

## **Gender Bias in IR Graduate Education? New evidence from syllabi<sup>1</sup>**

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### Abstract

Gender diversity is good for the study of International Relations (IR) and political science. Graduate training is an opportunity for scholars to affect the demographics of their field and the gendered practices within it. This article presents a first-cut investigation of the degree to which gender bias exists in graduate IR syllabi. I find that the gender of the instructor for graduate courses matters significantly for what kind of research is taught, in two ways. First, female instructors assign significantly more research by female authors than male instructors do on average. Second, female instructors appear to be considerably more reluctant than men are about assigning their own research as required readings. Some but not all of the difference between male- and female-taught courses might be explained by differences in course composition.

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Gender diversity is an important issue for graduate training in International Relations (IR) and political science (Breuning and Sanders 2007; Carpenter 2009; Lake 2013; Walter 2013). Unfortunately, there is mounting evidence that women face disadvantages in the discipline (APSA Task Force 2004; Hancock, Baum, and Breuning 2013; Maliniak, Powers, and Walter 2013). If we assume that part of what it means to encourage female students to pursue academia involves showing them examples of excellent research by women, early and often, then the presence of female-authored research on graduate syllabi takes on considerable importance (Nexon 2013).

This article presents an investigation of the degree to which gender bias exists in graduate IR syllabi. It builds on earlier studies of graduate training in political science (Colgan 2016; Hagmann and Biersteker 2014; Schwartz-Shea 2003; Young 1995). I find that most of the research assigned in IR graduate courses is written by men, and that the gender of the instructor matters significantly for the proportion of assigned research written by female scholars. On average, female instructors assign significantly more research by female authors than male instructors do. Some but not all of the difference between male- and female-taught courses might be explained by differences in course composition (e.g., female instructors appear relatively more likely to teach International Law courses than male instructors). While the empirical evidence collected for this article is restricted to the field of IR, it seems plausible that similar patterns of behavior might exist in other fields of political science and social science generally. I note that my study uses two relatively small data samples, one with 42 syllabi containing

3343 readings and a second with 73 syllabi containing 4148 readings. The relatively small data samples mean the findings should be viewed as preliminary. The analysis here could motivate further investigation in IR and other fields.

### **Empirical findings**

My basic findings derive from a two-stage analysis. In the first stage, I used a dataset of graduate syllabi from the core IR course (“proseminar”) from 42 US universities.<sup>2</sup> This dataset was developed for a broader investigation of graduate training (Colgan 2016). That study sought to explore whether there is evidence of stagnation in IR theory, how Google Scholar is used in political science, and much else. The sample of universities derives from the top 65 graduate programs in Political Science, as ranked by US News and World Report. Inclusion in the sample was determined by whether a syllabus could be found by Internet search; not every university was included.<sup>3</sup> Internet availability might introduce some bias, but there is no reason to expect that it would be large.

The dataset includes 3343 required “readings,” which could be an article, a book, or a section of a book. Ideally data from other countries would be included as well, but the outsized-influence of American academia in IR make it the natural starting place to conduct an in-depth investigation of this type (Hagmann and

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<sup>2</sup> In this sample: Princeton, Columbia, Arizona State, Cornell, George Mason, Florida State, George Washington, Georgetown, Johns Hopkins, MIT, Northwestern, Notre Dame, Ohio State, Purdue, Rochester, Rutgers, SUNY Binghamton, Syracuse, Texas A&M, UC Los Angeles, UC San Diego, UC Berkeley, Maryland, Florida, North Carolina, Michigan, Minnesota, Missouri, North Texas, South Carolina, Washington, Pennsylvania, Southern California, Texas, Virginia, Harvard, Yale, Wisconsin, Duke, Rice, Stanford, and NYU.

<sup>3</sup> I emailed three colleagues to obtain syllabi, to boost the sample size from top-10 universities.

Biersteker 2014; Kristensen 2015). Unfortunately, the data do not speak to diversity issues besides gender, like race or ethnicity (see Vitalis 2015).

Using only the data from these “core IR” courses in this first stage, I found that 82 percent of assigned readings in IR proseminars are written by all-male authors (*i.e.*, women or co-ed teams account for the other 18 percent). That percentage is high, but it is also roughly consistent with the gender pattern of articles published in top IR journals, which is 81 percent male-authored (Maliniak, Powers, and Walter 2013).<sup>4</sup> Thus the first stage of analysis did not suggest any additional gender bias at the syllabus-design stage. Moreover, the percentage of work authored by women increased over time. All-male authors were responsible for 90 percent of assigned readings that were published prior to 2000, compared to 73.5 percent since 2000.

