ALSB JOURNAL OF BUSINESS LAW & ETHICS PEDAGOGY
VOLUME 3; ISSUE 2
WINTER 2021

ABOUT THE ALSB JOURNAL OF BUSINESS LAW & ETHICS PEDAGOGY

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CONTENT & OPINIONS

EDITORIAL BOARD AND STAFF EDITORS (2021-2022)

FROM THE EDITOR

Promoting Diversity in Teaching and Scholarship

There are many ways to accommodate diverse learners in the classroom, such as including inclusivity and disability statements in syllabi, incorporating multiple identity groups, and selecting content that encourages reflection and dialogue. But how often do we consider diversity in our research? A colleague and I had a conversation last year about a possibility I had not considered before—diversity in sourcing for scholarship and writing.

A recent panel of writers within the Association of Health Care Journalists discussed "source diversity" as a great way to bring new perspectives to a journal or news article. Rather than just relying on the typical experts in an area for opinions—which may be somewhat monolithic—the panel participants encouraged the audience to look for voices that will add rich, diverse perspectives to writing. They recommended taking the time to seek out sources that may better represent, engage, and include readers, and concurrently reflect the many knowledgeable contributions in the world from diverse role models.

As authors writing about the important subjects of business law and ethics, we should consider the process of seeking new and/or different authoritative voices for our articles. This process is important to keep in mind for case writing as well. Several other colleagues recently discussed with me their research on gender inclusiveness in case studies; they found in a review of over 200 cases from a business case journal that just over a third (37%) featured a female protagonist. The Harvard Business Case Publishing Group—one of the leading academic case publishers—featured even fewer female protagonists—only 11% of cases. Too few case studies include underrepresented minorities as well. In 2021, Chair Jan Rivkin of the Harvard MBA Program identified this disparity and said "By studying cases with a wide diversity of protagonists, students learn that talent and leadership come from all background and identities. If students don't understand that, they'll worsen inequities, miss out on opportunities for themselves, and miss chances to create opportunities for others."

In this issue of the *Journal of Business Law & Ethics Pedagogy,* the featured authors provide a number of teaching exercises and research results that will both reach diverse learners and start conversations.

In the first article, *Interactive Videos: An Effective Tool for Improving Learning Outcomes in Business Law*, author Jeffrey Bone discusses his successes with a blended learning program that highlights legal cases. Pairing Face-to-Face instruction with multi-media, Professor Bone explores hybrid learning, which is becoming more and more commonplace in the post-COVID era.

Authors Michael Conklin and Andrew Tiger begin a conversation about potential gender bias in their article *Student Gender Bias in College Class Selection*. They ask the question "When

college students are faced with the real-life decision of choosing classes, does the gender of the instructor influence their decision?" See the surprising and interesting results of this multiple regression analysis, which leads to many more questions and potential future research avenues.

In the teaching exercise *A GOAT Walks into a Copyright Lecture: Using the Jumpman Logo Case to Teach Copyright Law Basics*, author Jason Hildebrand highlights *Rentmeester v. Nike, Inc*.—the Jumpman logo case—as perhaps the "Greatest of All Time" pedagogical case for teaching business students copyright law basics and the importance of making wise intellectual property business decisions. In this informative case discussion, students learn the importance of this unique and interesting copyright case, as well as how to navigate and search government intellectual property records.

In the teaching article *Contract Exercises in the Age of Snapchat*, authors Dale Thompson, Susan Supina and Susan Marsnick offer two in-class expedient contract exercises intended to keep students on the edge of their seats—or screens—as the case may be. Breaking down the known complexities of contract making, the authors simplify and condense procedures, highlight relevant issues, and help students to understand this important process in little more than a *snap*.

