A Appendix A: Tables and Figures

Table A.1: Mapping Between Required Courses and Majors

Course	Year	Majors
Chemistry I	1	Chemistry; Chemical Engineering
Chemistry II	1	Chemistry; Chemical Engineering
English Composition	1	English
English Literature	1	English
US History	1	US History; International History; Military History; European History
World History	1	US History; International History; Military History; European History
Western Civilization	1	US History; International History; Military History; European History
Math Modeling	1	Mathematical Sciences
Calculus I	1	Mathematical Sciences
General Psychology	1	Psychology; Engineering Psychology
Computing and Information Technology	1	Computer Science; Information Technology
Calculus II	2	Mathematical Sciences
Probability and Statistics	2	Mathematical Sciences
Physics I	2	Physics; Physics Engineering; Interdisciplinary Physics
Physics II	2	Physics; Physics Engineering; Interdisciplinary Physics
Economics	2	Economics
American Politics	2	Political Science
Philosophy and Ethics	2	Art, Philosophy, and Literature
Physical Geography	2	Geography
Foreign Language	2	Foreign Language; Foreign Studies

Table includes major mappings for required courses for first two years at USMA. Students are required to take or test out of each of these courses in order to meet graduation qualifications.

Table A.2: Summary Statistics

	Analysis Sample		Excluded Sample		P-value
	Mean	Std. Dev.	Mean	Std. Dev.	
Female	0.14	0.34	0.18	0.38	0.00
Asian	0.06	0.24	0.08	0.27	0.00
Black	0.07	0.25	0.08	0.27	0.00
Hispanic	0.09	0.29	0.08	0.27	0.03
White	0.75	0.43	0.73	0.44	0.01
Prior Military Service	0.18	0.38	0.16	0.36	0.00
Prior College Attendance	0.17	0.37	0.25	0.43	0.00
USMA Preparatory Academy	0.15	0.36	0.14	0.35	0.02
Division I Athlete	0.34	0.47	0.32	0.46	0.00
Age	19.8	0.96	19.9	1.05	0.00
Number of Courses	5.48	0.56	5.31	0.62	0.00
SAT Verbal	628	64.4	647	80.4	0.00
SAT Math	649	60.9	654	75.2	0.00

Includes characteristics from the 8,777 students in our primary sample and from the 6,376 students excluded from our sample. This sample includes sophomores that attended the United States Military Academy between the years of 2001 and 2015.

Table A.3: Effects of Semester Order on Major Choice for All Students

Panel A: Initial Major Choice	(1)	(2)	(3)	(4)	(5)
First Semester	0.0274***	0.0273***	0.0269***	0.0258***	0.0285***
	(0.0020)	(0.0018)	(0.0019)	(0.0018)	(0.0019)
N	58,022	58,022	58,022	58,022	58,022
R^2	0.0046	0.0228	0.0231	0.0335	0.0963
Control Group					
Dependent Variable Mean	0.028	0.028	0.028	0.028	0.028
Demographic Controls	N	Y	Y	Y	Y
Peer Demographic Controls	N	N	Y	Y	Y
Teacher FE	N	N	N	Y	Y
Schedule Roster FE	N	N	N	N	Y

Panel B: Graduating Major	(1)	(2)	(3)	(4)	(5)
First Semester	0.0161***	0.0159***	0.0153***	0.0143***	0.0155***
	(0.0020)	(0.0018)	(0.0019)	(0.0018)	(0.0019)
N	58,022	58,022	58,022	58,022	58,022
R^2	0.0015	0.0219	0.0223	0.0308	0.0903
Control Group					
Dependent Variable Mean	0.036	0.036	0.036	0.036	0.036
Demographic Controls	N	Y	Y	Y	Y
Peer Demographic Controls	N	N	Y	Y	Y
Teacher FE	N	N	N	Y	Y
Schedule Roster FE	N	N	N	N	Y

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Each specification represents results for a regression where the independent variable is being assigned to a course in the first of two semesters (fall vs. spring semester) in students' sophomore year. Demographic controls include age, SAT math and verbal scores, USMA academic potential (CEER) score, and indicators for sex, race/ethnicity, prior military service, prior college experience, preparatory school attendance, and Division I athlete. All specifications include an indicator for being a recruited athlete and for the year, with 2003 being the omitted category. Robust standard errors are clustered at the individual and section-by-year levels.

Table A.4: Effects of Semester Order on Major Choice, Conditional Logit Specification

Panel A: Initial Major Choice	(1)	(2)	(3)	(4)	(5)
First Semester	0.7818***	0.8250***	0.8226***	0.8351***	0.8832***
	(0.0583)	(0.0590)	(0.0594)	(0.0634)	(0.0654)
N	35,097	35,081	35,081	32,695	29,600
R^2					
Control Group					
Dependent Variable Mean	-0.058	-0.058	-0.058	-0.058	-0.058
Demographic Controls	N	Y	Y	Y	Y
Peer Demographic Controls	N	N	Y	Y	Y
Teacher FE	N	N	N	Y	Y
Schedule Roster FE	N	N	N	N	Y

Panel B: Graduating Major	(1)	(2)	(3)	(4)	(5)
First Semester	0.3586***	0.3907***	0.3941***	0.3807***	0.4093***
	(0.0537)	(0.0544)	(0.0549)	(0.0586)	(0.0601)
N	35,097	35,081	35,081	32,655	30,529
R^2					
Control Group					
Dependent Variable Mean	-0.058	-0.058	-0.058	-0.058	-0.058
Demographic Controls	N	Y	Y	Y	Y
Peer Demographic Controls	N	N	Y	Y	Y
Teacher FE	N	N	N	Y	Y
Schedule Roster FE	N	N	N	N	Y

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Each specification represents results for a regression where the independent variable is being assigned to a course in the first of two semesters (fall vs. spring semester) in students' sophomore year. Demographic controls include age, SAT math and verbal scores, USMA academic potential (CEER) score, and indicators for sex, race/ethnicity, prior military service, prior college experience, preparatory school attendance, and Division I athlete. All specifications include an indicator for being a recruited athlete and for the year, with 2003 being the omitted category. Robust standard errors are clustered at the individual and section-by-year levels.