One question, however, was whether the instructor’s gender mattered. It looked that way in the first-stage data. Of the 42 courses, eight were taught by women, of which one was co-taught with a male instructor. Those eight syllabi had an average of 78 percent readings written by all-male authors, compared to an average rate of 84 percent of readings written by all-male authors in the 34 syllabi taught by male instructors. This gender difference (78 vs. 84 percent) is statistically significant at the  $p < 0.002$  level. However, the sample of courses taught by female instructors was simply too small to be confident. More data were needed.

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<sup>4</sup> The findings do not necessarily mean that there is no bias. It is possible that the quality of work by female scholars is generally higher than the work by men (because of a selection effect: the few female scholars staying in the field are exceptionally bright and hard-working), and thus the fact that articles published by women are taught at only an equal frequency is actually evidence that bias exists. That possibility cannot be tested with existing data. Still, if we assume that average quality of publications by men and women is roughly equal, the evidence does not suggest a bias in the rate at which women’s research is assigned for graduate training.

So for the second stage of analysis, my research assistant coded data from 73 additional graduate syllabi, drawn from 37 universities.<sup>5</sup> Female instructors taught 35 of those courses, and male instructors taught the rest. Like the first-stage dataset, the unit of analysis was a required reading, and this new dataset contained 4148 observations. The courses were different from the first-stage dataset, however, because (a) they were not core IR courses and (b) we occasionally used more than one syllabus per university. Again, we used only IR courses designed for PhD students. During the first-stage of the analysis, my research assistant had created a pool of extra syllabi for non-core IR courses from the same set of top 65 universities (again, availability on the Internet was the only selection criterion). I looked through this pool of syllabi in random order until I identified 35 syllabi taught by female instructors. I then looked through the syllabi again in random order until I identified a roughly equal number of courses taught by male instructors (rejecting any courses co-taught by a male and a female instructor). The total sample size was chosen based on the tradeoff between the need for statistical power (more is better) and feasibility for coding (fewer is better).

Two key findings came out of this second-stage analysis. First, female instructors tend to assign more readings by female authors than male instructors. “Only” 71.5 percent of readings in courses taught by female instructors were written by men, either individually or in all-male teams. By contrast, in courses taught by

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<sup>5</sup> Arizona, Chicago, Columbia, Maryland, Rochester, Southern California, North Carolina, Minnesota, Wisconsin, Colorado, Georgia, UC San Diego, UC Los Angeles, UC Berkeley, UC Santa Barbara, UC Irvine, UC Davis, Texas, Pennsylvania, South Carolina, Florida, Florida State, North Texas, Virginia, Washington, Missouri, Rice, Michigan, Northwestern, George Mason, Notre Dame, Iowa, George Washington, Johns Hopkins, Binghamton, Pittsburgh, Princeton.

male instructors, male authors wrote 79.1 percent of readings. A simple t-test confirms that this difference is statistically significant ( $p=0.01$ ). Put differently, at least one female author was included in the authorship of 20.9 percent of readings in male-taught classes, and 28.5 percent of readings in female-taught classes. Substantively, this suggests that female instructors assign *36 percent more readings by women* than male instructors do, or about 5 readings per course.

Second, female instructors also appear to be considerably more reluctant than men are about assigning their own research as required readings. Female instructors assigned an average of 1.68 readings that they themselves had written (individually or in a team). Male instructors assigned roughly twice as much of their own work: an average of 3.18 readings. The difference is again statistically significant ( $p=0.01$ ).

This difference of 1.5 fewer reading assignments (comparing male and female instructors' own research) in a single course might not seem terribly important. When that difference plays out across many courses and many institutions, however, the substantive effect is larger. If female instructors assigned as much of their own work as male instructors, it would increase the female-authored research taught in their courses by 15 percent.<sup>6</sup> In just the small sample of female-taught courses used here, that means 52 fewer readings by female authors, as compared to the scenario where women assigned as much of their own work as male instructors do.

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<sup>6</sup> Assumes that the additional readings are solo-authored or co-authored with other women. Without this assumption, it would still increase the research that has at least one female author by 9 percent.

Putting these two findings together suggests that the gap between male- and female-taught courses would grow even larger if female instructors assigned their own work at the same rate as males. If female instructors added an average of 1.5 readings of their own work, without subtracting anything else, research by female authors or coed teams would then account for 30.7 percent of the readings in their courses. That rate would be 10 percentage points higher than the rate in male instructors' classes (30.7 percent vs. 20.9 percent). That is, female instructors would be teaching 47 percent more readings by women than male instructors.

The impact on the field or individual careers of this gendered pattern of syllabi design is unknown. Possibly it has no real impact. However, citations are used increasingly to gauge research productivity (Hendrix 2016; Reiter 2016). A gender bias appears to exist in citation patterns in IR (Maliniak, Powers, and Walter 2013). And some scholars suggest that citation patterns are driven by graduate syllabi (Nexon 2013). Thus it seems reasonable to be aware of such practices.