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Christine Ladwig
EDITOR-IN-CHIEF

Student Gender Bias in College Class Selection

Michael Conklin and Andrew Tiger***

ABSTRACT

The existing literature on instructor gender preferences by students has a glaring gap. Namely, when college students are faced with the real-life decision of choosing classes, does the gender of the instructor influence their decision? This research is one of the first to address this question. Enrollment data from 581 class sections at a regional university in the United States was analyzed. The main findings of this research show that there is a significant bias in favor of male instructors. Even more troubling is the finding that this male preference bias is more pronounced in sophomore classes than freshman classes. This elicits discussion of how gender disparities in tenured positions may perpetuate harmful stereotypes regarding gender and teaching ability. Additionally, findings on math classes call into question some of the literature on gender bias and therefore point to the need for replication. The paper concludes by assessing the efficacy of potential solutions.

KEY WORDS: GENDER DISCRIMINATION, GENDER BIAS IN HIGHER EDUCATION, GENDER STEREOTYPING, SEX DISCRIMINATION, FACULTY EVALUATIONS, CLASS SELECTION

I. Introduction

Existing literature on gender considerations in the college setting are mixed. All of the studies reviewed for this paper showed either no preference or a slight preference for male faculty (in either course selection or course evaluations). However, the methodologies used in these studies is problematic. They do not look at real-life student class selection decisions. Rather, they primarily focus on student evaluations and hypothetical surveys where participants are likely aware that their gender preferences are being scrutinized.

A 2002 study by McGoldrick and Schuhmann attempted to measure instructor gender preferences by providing participants a series of choices between two classes based on a list of six attributes.[1] One of the attributes was gender of the instructor, with the description of "Male instructor," "Female instructor," or "Instructor gender unknown."[2] This methodology is problematic because listing instructor gender as a class attribute would likely be suspect to participants, especially when juxtaposed with the other, more traditional attributes listed, such as level of interest in the topic, class difficulty, and exposure to future career skills. Much like a study that asked participants who they would choose to date based on a list of attributes that included race, participants in the McGoldrick and Schuhmann study would likely have concluded what was being tested and engaged in the practice of masking any biased preferences. Since these surveys are purely hypothetical, the participants do not have to face the consequences of their decisions (i.e., spending a semester with an instructor of an unpreferred gender). Regardless, the conjoint analysis utilized in the McGoldrick and Schuhmann study concluded that, overall, instructor gender does not influence registration choices.[3]

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[1] Kimmarie McGoldrick & Peter W. Schuhmann, *Instructor Gender and Student Registration: An Analysis of Preferences*, 10 EDUC. ECON. 241 (2002).

[2] *Id.* at 247.

[3] *Id.* at 253.

The 2002 McGoldrick and Schuhmann study also found that students with a GPA less than 3.0 showed a preference for female instructors.[4] This is somewhat consistent with a 1975 study that found students with a high GPA show less of a preference for male instructors.[5] This previous study suffers from a similar problem as the McGoldrick and Schuhmann study. Namely, the participants were likely aware that their gender preferences were being tested. Participants were given a survey that asked them how many male and female instructors they had in different academic areas. They were then explicitly asked if they would prefer a male or female instructor based on various classroom settings.

Another study conducted in 2013 used hypothetical syllabi to attempt to measure gender preferences by students.[6] Participants in this study were likely also aware of the goal of the research because they were explicitly told to "look at the course instructors" on the syllabi.[7] Regardless, the study found that syllabi containing a male instructor were predicted to be higher on "intellectual stimulation" and significantly higher on "enjoyability" than the exact same syllabi containing a female instructor.[8]

A 2010 study using data from thirteen public universities in Ohio found that having a female instructor in a STEM class early on has a negative impact on the likelihood of persisting in a STEM major for female students (and, to a lesser extent, for male students as well).[9] This finding is consistent with previous research such as the Hoffman and Oreopoulos study conducted in 2007.[10] One explanation posited for this phenomenon is that female STEM instructors give lower grades compared to male STEM instructors.[11] And because female students are more sensitive to grades,[12] they are therefore less likely to persist in STEM fields because of this. While this study utilized real-life decisions by students, it did not evaluate student preferences for instructor gender in enrollment decisions.

