864]	[0.171]
Number of Black Freshmen	-0.018	-0.023	-0.008	0.020
	[0.248]	[0.121]	[0.594]	[0.106]
Observations	4,096	4,102	3,981	4,102
R^2	0.002	0.002	0.000	0.002

Note: All variables except Number of Freshman Black Students are standardized by academic year. Square brackets contain p-values from randomization-based inference using a counterfactual of 5,000 randomly assigned sophomore squadrons. χ^2 test FTR null hypothesis of empirical p-values drawn from a uniform distribution. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table A.5—: Falsification - Sophomore White Male Attributes on Average Sophomore Black Attributes

VARIABLES	(1) High School Performance	(2) SAT	(3) Leadership Score	(4) Fitness Score
Panel A: USAFA Assignment Algorithm - χ^2_{10} p-value = 0.629				
Sophomore Black HS Performance	-0.008	-0.055	0.032	0.007
	[0.873]	[0.106]	[0.212]	[0.909]
Sophomore Black SAT Score	0.008	-0.002	0.004	-0.000
	[0.875]	[0.703]	[0.698]	[0.649]
Sophomore Black Leadership Score	-0.004	-0.008	0.011	0.004
	[0.554]	[0.436]	[0.698]	[0.294]
Sophomore Black Fitness Score	0.038	0.035*	0.015	0.008
	[0.191]	[0.0976]	[0.680]	[0.793]
Number of Sophomore Black Students	0.008	-0.022	-0.023	-0.031
	[0.115]	[0.135]	[0.932]	[0.856]
Observations	2,980	2,981	2,980	2,980
R^2	0.002	0.004	0.002	0.001
Panel B: Random Assignment - χ^2_{10} p-value = 0.725				
Sophomore Black HS Performance	-0.008	-0.055	0.032	0.007
	[0.876]	[0.182]	[0.255]	[0.900]
Sophomore Black SAT Score	0.008	-0.002	0.004	-0.000
	[0.883]	[0.664]	[0.728]	[0.675]
Sophomore Black Leadership Score	-0.004	-0.008	0.011	0.004
	[0.593]	[0.569]	[0.732]	[0.347]
Sophomore Black Fitness Score	0.038	0.035	0.015	0.008
	[0.248]	[0.178]	[0.696]	[0.826]
Number of Sophomore Black Students	0.008	-0.022	-0.023	-0.031
	[0.102]	[0.954]	[0.991]	[0.777]
Observations	2,980	2,981	2,980	2,980
R^2	0.002	0.004	0.002	0.001

Note: All variables except Number of Sophomore Black Students standardized by academic year. Square brackets contain p-values from randomization-based inference using a counterfactual of 5,000 randomly assigned sophomore squadrons. χ^2 test FTR null hypothesis of empirical p-values drawn from a uniform distribution. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table A.6—: Falsification - Sophomore White Male Attributes on Average Freshman Black Attributes

VARIABLES	(1) Fresh Black High School Performance	(2) Fresh Black SAT	(3) Fresh Black Leadership Score	(4) Fresh Black Fitness Score	(5) Number Fresh Black
Panel A: USAFA Algorithm - χ^2_{10} p-value = 0.772					
Sophomore Black HS Performance	0.019	-0.016	-0.000	0.003	0.002
	[0.330]	[0.928]	[0.715]	[0.954]	[0.775]
Sophomore Black SAT Score	0.008	0.012	0.009	-0.015	-0.020
	[0.820]	[0.863]	[0.842]	[0.598]	[0.189]
Sophomore Black Leadership Score	0.027	0.068**	0.028	0.042*	-0.029
	[0.404]	[0.0128]	[0.148]	[0.0908]	[0.289]
Sophomore Black Fitness Score	-0.003	0.028	0.036	-0.015	-0.023
	[0.943]	[0.109]	[0.317]	[0.385]	[0.223]
Number of Sophomore Black Students	-0.041	0.019	0.020	0.015	0.033
	[0.134]	[0.674]	[0.745]	[0.923]	[0.519]
Observations	2,813	2,813	2,813	2,813	2,813
R^2	0.002	0.006	0.002	0.002	0.245
Panel B: Random Assignment - χ^2_{10} p-value = 0.678					
Sophomore Black HS Performance	0.019	-0.016	-0.000	0.003	0.002
	[0.374]	[0.968]	[0.722]	[0.955]	[0.780]
Sophomore Black SAT Score	0.008	0.012	0.009	-0.015	-0.020
	[0.805]	[0.837]	[0.866]	[0.576]	[0.214]
Sophomore Black Leadership Score	0.027	0.068**	0.028	0.042	-0.029
	[0.453]	[0.0208]	[0.202]	[0.112]	[0.310]
Sophomore Black Fitness Score	-0.003	0.028	0.036+	-0.015	-0.023
	[0.926]	[0.144]	[0.334]	[0.448]	[0.268]
Number of Sophomore Black Students	-0.041*	0.019	0.020	0.015	0.033
	[0.0672]	[0.688]	[0.723]	[0.802]	[0.315]
Observations	2,813	2,813	2,813	2,813	2,813
R^2	0.002	0.006	0.002	0.002	0.245