Table A.5: Subject Specific Effects of Semester Order on Major Choice

Panel A: Initial Major Choice	All Courses	American Politics	Economics	Geography	Philosophy
First Semester	0.0284***	0.0156***	0.0493***	0.0502***	0.0060*
	(0.0023)	(0.0030)	(0.0054)	(0.0057)	(0.0032)
N	35,090	8,556	8,556	8,555	8,553
R^2	0.0656	0.0791	0.1186	0.0746	0.0822
Control Group Dependent Variable Mean	0.026	0.012	0.046	0.029	0.016
Panel B: Graduating Major	**All Courses**	**American Politics**	**Economics**	**Geography**	**Philosophy**
First Semester	0.0138***	0.0084***	0.0266***	0.0269***	-0.0008
	(0.0024)	(0.0029)	(0.0055)	(0.0063)	(0.0030)
N	35,090	8,556	8,556	8,555	8,553
R^2	0.0579	0.0704	0.0988	0.0634	0.0646
Control Group Dependent Variable Mean	0.035	0.014	0.061	0.049	0.018

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Each specification represents results for a regression where the independent variable is being assigned to a course in the first of two semesters (fall vs. spring semester) in students' sophomore year. Demographic controls include age, SAT math and verbal scores, USMA academic potential (CEER) score, and indicators for sex, race/ethnicity, prior military service, prior college experience, preparatory school attendance, and Division I athlete. All specifications include an indicator for being a recruited athlete and for the year, with 2003 being the omitted category. Robust standard errors are clustered at the individual and section-by-year levels.

Table A.6: Characteristics among Majors Across Terms

	First Semester	Second Semester	Difference	P-value
Female	0.117	0.135	-0.018	0.28
Age	19.748	19.746	0.002	0.98
Asian	0.066	0.060	0.006	0.60
Black	0.040	0.052	-0.012	0.31
Hispanic	0.099	0.086	0.013	0.41
White	0.762	0.774	-0.012	0.60
SAT Verbal	633	634	-1.306	0.69
SAT Math	645	645	-0.753	0.81
Entering Class Rank	599	602	-3.206	0.28
Prior Military Service	0.175	0.152	0.023	0.23
Prior College Attendance	0.168	0.153	0.015	0.42
USMA Preparatory Academy	0.144	0.135	0.009	0.64
Division I Athlete	0.354	0.332	0.022	0.37
Prior interest in subject	0.241	0.224	0.017	0.53
N	871	618	–	–

Interest-in-subject variables come from a smaller subset of 1,483 students who responded to a survey prior to beginning their coursework at USMA. The joint F-test(13; 1,469) value for all variables is 1.03 with a P-value of 0.43. The joint F-test (12; 2,547) for the full sample of students (excluding prior interest) is 1.47 with a P-value of 0.13.

Table A.7: Outcomes Across Majors

	American Politics	Economics	Geography	Philosophy	F-stat P-value
Occupations					
Combat Arms	0.65	0.69	0.66	0.52	0.000
Engineering	0.05	0.06	0.09	0.05	0.047
Military Intelligence	0.14	0.10	0.06	0.12	0.000
Outcomes at 10+ years					
In Army 10+ Years	0.39	0.31	0.42	0.40	0.008
Post-Graduate Degree	0.54	0.46	0.45	0.52	0.112
USMA Instructor	0.12	0.06	0.06	0.07	0.098

* Combat Arms occupations or branches include Air Defense Artillery, Armor, Aviation, Engineering, Field Artillery, and Infantry. Sample includes all 2,734 from American Politics (362), Economics (1,014), Geography (1,032), and Philosophy (326) from the 2004-2017 graduating classes (sophomores between 2001-2015).

Table A.8: Major Characteristics

	All	Economics	American Politics	Geography	Philosophy
Female	0.136	0.060	0.131	0.176	0.417
Age	19.759	19.703	19.737	19.817	19.679
Asian	0.062	0.097	0.040	0.043	0.060
Black	0.067	0.051	0.040	0.050	0.107
Hispanic	0.090	0.087	0.091	0.092	0.125
White	0.748	0.745	0.789	0.783	0.649
SAT Verbal	628	633	642	617	628
SAT Math	649	663	636	630	630
Entering Class Rank	602	608	601	587	601
Prior Military Service	0.176	0.120	0.154	0.233	0.185
Prior College Attendance	0.167	0.173	0.160	0.178	0.137
USMA Preparatory Academy	0.154	0.104	0.126	0.217	0.190
Division I Athlete	0.340	0.342	0.257	0.384	0.321
N	8,777	549	175	437	168

This sample includes sophomores that attended the United States Military Academy between the years of 2001 and 2015. This sample excludes students who are not assigned one of the two standard orders for the following sophomore courses: American Politics, Economics, Geography, and Philosophy.

Table A.9: High Performance in Advanced Placement (AP) Course, Semester Order, and Major

Panel A: Initial Major Choice				
	All Courses	American Politics	Economics	Geography
First Semester	0.0311***	0.0152***	0.0393***	0.0480***
	(0.0036)	(0.0034)	(0.0066)	(0.0071)
High-Performance AP Course	0.0331**	0.0306**	0.0320	0.0171
	(0.0137)	(0.0151)	(0.0440)	(0.0151)
High-Performance AP Course* First Semester	0.0044	-0.0050	0.0722	-0.0340
	(0.0129)	(0.0112)	(0.0477)	(0.0215)
N	17,775	5,784	5,784	5,784
R^2	0.0751	0.0825	0.1079	0.0720
Control Group				
Dependent Variable Mean	0.026	0.012	0.046	0.029
Demographic Controls	Y	Y	Y	Y
Peer Demographic Controls	Y	Y	Y	Y
Teacher FE	Y	Y	Y	Y
Schedule Roster FE	Y	Y	Y	Y
Panel B: Graduating Major				
	All Courses	American Politics	Economics	Geography
First Semester	0.0134***	0.0074**	0.0161**	0.0233***
	(0.0037)	(0.0033)	(0.0065)	(0.0079)
High-Performance AP Course	0.0513***	0.0439***	0.1037**	0.0086
	(0.0153)	(0.0158)	(0.0517)	(0.0176)
High-Performance AP Course* First Semester	-0.0099	-0.0082	-0.0065	-0.0397*
	(0.0116)	(0.0088)	(0.0457)	(0.0217)
N	17,775	5,784	5,784	5,784
R^2	0.0646	0.0732	0.0894	0.0654
Control Group				
Dependent Variable Mean	0.035	0.014	0.061	0.049
Demographic Controls	Y	Y	Y	Y
Peer Demographic Controls	Y	Y	Y	Y
Teacher FE	Y	Y	Y	Y
Schedule Roster FE	Y	Y	Y	Y