The preference for a faculty member based on gender is likely formed in part by past experiences. Therefore, research conducted into how instructor gender affects student evaluations is relevant to, but certainly not dispositive of, students' gender-of-instructor preferences. Like the literature covering gender bias in class selection, the findings of research on gender bias in student evaluations are also mixed. A 1993 meta-analysis of thirty-nine studies examining gender bias in student evaluations found that a majority did not find any statistically significant differences, and of the ones that did, the majority of those found a bias in favor of female instructors.[13] A 2003 study found that "even within the more recent body of literature, results are mixed . . . ."[14]

A 1995 study at a private liberal arts college found that the evaluations of male faculty members were not affected by student gender, but female faculty members' evaluations were.[15] Female faculty "receive[d]

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[4] *Id.*

[5] Marianne Abeles Ferber & Joan Althaus Huber, *Sex of Student and Instructor: A Study of Student Bias* 80 AM. J. SOC. 949 (1975).

[6] Saundra K. Wright, Instructors' Address Forms Influence Course Ratings, 61 NAMES 92 (2013).

[7] *Id.* at 94.

[8] *Id.* at 96.

[9] Joshua Price, The Effect of Instructor Race and Gender on Student Persistence in STEM Fields, 29 ECON. EDUC. REV. 901 (2010).

[10] Florian Hoffman & Philip Oreopoulos, *A Professor Like Me: The Influence of Instructor Gender on College Achievement*, 44 J. HUM. RESOURCES 479, 491 (2007) (finding that an assignment to a same-sex instructor slightly increases average grade performance and slightly decreases the likelihood of dropping the class).

[11] *Id*.

[12] Kevin Rask & Jill Tiefenthaler, The Role of Grade Sensitivity in Explaining the Gender Imbalance in Undergraduate Economics, 27 ECON. EDUC. REV. 676 (2008).

[13] Kenneth A. Feldman, College Students' Views of Male and Female College Teachers: Part II—Evidence from Students' Evaluations of Their Classroom Teachers, 34 RES. HIGHER EDUC. 151 (1993).

[14] McGoldrick & Schuhmann, *supra* note 1, at 243.

[15] Susan A. Basow, Student Evaluations of College Professors: When Gender Matters, 87 J. EDUC. PSYCHOL. 656 (1995).

their highest ratings from female students and their lowest ratings from male students."[16] This study also found differences based on stereotypes of male and female faculty.[17] Female instructors were ranked higher than their male counterparts in traditionally feminine areas, such as "being sensitive to students' feelings, treating students with respect, and making students feel free to express their ideas . . . ."[18] Furthermore, the higher ratings for female faculty among female students was most pronounced in the humanities and social sciences, fields that are more frequently associated with feminine traits than other areas of study, such as STEM and business.[19] However, the methodology used in this study does not allow for the determination that these results show a gender bias. The study cannot rule out the possibility that there are actual differences in faculty based on gender that naturally show up in evaluations.

The different methodologies used in a 2015 study of student evaluations allowed for bias to be measured more directly.[20] The study utilized a large online class with two assistant instructors, one male and one female. The class was randomly divided into different groups so that some were taught by the male instructor and were aware, some were taught by the male instructor but were told they were taught by the female instructor, some were taught by the female instructor and were aware, and finally some were taught by the female instructor but were told they were taught by the male instructor. The results showed that there was no significant difference in evaluations based on the actual gender of the instructor but there was a difference based on the perceived gender, with perceived male instructors ranked higher than perceived female instructors. Therefore, the findings of this study help preclude the possible explanation that male faculty receive higher evaluations simply because they are perceived as more effective teachers.

A 2018 study found that not only are there gender differences in quantitative scores of professors from students, but also qualitative differences in the written portion of their evaluations.[21] Student comments for their female instructors are more likely to address issues of personality and appearance, and females are more likely to be referred to as "teacher" while males are more likely to be referred to as "professor," which is an indicator of professional respect.[22]

Based on the methodological limits of former studies to provide a valid measure of student gender bias in course selection,[23] and the related studies suggesting a bias exists,[24] it is essential to explore the real-world gender preferences of students in this process. There remains a glaring gap in the literature as to how students in a real-world setting demonstrate preferences for instructors based on their gender. Therefore, the purpose of this study is to narrow the existing gap in the literature by examining the impact of gender bias on the course selection patterns of college students in a real-world setting.