### **Potential Causes**

These findings only indicate correlation, not causation. Determining exactly why we observe this difference between male- and female-taught courses is harder. Before jumping to any conclusions about bias, it is important to analyze potential confounding factors. Two such factors seem especially plausible: instructor age and differences in course composition.

With respect to instructor age, one possibility is that younger instructors generally tend to assign more female-authored research than older instructors, and female instructors are younger than male instructors, on average. If these two

things were true, that could explain the observed difference between male- and female-taught courses without any instructor-level bias at all.

I tested this hypothesis by using year of PhD completion as a proxy for instructor age. The findings suggest that age is not a major factor in explaining the gender make-up of syllabi assignments. First, the difference in ages between male and female instructors is not large: the average PhD completion year was 1995 for males, 1998 for women. Among male instructors, 24 had completed their PhD before 2000, and 14 in 2000 or later. Among female instructors, 19 had completed their PhD before 2000, and 16 in 2000 or later. So female instructors are more junior than male instructors on average but the difference is not huge. Second, younger instructors tend to assign slightly more female-authored research, but the instructor's gender is much more important than age. Specifically, among instructors who completed their PhD prior to 2000, female instructors assigned an average of 72.7 percent of readings by all-male authors, compared to 80.3 percent for male instructors. Among instructors who completed their PhD in 2000 or later, female instructors assigned an average of 70.1 percent of readings by all-male authors, compared to 77.1 percent for male instructors. Thus it appears even junior male instructors assign less female-authored research than senior female instructors.

Instructor age might not matter, but the author's age of the assigned readings certainly does. Assigned readings typically come from tenured professors, and that category is more male-dominated than untenured professors. That difference does



not explain the difference between female and male instructors, however, because both types of instructors should be equally likely to assign senior professors' work.

A second possibility has to do with course composition. It is possible that men tend to teach security courses, whereas women tend to teach non-security ones (political economy / environmental / human rights). Also, men might be more likely to publish in security studies, whereas women publish more heavily in non-security research areas. That could create the observed result (male instructors assign more male-authored research) without any real instructor-level bias: instead, it is all about teaching and research preferences.

I tested for this possibility by asking my assistant to code the syllabi into one of five categories: (i) Security, (ii) IPE, (iii) IO and International Law, (iv) Comprehensive, and (v) Other. Comprehensive courses tended to follow the "core" IR course as part of a series; courses in the Other category tended to focus on special topics (e.g., ethnic politics) or applications of mathematical models across a range of substantive topics. The syllabi were coded on the basis of four elements, in descending order of importance: the summary description and introduction of the syllabus; the weekly themes and readings; the course title; and topics for major assignments. Tables 1 and 2 show the results of this coding exercise. For most categories, male and female instructors were roughly equally likely to teach it, but there were two exceptions: female instructors taught proportionally more IO/Law classes, and male instructors taught more courses in the Other category. This difference is important, because IO/Law courses tend to have more readings written by women or co-ed teams (regardless of the gender of the instructor).

*Table 1: Number of each course type in the dataset, by gender of instructor*

<i>Course type</i>	<i>Female</i>	<i>Male</i>	<i>Grand Total</i>
Security	11	13	24
Comprehensive	5	3	8
IO & Law	12	8	20
IPE	6	7	13
Other	1	7	8
Grand Total	35	38	73

*Table 2: Percentage of readings written by all-male author(s), by gender of instructor*

<i>Course type</i>	<i>Female</i>	<i>Male</i>	<i>Grand Total</i>
Security	74.1%	85.8%	80.5%
Comprehensive	75.8%	85.1%	79.2%
IO & Law	64.1%	65.9%	64.8%
IPE	76.0%	76.1%	76.0%
Other	84.4%	82.2%	82.4%
Grand Total	71.5%	79.1%	75.5%

Table 3 imagines a scenario in which female instructors taught the same distribution of course types as male instructors, but continue to assign readings the way female instructors did in the original data sample. In that hypothetical scenario, the percentage of male-authored readings would increase from 71.5 to 74.4 percent.

*Table 3: Hypothetical scenario – re-distribution of female instructors’ course types*

<i>Course type</i>	<i>Number taught</i>	<i>Assignment rate</i>
Security	12.0	74.1%
Comprehensive	2.8	75.8%
IO & Law	7.4	64.1%
IPE	6.4	76.0%
Other	6.4	84.4%
Grand Total	35	<b>74.4%</b>

In short, the data suggest that about a third of the difference between male- and female-taught courses can be explained by differences in course composition (i.e., because female instructors appear more likely to teach IO/Law courses than male instructors). Most of the overall difference between male and female instructors, however, does not appear attributable to differences in course composition. Looking only at Security courses, for instance, 85.8 percent of the readings assigned by male instructors are written by men, compared to only 74.1 percent of the readings assigned by female instructors.