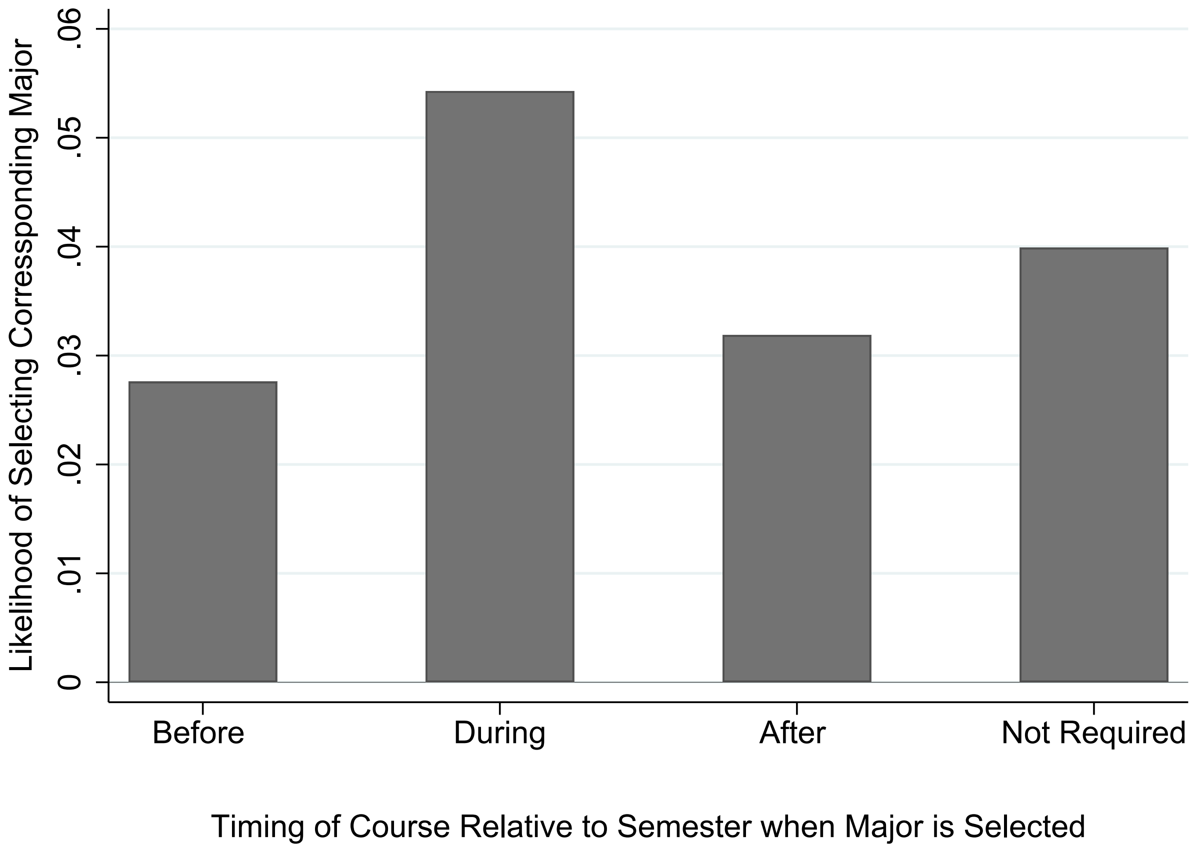
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Each specification represents results for a regression where the independent variable is being assigned to a course in the first of two semesters (fall vs. spring semester) in students' sophomore year. High performance is defined as scoring a 4 or 5 (out of 5) on an AP Test. The corresponding AP course for American Politics is AP US Government & Politics, the corresponding AP courses for Economics are AP Microeconomics and AP Macroeconomics, and the corresponding AP course for Geography is AP Human Geography. AP test scores are available for sophomore students between 2007-2015. Demographic controls include age, SAT math and verbal scores, USMA academic potential (CEER) score, and indicators for sex, race/ethnicity, prior military service, prior college experience, preparatory school attendance, and Division I athlete. All specifications include an indicator for being a recruited athlete and for the year, with 2007 being the omitted category. Robust standard errors are clustered at the individual and section-by-year levels.

Table A.10: Balance Table, Freshman Courses

	First Semester Classes			
	Psychology	Information Technology	Difference	p-value
Female	0.164	0.142	0.022	0.001
Age	19.899	19.709	0.190	0.000
Asian	0.055	0.082	-0.027	0.000
black	0.088	0.053	0.035	0.000
Hispanic	0.094	0.082	0.012	0.013
White	0.729	0.750	-0.021	0.008
SAT Verbal	629	647	-17.429	0.000
SAT Math	633	670	-37.315	0.000
Prior Military Service	0.214	0.129	0.085	0.000
Prior College Attendance	0.213	0.173	0.040	0.000
USMA Preparatory Academy	0.180	0.115	0.065	0.000
Division I Athlete	0.353	0.300	0.053	0.000
N	6,256	6,525	–	–