II. Methodology

We collected enrollment statistics for a total of 622 freshman and sophomore class sections for the academic years 2017 through 2019 at a regional university in Texas. We measured the enrollment numbers for each

[16] *Id*. at 656.

[17] *Id*. at 663.

[18] *Id*.

[19] *Id*. at 660.

[20] Lillian MacNell, Adam Driscoll & Andrea N. Hunt, *What's in a Name: Exposing Gender Bias in Student Ratings of Teaching*, 20 INNOVATIVE HIGHER EDUC. 291 (2015).

[21] Kristina M. W. Mitchell & Jonathan Martin, *Gender Bias in Student Evaluations*, 51 TEACHER 648 (2018).

[22] *Id*.

[23] McGoldrick and Schuhmann, *supra* note 1; Wright, *supra* note 6.

[24] Basow, *supra* note 15; MacNell, Driscoll & Hunt, *supra* note 20.

semester as of the day after the first day of freshman enrollment for each semester of each year.[25] This date was selected because it was determined to produce enough enrollment numbers for each section with a minimum of full sections. If the data was collected later in the enrollment period, then sections would start to become full and therefore severely restrict the ability to analyze differences between them.[26]

Of the initial 622 sections, forty-one were removed due to their uncommon time slot—which would have resulted in an inability to properly control for that highly causal variable.[27] This left 581 sections to analyze. We coded the names of instructors that were available to students at the time they enrolled as either masculine or feminine. This classification was made based on the determinations of two independent observers who classified each faculty name as either masculine or feminine based on common usage. Note that this masculine/feminine determination was not based on the actual gender of the instructor. Rather, it was based on the perceived gender from their name.[28] This is because students enrolling in freshman and sophomore courses would likely not be aware of the instructor's actual gender and would simply presume gender based solely on the name. To increase readability in this paper, the results are reported in terms of male and female instructors and not as instructors with masculine sounding names or feminine sounding names. We categorized class sections that stated "TBA" (To Be Announced) in place of the instructor's name during the enrollment period as "TBA" and did not code them by gender.

We did not utilize junior and senior classes for two main reasons. This institution had an undergraduate student population of just under 10,000. This means that many junior and senior classes are taught by only one instructor, and therefore any gender bias by students would not be present in the data for that course. Secondly, by the time students are juniors and seniors, they are better connected with both fellow students and the faculty in their majors. Therefore, they become less likely to make class selection decisions based on instructor gender alone.

III. Results

A multiple regression analysis was conducted on the 581 sections to predict class enrollment rate percentages based on the dependent variable of instructor gender. Table 1 shows the model variable summary statistics. Multiple regression was used instead of a censored regression tobit model because most of the values were between ten percent and eighty percent, and very few values were zero percent or 100%. Every dependent variable is a binary indicator variable. Interaction between gender (female) and math and gender (female) and classification (freshman) were included.

[25] Fall 2016 on April 13, 2016; spring 2017 on November 16, 2016; fall 2017 on April 10, 2017; spring 2018 on November 15, 2017; and spring 2019 on November 14, 2018. Fall 2018 was specifically excluded because the university started a new process for freshmen enrollment at that time whereby class selections were premade by administration for most incoming freshmen.

[26] Comparing a female instructor's full class with a male instructor's full class would not indicate which class filled up faster, and therefore which instructor was more preferred.

[27] The threshold for determining which time slots were uncommon was whether there were less than ten courses available for analysis in the time slot in question.

[28] The perceived gender based on instructor name was determined by both co-authors and one student worker independently identifying each name as either male or female.