Note: All variables standardized except Number of Sophomore Black Students. Specifications include a fixed effect for academic year. Square brackets contain p-values from randomization-based inference using a counterfactual of 5,000 randomly assigned sophomore squadrons. χ^2 test FTR null hypothesis of empirical p-values drawn from a uniform distribution. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table A.7—: Impact of Exposure to Black Peers on Roommate Matching by Decile of Ability

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
Number of 0-10 Percentile Fresh Black Peers	0.0149	0.0164	0.0159	0.0145	0.0186	0.0140
	[0.289]	[0.251]	[0.266]	[0.384]	[0.252]	[0.318]
Number of 11-20 Percentile Fresh Black Peers	0.0049	0.0040	0.0045	0.0050	0.0064	0.0049
	[0.720]	[0.774]	[0.748]	[0.723]	[0.658]	[0.724]
Number of 21-30 Percentile Fresh Black Peers	-0.0108	-0.0091	-0.0087	-0.0101	-0.0084	-0.0071
	[0.454]	[0.533]	[0.560]	[0.496]	[0.610]	[0.639]
Number of 31-40 Percentile Fresh Black Peers	0.0019	0.0010	-0.0001	0.0032	-0.0033	-0.0004
	[0.880]	[0.940]	[0.991]	[0.831]	[0.860]	[0.984]
Number of 41-50 Percentile Fresh Black Peers	0.0137	0.0152	0.0120	0.0125	0.0101	0.0127
	[0.280]	[0.242]	[0.332]	[0.414]	[0.442]	[0.326]
Number of 51-60 Percentile Fresh Black Peers	0.0153	0.0171	0.0162	0.0158	0.0178	0.0155
	[0.236]	[0.195]	[0.217]	[0.300]	[0.214]	[0.240]
Number of 61-70 Percentile Fresh Black Peers	0.0484***	0.0493***	0.0476***	0.0485***	0.0461***	0.0517***
	[0.002]	[0.002]	[0.004]	[0.007]	[0.007]	[0.003]
Number of 71-80 Percentile Fresh Black Peers	0.0405**	0.0377**	0.0334*	0.0349*	0.0306	0.0318*
	[0.021]	[0.034]	[0.056]	[0.058]	[0.104]	[0.070]
Number of 81-90 Percentile Fresh Black Peers	0.0207	0.0203	0.0143	0.0177	0.0114	0.0142
	[0.222]	[0.232]	[0.379]	[0.351]	[0.486]	[0.382]
Number of 91-100 Percentile Fresh Black Peers	0.0271**	0.0297**	0.0278**	0.0263*	0.0273*	0.0245*
	[0.044]	[0.028]	[0.038]	[0.078]	[0.070]	[0.066]
Year Effects	Y	Y	Y	Y	Y	Y
Own Characteristics	-	Y	Y	Y	Y	Y
Freshman Non-Black Peer Characteristics	-	-	Y	Y	Y	Y
Black Upper Class Peer Characteristics	-	-	Y	Y	Y	Y
Sophomore Black Peer Characteristics	-	-	Y	Y	Y	Y
Sophomore Squadron FE	-	-	-	Y	-	-
Non-academic Black Fresh Peer Characteristics	-	-	-	-	Y	-
State of Residence FE	-	-	-	-	-	Y
Observations	2,602	2,602	2,602	2,602	2,602	2,602
R^2	0.021	0.034	0.035	0.072	0.036	0.057