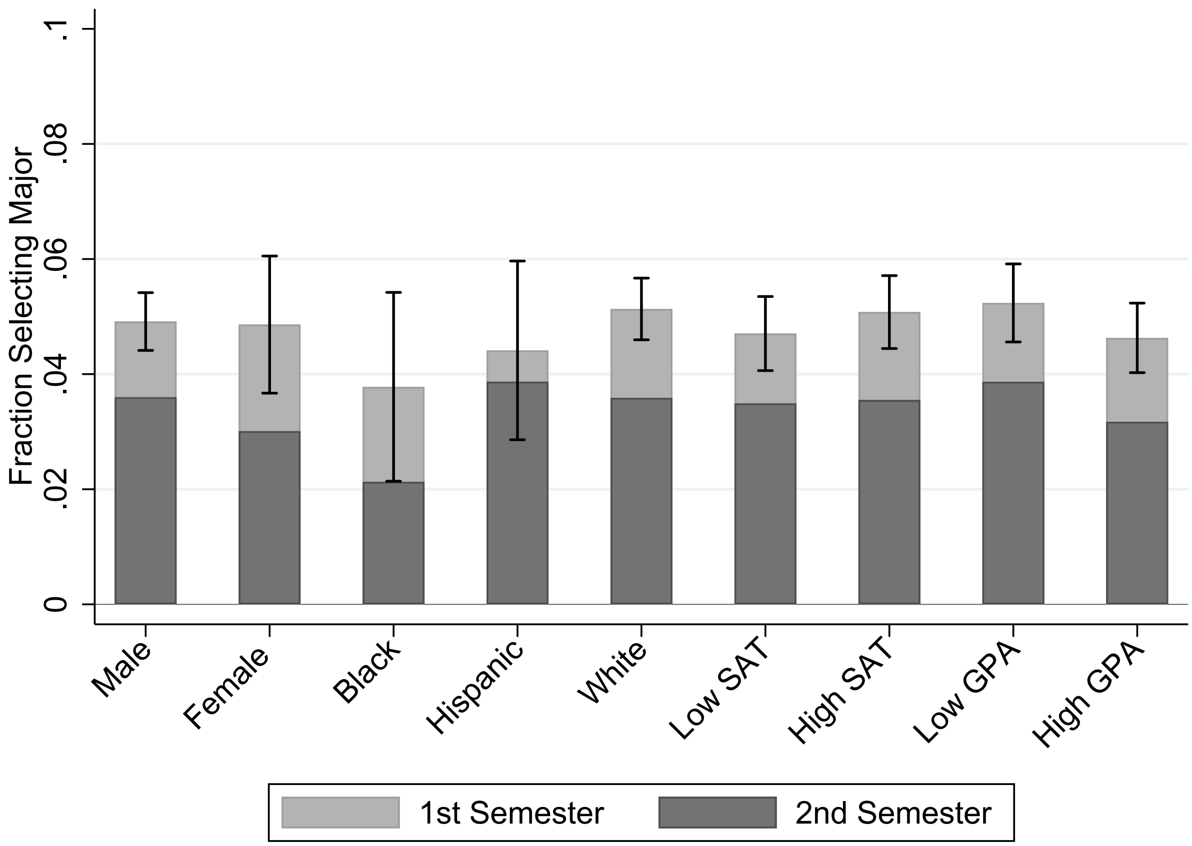
Sample includes 12,781 Freshman students who take both Information Technology and Psychology. Join F-test(11;12,769) across all variables yeilds a p-value or 0.00.

Figure A.1: Likelihood of Selecting a Corresponding Major, All Courses



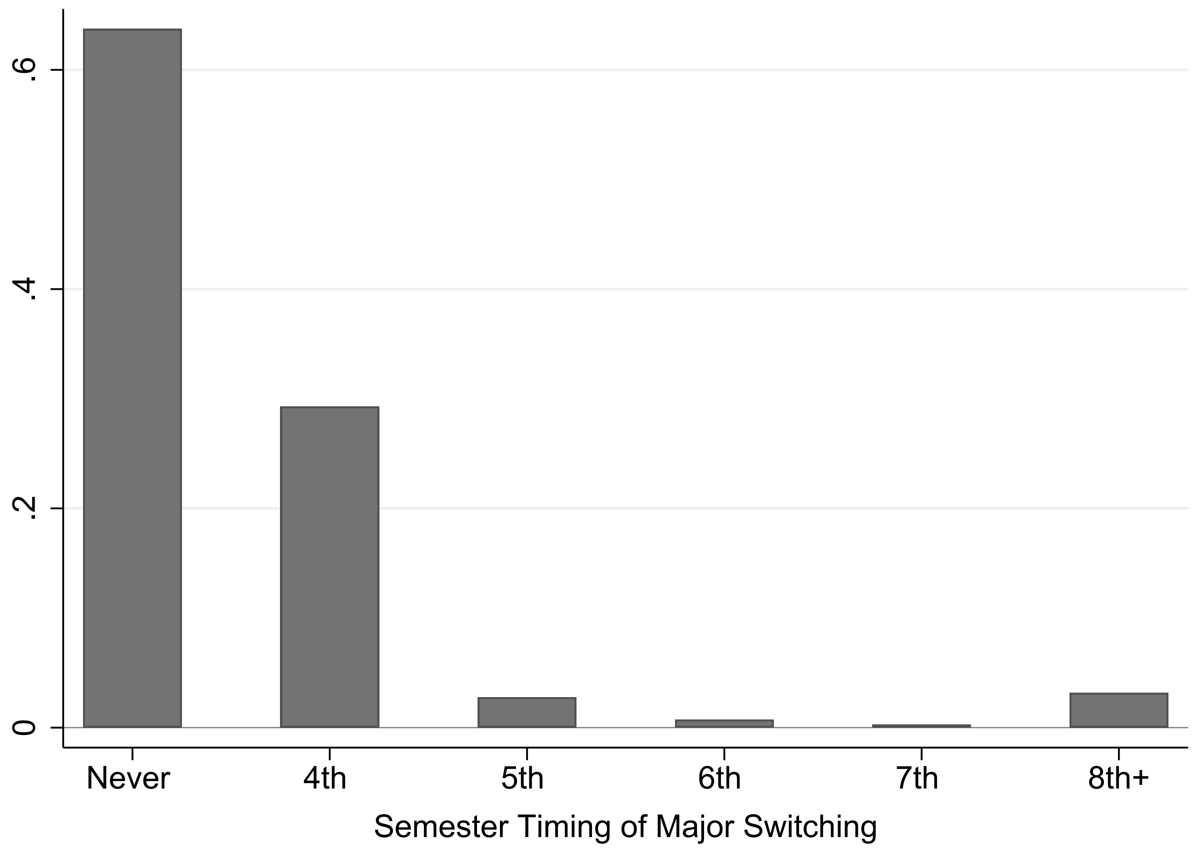
Per course averages reported. Subjects assigned prior to the semester when majors selected include courses in Chemistry, English, History, Information Technology, and Math. Courses assigned during the semester when majors are selected include Foreign Language courses and Physics courses for all students and American Politics, Economics, Geography, and Philosophy for those assigned the a first-semester section of these courses. Courses assigned after the semester when majors are selected include Legal Studies and International Relations for all students and American Politics, Economics, Geography, and Philosophy for those assigned to a second-semester section of these courses.