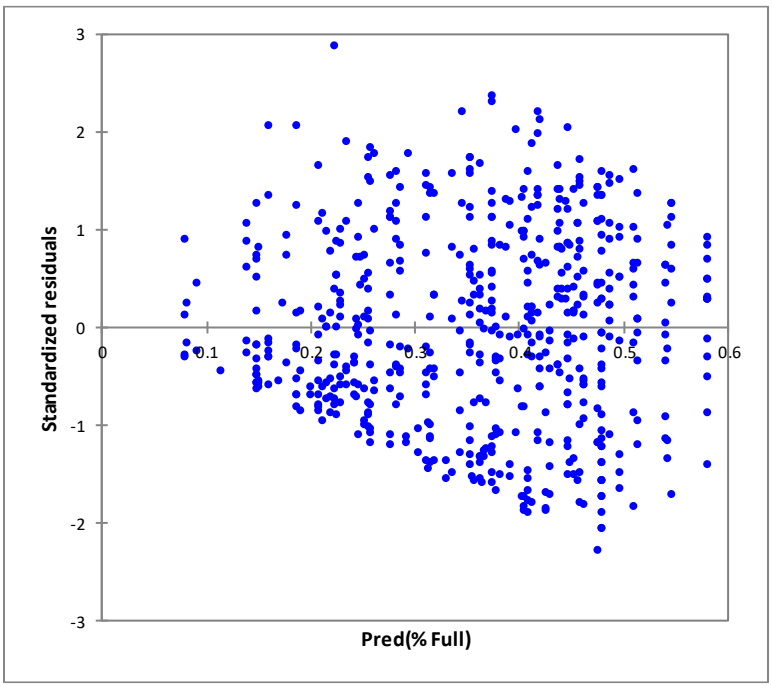
Table 1. Regression Variable Summary Statistics

Variable	Obs.	Min	Max	Mean	St.Dev.
% Full	581	2%	86%	36%	23%
MWF0900	581	0	1	0.10	0.30
MWF1000	581	0	1	0.09	0.29
MWF1100	581	0	1	0.10	0.30
MWF1200	581	0	1	0.02	0.15
MWF1300	581	0	1	0.08	0.28
MWF1400	581	0	1	0.04	0.19
TR0800	581	0	1	0.08	0.26
TR0930	581	0	1	0.09	0.28
TR1100	581	0	1	0.08	0.27
TR1230	581	0	1	0.08	0.27
TR1400	581	0	1	0.04	0.20
Online	581	0	1	0.14	0.35
Female	581	0	1	0.37	0.48
TBA	581	0	1	0.20	0.40
Freshman	581	0	1	0.69	0.46
Freshman * Female	581	0	1	0.25	0.43
Math	581	0	1	0.19	0.40
Math * Female	581	0	1	0.07	0.25

The study included Monday, Wednesday, Friday courses with time slots from 9:00 a.m. to 2:00 p.m.. Each course is fifty minutes in length. The study also included Tuesday, Thursday courses with time slots from 8:00 a.m. to 2:00 p.m. These courses are seventy-five minutes in length. Online courses made up 13.9% of the observations. Female instructors taught 37% of the courses. Traditionally, adjunct instructors are not listed by name. Rather, "TBA" is used, and "TBA" instructors taught 20% of the courses. Math courses made up 19% of the courses, and the number of math courses taught by female instructors was 7%. Female instructors taught 25% of freshman courses.

Figure 1 shows the standardized residuals versus the predicted percent full, indicating that some heteroscedasticity could exist. This could be due to not using a tobit model. However, the heteroscedasticity is not extreme; therefore, homoscedasticity will be assumed.

Figure 1. Standardized Residuals versus the Predicted Dependent Variable



From the initial regression analysis that included interactions, the R^2 and Adjusted R^2 were 26.4% and 24.1%, respectively. Neither the interactions between gender and math nor gender and freshman were significant at the 5% level; therefore, interactions were removed, and a subsequent regression model was generated that only included main effects. The Adjusted R^2 dropped slightly to 23.8%. Sections taught by male instructors had 4% more enrollment than those taught by female instructors (p = 0.003). Therefore, the null hypothesis, that there is no significant correlation between perceived instructor gender and enrollment, is rejected. Sections with TBA as the instructor name at the time of enrollment were 15% less full than those with a male instructor (p< 0.0001).