Inferences should be made cautiously, however, because of the small sample size. The total sample of 78 syllabi is large enough to observe statistically significant differences between male- and female-taught courses, but observing such differences gets harder among the sub-categories. For instance, female instructors teach more IO/Law courses than male instructors do in this sample, but that could have happened by random chance ( $p=0.21$ ). If so, attributing a third of the difference between male- and female-taught courses to differences in course composition might be an overestimate. One thing we can be confident about, however, is that course composition alone does not explain all of the difference between male- and female-taught courses. For instance the difference between male- and female-taught courses is still statistically significant ( $p<0.02$ ) even when looking only at the sub-sample of Security courses.

Another caveat is needed. It seems likely that female-authored research appears at higher rates in Feminist IR courses. Such courses appear to be relatively rare at top US institutions, however. None of the courses included in the data sample

have the word feminist (or gender or women) in the title, and only one had feminist in the sub-title.

So if instructor age and course composition do not explain this gender gap, what does? We can only conjecture, but I suspect that a combination of three factors is at work: network effects, explicit bias, and implicit bias.<sup>7</sup> Network effects might matter if female professors have closer social ties with other female professors than they do with male professors. If instructors are, on average, more likely to assign readings by people with whom they have social ties, that could explain the gender gap evident in the data. A second possibility is explicit bias against female-authored research. My guess is that explicit bias is relatively rare. Probably much more common is the third factor, implicit bias. Instructors probably draw on what they were taught as graduate students, updated with some new material, based on what comes to mind when they are designing the syllabus. At this stage, implicit bias could be a key factor: as instructors, we might be more likely to think of male-authored research as “really important” for our course than female-authored research.

That still leaves unexplained the tendency for female instructors to assign their own work more rarely than male instructors. One female colleague of mine suggested a possible explanation: women are painfully aware of stereotypes against female professors, so they are reluctant to assign their own work unless they are highly confident of its excellence — especially on a syllabus where it would be in the company of other excellent work, mostly by men. This is somewhat analogous to

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<sup>7</sup> Another possibility is that instructors with female PhD supervisors might be more likely to assign female-authored research. Unfortunately data are not available to test this hypothesis.

women being unwilling to apply for jobs unless they fulfill all the requirements in the job ad, whereas men are more likely to apply even if they have only some of the requirements – a trend for which there is documented evidence (Clark 2014). This explanation for syllabus design remains conjecture, however.

Even without a precise causal explanation for these findings, they are hard to ignore. Moreover, any of the proposed explanations raises additional hard questions about how we think graduate students in IR should be trained. Most instructors want to assign the “best” readings – but “best” is partly subjective, and the evidence presented here suggests that gender affects such judgments. After I blogged (Colgan 2015) about some preliminary findings in August 2015, many instructors told me that they found revising their syllabus with gender in mind was not only feasible, but made it better.

## Conclusion

In sum, the evidence suggests that male and female instructors systematically differ in the way that they design IR courses. Two differences are especially striking. First, when identifying the “best” research to assign in their courses, male instructors select substantially more research written by male authors than female instructors do. Second, male instructors also assign substantially more research they themselves wrote than female instructors do, thereby potentially giving their own work greater exposure to future scholars in the field. About a third of the difference between male- and female-taught courses can be explained by differences in course composition, but differences remain even when looking within course types (e.g., only Security courses).

The appropriate response to these findings is not clear. Many female instructors, reacting to the preliminary evidence I shared on a blog (Colgan 2015), expressed a desire to match the behavior of their male colleagues, at least with regards to assigning their own research in graduate courses. An alternative response might be to encourage male instructors to emulate their female colleagues. To the extent that even a portion of male instructors do so, it could result in more female-authored research being taught and a bit less self-promotion.

One striking feature of this issue is that some people view syllabus design through the lens of equality of opportunity, whereas others see it as forcing an artificial equality of outcome. The equality of opportunity perspective focuses on how syllabi affect the motivation, interests, and incentives for today's students, thereby shaping their opportunities for success (and the field's demographics) in the future. The concern about equality of outcome focuses on the ideal of an intellectual meritocracy, and thus the desire to assign research based on its content rather than the gender or other characteristics of the author. Too much focus on gender threatens the meritocracy of ideas necessary for academia to function well. Both viewpoints contain a bit of truth, making syllabus design a thorny issue.

The biggest part of the diversity problem with respect to gender balance in IR syllabi and citation practices probably starts "upstream" – i.e., the loss of women in the profession prior to research and publication. According to APSA, over half of all undergraduates and some 42 percent of graduate students in political science are female, but just 26 percent of professors are women (APSA Task Force 2004: 3; Sedowski and Brintall 2007). Within political science, women are less likely to

choose international relations as a field than men are (Sedowski and Brintall 2007).  
More effort to include female-authored research in IR graduate seminars might  
encourage higher female student participation in the next generation of scholars.

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