Figure A.2: Effects of Semester Order on Graduating Major by Subgroup



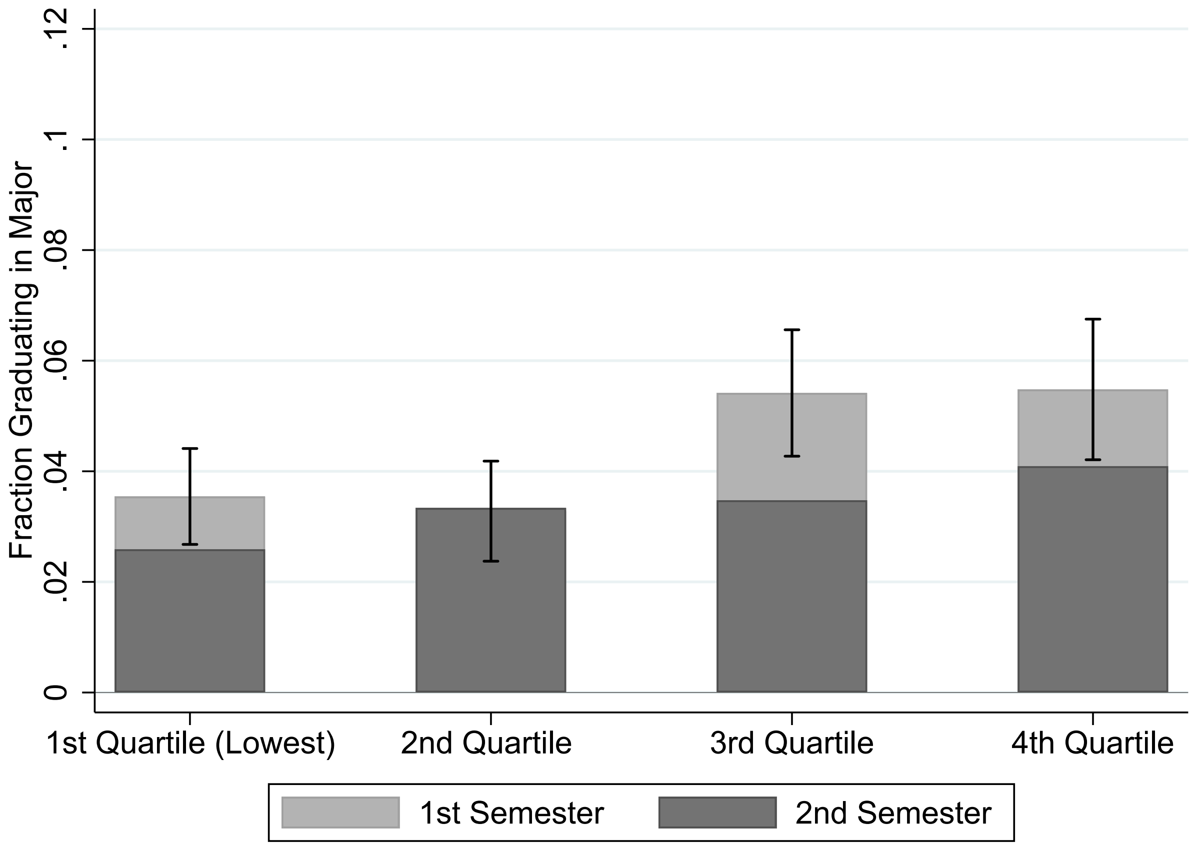
Differences are estimated from regressions that include demographic controls, peer demographic controls, faculty fixed effects, schedule roster fixed effects, and year fixed effects separately for each subgroup and are analogous to column 5 of Table 3. Demographic controls include age, SAT math and verbal scores, USMA academic potential (CEER) score, and indicators for sex, race/ethnicity, prior military service, prior college experience, preparatory school attendance, and Division I athlete. The dark bar shows the fraction of students who are assigned a course in the second semester of their sophomore year and select a corresponding major. The light bar adds the estimated effect of first-semester assignment on major choice (i.e. baseline mean+first-semester effect). The whiskers represent the 95% confidence intervals for the first-semester effect. Robust standard errors are clustered at the individual and section-by-year levels.

Figure A.3: Semester of Major Switching



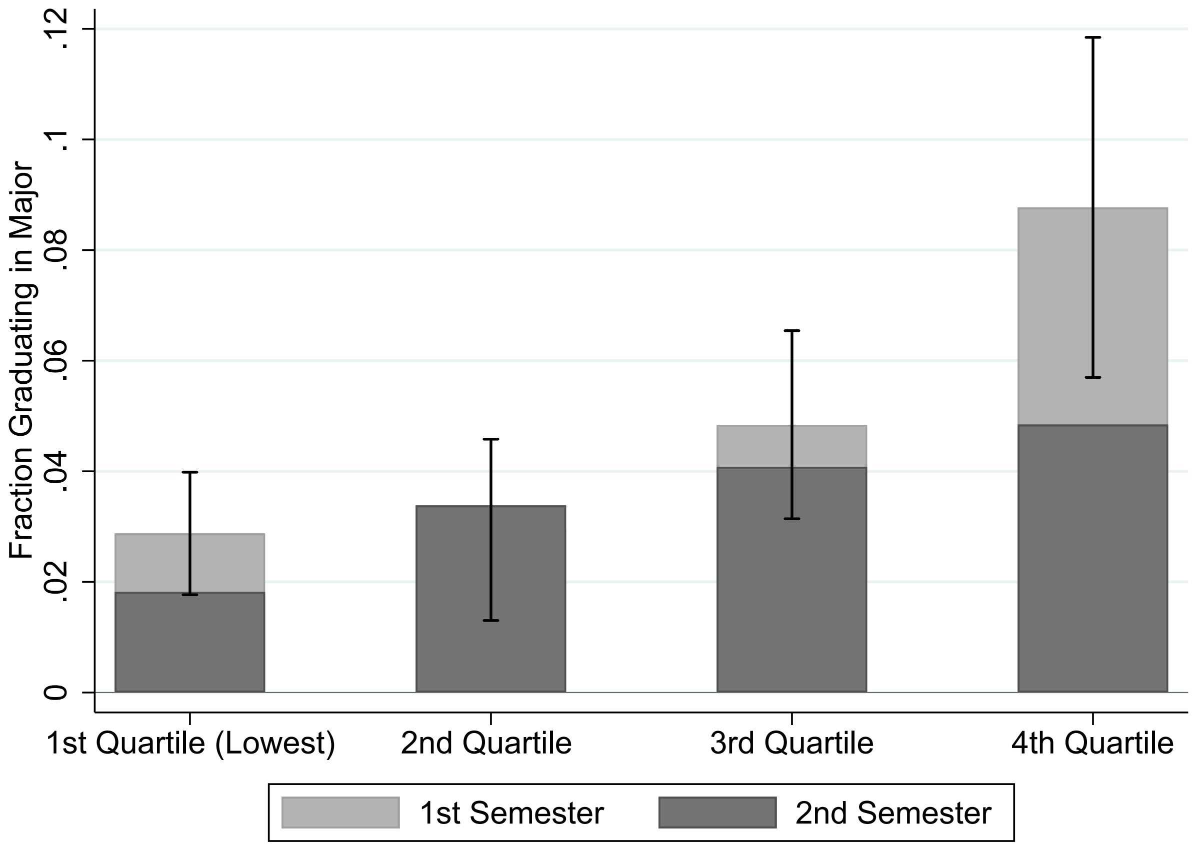
This figure shows the semester timing of last major declaration among students who selected an initial or final major in American Politics, Economics, Geography, or Philosophy.