The difference in enrollment rates between male and female instructors, at 5%, is less pronounced than enrollment differences based on class section time. The most desirable time slots, Tuesday, Thursday 9:30–10:45; Tuesday, Thursday 12:30–1:45; and Tuesday, Thursday 1:00–12:15 resulted in 16% higher enrollment levels than the base Monday, Wednesday, Friday 8:00–8:50 a.m. time. Freshman classes were 5% less full than sophomore classes. Math classes were 20% less full than non-math classes.

Table 2. Model Summary

Regression Statistics	
Multiple R	0.514
R Square	0.264
Adjusted R Square	0.241
Standard Error	0.200
Observations	581

ANOVA

	df	*SS*	*MS*	*F*	*Sig F*
Regression	18	8.063	0.448	11.214	< 0.0001
Residual	562	22.451	0.040		
Total	580	30.514			

Table 3. Model Coefficient Table

Source	*Value*	*Standard error*	*t*	*Pr > |t|*	*VIF*
Intercept	37.9%	3.8%	9.95	< 0.0001	
Online	20.2%	4.1%	4.97	0.000	2.89
TBA	-14.4%	2.5%	-5.86	0.000	1.39
Math	-20.4%	3.0%	-6.78	0.000	2.06
TR1100	16.7%	4.5%	3.70	0.000	2.21
TR0930	16.1%	4.4%	3.65	0.000	2.27
TR1230	16.4%	4.5%	3.62	0.000	2.22
Freshman	-8.4%	2.6%	-3.29	0.001	2.05
MWF1100	13.2%	4.3%	3.09	0.002	2.45
MWF1000	13.5%	4.4%	3.07	0.002	2.28
Female	-9.3%	3.1%	-2.99	0.003	3.30
MWF0900	9.6%	4.3%	2.22	0.027	2.37
MWF1400	11.0%	5.5%	1.99	0.047	1.62
Freshman * Female	7.6%	4.1%	1.87	0.062	4.48
TR0800	6.9%	4.6%	1.50	0.134	2.15
TR1400	7.9%	5.3%	1.48	0.139	1.70
MWF1300	5.8%	4.5%	1.28	0.200	2.24
MWF1200	8.3%	6.6%	1.27	0.205	1.37
Math * Gender	0.7%	4.8%	0.14	0.889	2.18

Table 4. Updated Coefficient Table without Interactions (Adj. R^2 23.8%)

Source	Value	tandard err	t	Pr > |t|
Intercept	37%	4%	9.72	0.00
Online	20%	4%	4.96	0.00
TBA	-15%	2%	-6.12	0.00
Math	-20%	2%	-8.44	0.00
TR1100	16%	5%	3.49	0.00
TR0930	15%	4%	3.49	0.00
TR1230	16%	5%	3.44	0.00
MWF1100	13%	4%	2.95	0.00
MWF1000	13%	4%	2.92	0.00
Freshman	-5%	2%	-2.76	0.01
Female	-4%	2%	-2.20	0.03
MWF0900	9%	4%	2.15	0.03
MWF1400	10%	6%	1.86	0.06
TR0800	6%	5%	1.39	0.16
TR1400	7%	5%	1.33	0.18
MWF1200	7%	7%	1.11	0.27
MWF1300	5%	4%	1.08	0.28

IV. Discussion

The results of this study supports the general consensus found in the existing literature on stated enrollment preferences, syllabi assumptions, and student evaluations. Furthermore, since this analysis is based on data from 2017–2019, it also provides evidence for the claim that there is no trend toward a more neutral gender preference due to increases in faculty diversity that help to combat the default image of a college professor being male.