Note: Dependent variable is probability of roommate match between black and white males for seven or more days. Square brackets contain p-values from randomization-based inference using a counterfactual of 5,000 randomly assigned roommates from within existing sophomore squadrons. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table A.8—: Robustness of Estimates to Alternate Roommate Definitions

VARIABLES	(1) 1 Day	(2) 7 Days	(3) 30 Days	(4) 60 Days	(5) 90 Days	(6) 120 Days	(7) 240 Days
Panel A							
Black Fresh HS Performance	0.0152***	0.0153***	0.0174***	0.0171***	0.0157***	0.0157***	0.0106*
	[0.010]	[0.008]	[0.003]	[0.004]	[0.007]	[0.007]	[0.070]
Black Freshman SAT	-0.0003	0.0005	-0.0018	-0.0014	-0.0008	0.0004	-0.0046*
	[0.940]	[0.945]	[0.739]	[0.792]	[0.878]	[0.951]	[0.414]
Number of Black Freshmen	0.0077	0.0071	0.0086	0.0083	0.0098	0.0096	0.0095
	[0.344]	[0.377]	[0.290]	[0.305]	[0.236]	[0.248]	[0.252]
Observations	2,602	2,602	2,602	2,602	2,602	2,602	2,602
R^2	0.070	0.068	0.067	0.069	0.071	0.064	0.079
Panel B							
Black Fresh HS Performance	0.0138*	0.0144*	0.0148**	0.0159**	0.0149**	0.0145*	0.0137***
	[0.084]	[0.072]	[0.063]	[0.046]	[0.062]	[0.071]	[0.086]
Low % Black × Black Fresh HS Performance	0.0034	0.0023	0.0060	0.0031	0.0022	0.0031	-0.0067
	[0.800]	[0.871]	[0.620]	[0.821]	[0.879]	[0.822]	[0.545]
Black Freshman SAT	0.0052	0.0053	0.0020	0.0022	0.0025	0.0039	-0.0065*
	[0.523]	[0.509]	[0.802]	[0.782]	[0.749]	[0.627]	[0.404]
Low % Black × Black Freshman SAT	-0.0119	-0.0105	-0.0084	-0.0080	-0.0072	-0.0077	0.0042
	[0.289]	[0.351]	[0.454]	[0.479]	[0.522]	[0.490]	[0.706]
Number of Black Freshmen	-0.0050	-0.0057	-0.0026	-0.0034	-0.0013	-0.0015	0.0076
	[0.654]	[0.607]	[0.839]	[0.766]	[0.930]	[0.917]	[0.442]
Low % Black × Number of Black Freshmen	0.0246**	0.0248**	0.0217*	0.0227*	0.0214*	0.0215*	0.0034
	[0.042]	[0.041]	[0.068]	[0.057]	[0.073]	[0.073]	[0.785]
Low % Black State	-0.0338	-0.0342	-0.0279	-0.0309	-0.0295	-0.0294	-0.0027
	[0.156]	[0.150]	[0.241]	[0.194]	[0.218]	[0.220]	[0.932]
Observations	2,602	2,602	2,602	2,602	2,602	2,602	2,602
R^2	0.073	0.070	0.069	0.071	0.073	0.067	0.080

Note: Dependent variable is probability of roommate match between black and white males. High School Performance and SAT Score are normalized. All Specifications include controls for year effects, own characteristics, freshman non-group characteristics, and upper group characteristics as in Table 4, Specification 5. Square brackets contain p-values from randomization-based inference using a counterfactual of 5,000 randomly assigned roommates from within existing sophomore squadrons. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.