Figure A.4: Effects on Graduating Major by Instructor Course Evaluation Quartile



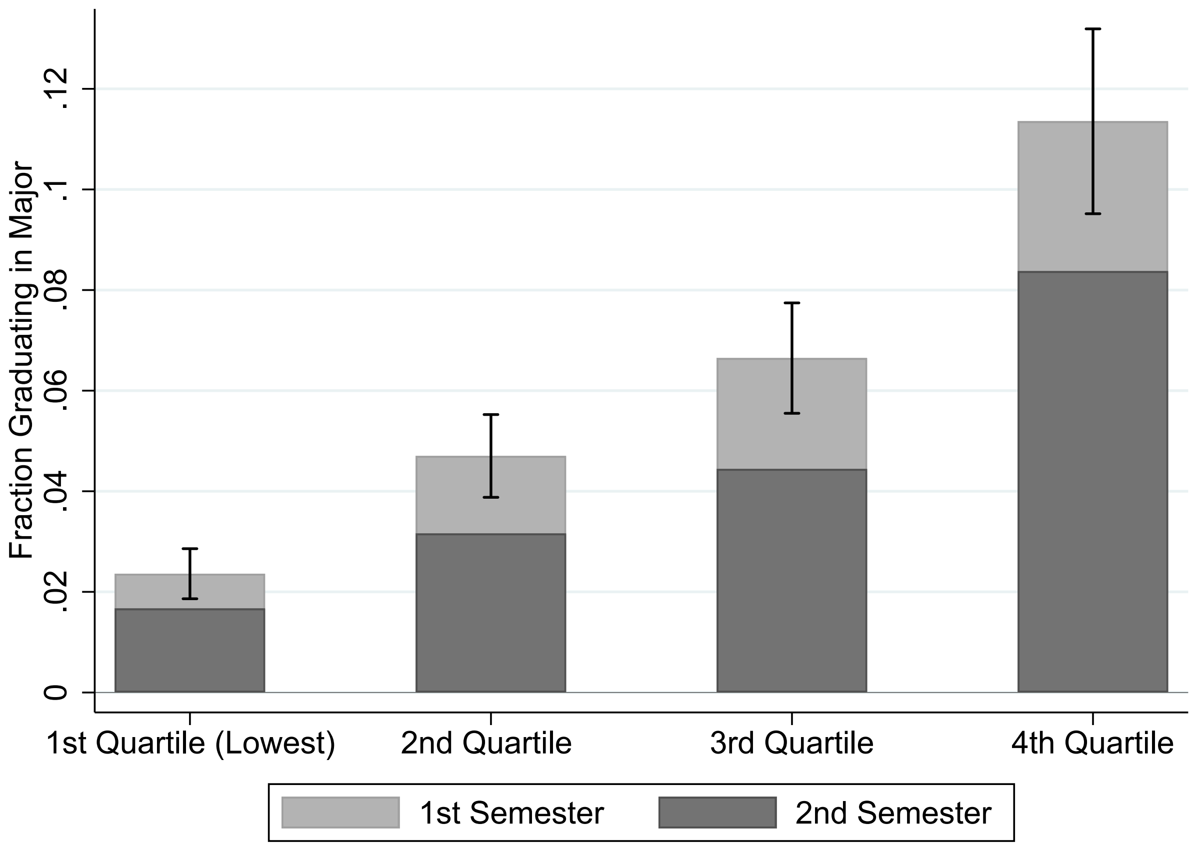
Differences are estimated from regressions that include demographic controls, peer demographic controls, faculty fixed effects, schedule roster fixed effects, and year fixed effects and are analogous to column 5 of Table 3. Demographic controls include age, SAT math and verbal scores, USMA academic potential (CEER) score, and indicators for sex, race/ethnicity, prior military service, prior college experience, preparatory school attendance, and Division I athlete. Course evaluation quartiles are constructed within year and course. The dark bar shows the fraction of students who are assigned a course in the second semester of their sophomore year and select a corresponding major. The light bar adds the estimated effect of first-semester assignment on major choice (i.e. baseline mean+first-semester effect). The whiskers represent the 95% confidence intervals for the first-semester effect. Robust standard errors are clustered at the individual and section-by-year levels.

Figure A.5: Effects on Graduating Major by Within-Student Course Evaluation Quartile



Differences are estimated from regressions that include demographic controls, peer demographic controls, faculty fixed effects, schedule roster fixed effects, and year fixed effects and are analogous to column 5 of Table 3. Demographic controls include age, SAT math and verbal scores, USMA academic potential (CEER) score, and indicators for sex, race/ethnicity, prior military service, prior college experience, preparatory school attendance, and Division I athlete. Within-student course evaluation quartiles are constructed from all students who complete at least four course evaluations among American Politics, Economics, Geography, Philosophy, required freshman courses, or required first-semester sophomore courses. The dark bar shows the fraction of students who are assigned a course in the second semester of their sophomore year and select a corresponding major. The light bar adds the estimated effect of first-semester assignment on major choice (i.e. baseline mean+first-semester effect). The whiskers represent the 95% confidence intervals for the first-semester effect. Robust standard errors are clustered at the individual and section-by-year levels.