We hypothesized that the previous research using hypothetical class selection questionnaires—that were likely obvious to the research subjects that gender faculty preferences were being tested—would understate the level of male preference. And therefore, this large-scale analysis of real-world enrollment decisions would uncover the actual, higher level of male preference. The statistically significant finding of a 5% enrollment gender bias in favor of male faculty supports this hypothesis. However, it does not emphatically prove that the reason for the discrepancy is due to the hypothetical nature of previous research methodologies and the real-world method of this research. There could potentially be other explanations.

While the 5% gender bias found in this research is troubling, it is possible that this number does not even fully represent the level of gender bias occurring. This is because certain subgroups may demonstrate counterbalancing biased behavior which then results in the final, cumulative result of these behaviors appearing less significant than they actually are. For example, perhaps female students strongly prefer female instructors and male students strongly prefer male instructors. If this were the case, then combining those two groups and only looking at the overall effect of student body class selection decisions would obscure the full level of gender bias. While the methodologies of this study do not allow for this type of counterbalancing subgroup bias determination because individual student demographic information was not available, such a result would be consistent with these findings. However, the overall student population demographics at this institution do not support this exact hypothesized male/female counterbalancing hypothesis. Like most universities, the one utilized for this research has more female students than male (55.74% female, 44.26% male). This student body demographic is not completely inconsistent with the hypothesis that strong same-sex preferences are occurring, however. The rate and/or severity of male students preferring male instructors could simply be greater than that of female students preferring female instructors.

This same-sex preference is just one possible explanation for how the findings of this research may not fully illuminate the severity of gender bias in class enrollment decisions. There could be other counterbalancing demographic groups of students engaging in strong gender preferences. Examples could include counterbalancing differences based on political affiliation, religious beliefs, or ethnic background. Future research utilizing student demographic data should be performed to determine whether the already troubling 5% difference in this study accurately reflects the level of gender bias, or if it is the function of counterbalancing biased practices and, therefore, actual gender bias is even more pronounced. In addition to future quantitative research, qualitative research could be conducted to better understand what biases are present in student populations, to what extent, and what the root causes of the biases are. Most importantly, shedding light on these questions would also better contribute to potential solutions for addressing the problem.

In addition to the above hypothesized counterbalancing gender biases, there are additional scenarios that could result in the conclusion that the biases found in this study, as problematic as they are, belie even more significant gender biases. This is because gender bias is not a binary matter; there are multiple factors involved. Thus, a student that demonstrates little-to-no gender preferences in class selection could still harbor significant gender biases. These biases could include male inferiority in being nurturing and supportive and female inferiority in subject-matter expertise and creating a dynamic classroom.[29] If a student who maintained these biases placed an even weight to them, there would be no significant preference in their ultimate decision of whether to choose male or female instructors.

The way that counterbalancing biases may combine to produce a deceptively mild net-biased effect in enrollment decisions is similar to findings of bias in student evaluations. One study found little gender difference in the net result of a student evaluation study. However, the author points out that this was in-part the result of how female instructors received significantly higher ratings than their male counterparts by

[29] Wright, *supra* note 6, at 98 ("[As discussed in previous research], students likely have gender-related expectations for their instructors, where female instructors are thought to be more nurturing and supportive, while male instructors are perceived as being stronger, more intelligent, and more dynamic in the classroom.").

female students but that was offset by significantly lower ratings by male students, thus creating little net effect.[30] Furthermore, "male faculty are almost always rated higher on questions of knowledge; female faculty are generally rated higher on questions of respect, sensitivity, and student freedom to express ideas . . . ."[31]

This study produced the peculiar finding that female faculty had higher enrollment rates than their male counterparts in freshman classes, while the inverse was true for sophomore classes. Perhaps when enrolling for their freshman classes students have little other information on which to make decisions other than faculty name. When enrolling for their sophomore classes, however, they have made more connections with faculty and fellow students who can advise them on which instructors to avoid. This explanation may initially be seen as positive because it would mean that the majority of the gender preference found in this research is not the result of gender bias, but rather the result of other non-gendered preferences. However, this explanation is at the same time troubling because it may imply that the information sophomore students are receiving from faculty and other students, on average, favors male faculty over female.

An equally troubling explanation for the freshman/sophomore disparity is that sophomores demonstrate a preference for male instructors based on their personal experience with instructors during their freshman year. This implies that students enter college without gender bias but are conditioned to prefer male instructors only after their exposure to male and female instructors in their freshman year.

It is important to note that the notion of male faculty as better instructors (or at least more sought after by students) does not necessarily mean that this is the result of traits inherent to the male gender. One of many counter explanations would be that male faculty are simply overrepresented in tenure positions.[32] This inequality results in male faculty, on average, being more experienced. This potential explanation circumvents the problematic implication that male faculty are inherently superior. However, this only serves to trade one problem for another. Namely, why are males overrepresented in tenure-track positions?

One of the most emphatic findings of this research is the lack of any gender bias in selecting instructors for math sections. This seems to be somewhat inconsistent with the existing literature that finds female STEM instructors give lower grades than their male counterparts, as this would imply that their sections would be less attractive to potential students.[33] It is important to note that while the analysis in this research is robust, with 581 sections analyzed, the subset of math sections is significantly smaller at only 121. Furthermore, The only STEM classes analyzed in this research are math classes. And we intentionally omitted science classes because at the university used for this research, freshmen are frequently assigned to these classes by the department head and therefore are not allowed to choose which instructor to take.

Different universities have different cultures due to factors such as academic rigor, demographic makeup of faculty and students, and geographic location. Therefore, future research should be conducted using this real-world methodology at other institutions. This will lead to a broader understanding of trends, the underlying causes of gender bias, and therefore the best solutions to combat the practice.

Positing a practical solution to minimize the problem of enrollment gender bias for male faculty is challenging. Implementing an anonymous class enrollment procedure where students are only made aware of the class time at enrollment would certainly diminish the discrepancy in outcomes. However, this would likely do nothing to address the underlying problem of student preference and may even exacerbate the problem by fostering resentment in students by depriving them of choice. Implementing policies to increase the number of female instructors in tenure positions—therefore combating the default image of an experienced professor as male—is likely a good idea, but the findings of this research call into question whether it would help reduce gender bias. The literature on gender preferences dates back over forty years, when male faculty were even more overrepresented in tenure positions, but there is no recognizable trend that as the gender gap in tenure positions narrows, biased enrollment preferences consequently decline. Even the Herculean task of challenging gender stereotypes in society is unlikely to have a significant effect on the problem of gender bias in enrollment. This is because—at least based on this study's freshman/sophomore discrepancy finding—the gender bias is

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[30] Basow, *supra* note 15, at 664.

[31] *Id*. at 664.

[32] Colleen Flaherty, *The Mom Penalty*, INSIDE HIGHER ED (June 6, 2013), https://www.insidehighered.com/news/2013/06/06/new-book-gender-family-and-academe-shows-how-kids-affect-careers-higher-education; Colleen Flaherty, *Tenure, Women and Economics*, INSIDE HIGHER ED (Dec. 14, 2016), https://www.insidehighered.com/news/2016/12/14/new-study-finds-gender-gaps-tenure-rates-and-career-paths-economics.

[33] Price, *supra* note 9.

more likely caused by the students' experiences with instructors rather than gender stereotypes they adopted through media portrayals or upbringing.

V. Conclusion

This study demonstrates the harsh reality that—regardless of what students may select on a hypothetical survey with no real-world consequences—in real-world decisions, faculty gender is a significant factor in student enrollment decisions. Although the results of this research found a 5% enrollment gender bias toward male faculty, further research is needed to determine whether this represents an accurate measure of the magnitude of bias from students or whether counterbalancing biases between student subgroups masks an even higher bias. Additionally, it is possible that there are other reasons than same-sex preference that would lead to the enrollment bias found in this study. Once the reasons for enrollment gender bias are better understood, college administrators and faculty will be in a better position to take steps to combat such bias.

Data availability statement
The data set used for this research is available at
https://drive.google.com/open?id=1qHjwTMY2wxoKN0N3hMqfob_u12f-XXQe