Figure A.6: Effects on Graduating Major by Within-Student Performance Quartile



Differences are estimated from regressions that include demographic controls, peer demographic controls, faculty fixed effects, schedule roster fixed effects, and year fixed effects and are analogous to column 5 of Table 3. Demographic controls include age, SAT math and verbal scores, USMA academic potential (CEER) score, and indicators for sex, race/ethnicity, prior military service, prior college experience, preparatory school attendance, and Division I athlete. Within-student course performance quartiles are constructed from grades in American Politics, Economics, Geography, Philosophy, required freshman courses, or required first-semester sophomore courses. The dark bar shows the fraction of students who are assigned a course in the second semester of their sophomore year and select a corresponding major. The light bar adds the estimated effect of first-semester assignment on major choice (i.e. baseline mean+first-semester effect). The whiskers represent the 95% confidence intervals for the first-semester effect. Robust standard errors are clustered at the individual and section-by-year levels.

B Appendix B: Availability Bias Framework

In our availability bias framework, individuals conflate the availability of a choice – how easily it comes to mind – with the value of that choice. In addition, more recent and salient experiences are more available. Thus the more recent and salient an experience, the more likely an individual is to select a choice corresponding to that experience.

To clarify how timing may influence student major choice, we outline a conceptual framework that incorporates elements of present bias, availability, and salience. We refer to this framework as *Monotonic Availability Bias*. This framework is motivated by two ideas: (1) experiences that are more recent or salient are more available to a decision-maker and (2) decision-makers conflate the availability and value of a choice. In this framework, an individual's accurate projection of her future utility of consuming x is $u(x) = \sum_{\tau=1}^{t} \theta_\tau u(x_\tau)$, where θ_τ is the optimal weight placed on an experience from time period τ. This is simply a weighted sum of past utilities of consuming x. With Monotonic Availability Bias, an individual perceives her future utility as: $\hat{u}(x) = [\sum_{\tau=1}^{t} \theta_\tau u(x_\tau)] + \alpha[\gamma(x_t) + \beta \sum_{\tau=1}^{t-1} \delta^{t-\tau}\gamma(x_\tau)]$, where $\alpha \in [0, \infty)$ is a measure of availability bias, $\gamma(x_\tau) \in [0, 1]$ is a measure of how salient the choice of x is in period τ (i.e. the degree to which the choice stands out), $\beta \in [0, 1]$ is a present-bias discount factor, and $\delta \in [0, 1]$ is an exponential discount factor.

In this framework, an individual's time t projected utility of consuming x has three main components: (1) an accurate (or unbiased) projection of utility, captured by $u(x) = \sum_{\tau=1}^{t} \theta_\tau u(x_\tau)$, (2) a susceptibility to availability bias, captured by α, and (3) an overall availability of choice x at time t captured by $\gamma(x_t) + \beta \sum_{\tau=1}^{t-1} \delta^{t-\tau}\gamma(x_\tau)$.[49] In our representation of availability, we assume that experiences with a choice make a choice salient or stand out,[50] all experiences weakly increase the overall availability of a choice, and overall availability increases if experiences are more recent. If an experience occurs in period t, the period when a decision is made, the salience of that experience is not discounted and will have the largest possible contribution to the overall availability of a choice. However, the salience of an experience that occurs in any prior period $\tau \in \{1, ..., t-1\}$ is discounted by a present-biased discount factor β and an exponential discount rate $\delta^{t-\tau}$.[51] Altogether, the term $\alpha[\gamma(x_t) + \beta \sum_{\tau=1}^{t-1} \delta^{t-\tau}\gamma(x_\tau)]$ captures the extent to which an individual is biased by the timing and salience of experiences. We refer to our framework as Monotonic Availability Bias because the availability bias term, $\alpha[\gamma(x_t) + \beta \sum_{\tau=1}^{t-1} \delta^{t-\tau}\gamma(x_\tau)]$, is always (weakly) positive and thus the more available a choice, the more likely an individual is to choose it.

Our Monotonic Availability Bias framework has several straightforward and intuitive predictions. First, if an individual has two equally positive (or negative) experiences with two majors (that would lead her to be indifferent except for Monotonic Availability Bias), she will strictly prefer the major she experienced most recently. This is because the choice experienced more recently is more available to the decision-maker. Second, an additional experience (at any time) that is more positive than the average prior experiences will increase an individual's perceived future utility of x. However, an additional experience (at any time) that is more negative than an individual's average prior experiences might increase or decrease an individual's expected utility

[49]In our framework, salience captures the degree to which a choice stands out at the time it is experienced, and availability captures how all current and prior experiences contribute to how readily a choice comes to mind. When an individual's only experience with a choice is in the period that she makes a choice, salience and availability are identical.

[50]Our definition of an experience with a choice is intended to be broad. An experience could be making the choice, researching the choice, discussing the choice with someone else, or even watching someone else make the choice. If an individual does not experience choice x in period t, then $\gamma(x_t) = 0$.

[51]Our construction of overall availability adopts a nearly identical approach to Laibson (1997) in modeling present-bias. The two distinctions between our representation of present-biased salience and Laibson's model of quasi-hyperbolic present-biased preferences are (1) our framework is retrospective instead of prospective and (2) our framework applies to salience instead of utility. An advantage of this approach is that many of the properties of the well-established quasi-hyperbolic present-biased model apply directly to our framework. More importantly, this approach incorporates several intuitive properties that match models of memory (e.g. **?**) and present bias (e.g. O'Donoghue and Rabin, 1999). Several of these properties are discussed below. Other approaches, however, have many of the same general properties. For example, availability could be calculated as $MAX\{\beta\delta^{t-1}\gamma(x_1), \beta\delta^{t-2}\gamma(x_2), ..., \beta\delta\gamma(x_{t-1}), \gamma(x_t)\}$, or the highest discounted salience of current and prior experiences. This approach would eliminate the positive effect of repetition and generally make individuals more biased toward their most recent experiences. Another approach would be to take the average discounted salience of all experiences that have positive experiences. This would also eliminate the positive effect of repetition but make individuals less biased toward their most recent experiences.

of x. This is because a negative experience reduces the unbiased portion of an individual's projected utility, $\sum_{\tau=1}^{t} \theta_\tau u(x_\tau)$, but increases the biased portion of her projected utility, $\alpha[\gamma(x_t) + \beta \sum_{\tau=1}^{t-1} \delta^{t-\tau}\gamma(x_\tau)]$. The greater α, β, δ, and $\gamma(x)$, the more likely a negative experience will increase an individual's projected utility of x. Thus, Monotonic Availability Bias has a "raise all boats" characteristic; as $\alpha[\gamma(x_t)+\beta \sum_{\tau=1}^{t-1} \delta^{t-\tau}\gamma(x_\tau)]$ becomes sufficiently large, both good and bad experiences increase projected utility.

C Appendix C: Course Descriptions

C.1 American Politics

This course explores the American political system - how it works, its strengths, its weaknesses, its conflicts, its controversies. The course emphasizes how our democracy makes decisions about politics & policy to balance the many competing values and demands of a free society. The course begins with the study of the constitutional foundations of American government and then examines political behavior, institutions of government, and the policy making process. The course integrates the study of civil-military relations and the broader study of political science as a discipline throughout the semester.

C.2 Economics

This standard course presents the basic principles of economic analysis and their application to contemporary economic problems and supports the further study of economics and related disciplines in the social sciences. The course is organized into three general sections: microeconomics, outlining basic theory of allocation by supply and demand in a market economy and relating this theory to contemporary issues; macroeconomics, surveying the theory of aggregate economics and illustrating the application of macroeconomic theory to public policy in the American economy; and international economics, introducing trade theory and international monetary theory and policy and application of economics to selected public policy issues (taxation and resource allocations, provision of public goods, etc). Cadets examine the implications of economics on national security and defense, and the use of economic analysis to improve decisions they will make as Army officers.

C.3 Philosophy

This course helps third class cadets develop their capacities to think clearly and critically. It acquaints cadets with various viewpoints on major philosophic issues, assists them in acquiring a facility with the language, arguments, and methods of moral discourse, and gives special attention to the subject of war and morality.

C.4 Physical Geography

This core course provides cadets with a fundamental understanding of scientific principles and processes of earth science, meteorology, climatology, geomorphology and environmental systems, as well as an introduction to cultural Geography. Further, the course furnishes cadets with the technical skills - digital terrain analysis, image interpretation and spectral analysis, remote sensing, global positioning system, geographic information systems cartography - to delineate the geographic distribution of landforms, weather, climate, and culture systems; and evaluate their potential impact on military operations. Lessons are reinforced by extensive use of in- and out-of-class practical exercises, terrain walks and computer exercises to demonstrate the interrelationship between physical and human systems, and their impact on the environment. Historical vignettes are employed to demonstrate how the factors of weather, climate, terrain, soils, vegetation and culture are important, cogent and frequently decisive in military operations.

D Appendix D: Example of Semester Order and Updating Beliefs

Below we provide an example for how assignment to a course in the semester a student selects a major may increase the probability she chooses a corresponding major when updating beliefs. Take a student who is assigned courses in Geography, Economics, and Philosophy. We make the following assumptions: (1) she is only considering majors in these three subjects, (2) she initially values each major equally and is unbiased in these evaluations, (3) she is uncertain about the value of each major and the distribution of potential values for each major is identical and non-skewed, and (4) she will update her anticipated value after taking each introductory course and taking a course only informs the student's value of the related major. Now let us say that this student is assigned a course in Geography prior to making a decision about her major but is assigned to take Economics and Philosophy in the semester after she makes a decision. Given these assumptions, there is a 50% chance she will choose Geography, but only a 25% chance she will choose Economics and a 25% chance she will choose Philosophy. This result is simply because after taking Geography there is a 50% chance the student positively updates her anticipated value of Geography and therefore prefers Geography over the other two majors. However, there is a 50% chance that she negatively updates her anticipated value of Geography and divides this 50% equally between the other two majors.

Now let us say that the order of courses is reversed and she is assigned courses in Economics and Philosophy prior to choosing a major but is assigned to take Geography in the semester after she makes a choice. Given these assumptions, there is a 37.5% chance she will choose Economics, a 37.5% chance she will choose Philosophy, but only a 25% chance she will choose Geography. The reason she has a 37.5% chance of choosing Economics is that there is a 50% chance that she positively updates her anticipated value of Economics and, conditional on positively updating her anticipated value of Economics there is a 75% chance that she will prefer Economics to Philosophy. Therefore, there is a $50\% \cdot 75\% = 37.5\%$ chance she will choose Economics. By symmetry, there is also a 37.5% chance she will choose Philosophy. However, there is only a 25% chance she will choose Geography. This is because, after seeing both Philosophy and Economics, there is a 50% chance she negatively updates her anticipated value of Economics and a 50% chance she negatively updates her anticipated value of Philosophy, and therefore only a $50\% \cdot 50\% = 25\%$ chance that her anticipated value of Geography is more than Economics *and* Philosophy. In both of these examples, a student is systematically more likely to choose a major corresponding to a course she has seen relative to a course she hasn't seen, when her evaluations were unbiased and she valued all majors equally, ex-ante.

In general, in cases where an individual is choosing among majors that (1) start with the same anticipated value, and (2) share the same non-skewed distribution of potential values, then when there are N majors to choose from and X majors that are not seen prior to the major choice, then the probability of choosing a particular unseen major is:

$$(\frac{1}{2})^{N-X}(\frac{1}{X}) \tag{1}$$

And the probability of choosing a particular major that is seen is:

$$(1-(\frac{1}{2})^{N-X})(\frac{1}{N-X}) \tag{2}$$

A key insight of this exercise is that the probability of choosing a seen major is greater than choosing an unseen major as long as $N > 2$.

E Appendix E: Major Change Request Form

MAJOR CHANGE REQUEST FORM

MADN-ORD

DATE:__________________

SUBJECT: REQUEST TO CHANGE MAJOR

OLD CODE:_______ NEW CODE:_______

CADET:________________________ USMA ID: ________________ CO: ____ GY:______

Reason for Request:

APPROVE/DISAPPROVE
FORMER DAC:____DEPT:__________
Print Name Sign and date

APPROVE/DISAPPROVE
GAINING DAC:____DEPT:__________
Print Name Sign and date

CADET SIGNATURE:______________________________________

NOTE to cadet: It is your responsibility and duty to work with your new DAC to ensure the correct courses are in your 8TAP.

Figure E.1. USMA Major Change Form