Rigor and accessibility: Attitudes towards syntax pedagogy in higher education

Laura R. Bailey, Bronwyn Bjorkman, Kirby Conrod & Caitl Light[*]

Abstract. We report on early stages of a large study on syntax pedagogy, and particularly on perceptions of "gatekeeping." We present the results of a pilot study to explore this theme and others that arose, such as inequality and discrimination in the classroom, as well as the results of an ongoing program survey. Together, these results show that there are widespread experiences of bias in syntax classrooms, that syntax occupies a privileged space within linguistics, and that syntax is perceived to be a particularly difficult subject which some people have an innate talent for and others do not. The findings, especially in the context of current work on social justice in linguistics, have serious implications for inclusivity in the field and on how we as syntax educators can make changes for the benefit of future syntax scholars.

Keywords. syntax; pedagogy; higher education; discipline of linguistics

1. Introduction. The SynTeach project, a multi-institution, multi-national collaboration between scholars in Canada, the UK, and the US, began because of a tweet.

In 2022, then-graduate student Maureen Kosse posted on Twitter (at the time the hub of many semi-formal networks of professional academics, including linguists): "We need to talk about how syntax courses are taught because people are Traumatized."[1] Though this post was in no way the first to identify negative experiences of syntax in higher education, the volume of discussion in response to the post was notable. Many linguists chimed in, and though some described positive experiences, there were very strongly negative comments as well:

> "Getting in on the 'why do people hate Syntax' discussion. I had two reasons: 1. Abusive teaching that was cruel and viewed Syntax as a university sanctioned hazing. 2. The perception that it's faux mathematics with no explanatory power, just adding epicycles until it described whatever phenomenon was under discussion This appearance of pseudo science was not successfully dispelled by the professor who told us we weren't allowed to read anything other than his unpublished textbook, and called the whole class illiterate, among many other issues."
>
> (Taylor Jones @languagejones)[2]

> "The closest I came to dropping out of grad school was when I was barely hanging on in syntax and was told I couldn't work on AAE [African American English], and then that I had to humiliatingly drop the grad class and take the undergrad version to spare the feelings of toxic prof. He never taught it again."
>
> (Nicole Holliday @MixedLinguist)[3]

These allegations of abusive pedagogy were particular to syntax, not linguistics generally (though some extended the claim to include "theoretical linguistics," which we took to include formal approaches to phonology, semantics, and perhaps morphology).

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[1] https://twitter.com/MaureenKosse/status/1579989026601246720, Accessed March 9, 2024
[2] https://twitter.com/languagejones/status/1580223249824169985, Accessed March 9, 2024
[3] https://twitter.com/mixedlinguist/status/1580030162430672897, Accessed March 9, 2024

As syntacticians, we had two reactions to this Twitter discussion. On one hand, we recognized some of the bad behaviors being called out; on the other, we saw an opportunity to empirically investigate these claims. Syntax occupies a very particular role in linguistics as a field, as the focus of attention for debates between generative and non-generative approaches to language, and for tensions around formal approaches in general. It is possible that these tensions find themselves expressed in syntax classrooms, in ways that negatively influence how instructors teach and how students are able to learn. It is also possible that the current pedagogical practices of syntax are widely and unusually harmful to students; if that is so, the field of linguistics has an ethical obligation to identify and try to change these practices. It is moreover possible that syntax is not taught unusually cruelly, but rather that linguistics pedagogy in general or formal linguistics pedagogy in particular is harmful; in that case we must of course change that as well. If it is the case that abusive teaching is done by only a "few bad apples," then as a field we need to decide what we do about that too.

We also note that this conversation about syntax pedagogy happened in parallel with other sociopolitical reckonings in academic linguistics, including conversations about equity in academic hiring (e.g., Liera & Ching 2019), epistemic justice and racism in linguistic research (e.g., DeGraff 2020 and other papers in that special issue of *Language*) and its applications (e.g., Rosa & Flores 2017; Sultana 2022), and potential factors contributing to "pipeline" problems which result in racial, gender, and other inequities among professional linguists, academic or otherwise (Cépeda et al. 2021). Woven throughout these discourses is also the matter of a "core" versus "periphery" model of the epistemic organization of linguistic research, as well as discussion of why core/periphery models of linguistics may in fact contribute to structural inequalities (Dockum & Green 2024). Syntax is sometimes named as the core subfield of linguistics. As such, some of the claims made in the 2022 discussion were specifically related to the fact that syntax seems to occupy a privileged position within the field of linguistics. One of the aims of this project (at large) and the present paper (a small sub-part of the project) is to validate these claims empirically. Thus, the research questions of the larger multi-year SynTeach project are as follows:

  (a) Does syntax occupy a privileged position in linguistics curricula? (If so, why, and is that good or bad?)

  (b) What attitudes do syntax instructors have towards syntax as a subfield, and are these attitudes related to how they teach?

  (c) Are there patterns in how instructors and students think about syntax (classes) compared to other subfields?

In the present paper we report on two early stages of this project. The first stage was a pilot online survey aimed at anyone who had taken or taught a syntax class; we asked some preliminary questions about experiences of teachers and students, and a small amount of demographic data. In the second stage, which is ongoing, we are conducting a survey of degree programs in linguistics in Canada, the United Kingdom, and the United States.

Finally, we briefly describe a third stage of the project, a more comprehensive survey targeted specifically at syntax instructors (past and current) that probes the issues that arose in the pilot study. As this stage (and future work targeting students and selected follow-up focus groups) is ongoing, here we present only the methods and aims of this part of the project.

2. Background. The literature on teaching and learning in scientific disciplines is growing (see for example McDonald 2016; Perez-Felkner 2018; Nix & Perez-Felkner 2019), but there is still relatively little that focuses on linguistics and yet less that focuses on syntax (notable exceptions include Lasnik 2013; Costa-Silva & Lee-Schoenfeld 2023). In this section, we review the work that has been done in linguistics pedagogy to date, and identify themes that span disciplines with relevance to our present study, namely work on "gatekeeping" and "hard subjects."

2.1. TEACHING AND LEARNING IN LINGUISTICS SPECIFICALLY. Some pedagogical work in linguistics takes a practical approach and outlines specific methods of teaching that the authors argue achieve desired results.

One such method is known as the "discovery method" or the "Santa Cruz method" (Chung 1993; Costa-Silva & Lee-Schoenfeld 2023; Adger no date). This is a bottom-up approach to syntax teaching. While not widely discussed in pedagogical literature, it is well-known within the field of syntax and dispenses with a textbook or *a priori* theory in favor of sets of problems that lead students, guided by the instructor, to discover and build a version of syntactic theory for themselves, based on small data sets. Costa-Silva & Lee-Schoenfeld (2023) combine this method with intensive writing to give an iterative learning process where revision of ideas is key.

Similarly, Lasnik (2013) encourages revision of homework based on discussion and feedback in his graduate syntax classes. This idea is based in the long-known pedagogical benefits of discovery-based learning (e.g., Kolb 1983). Lasnik also emphasizes the importance of active student involvement, with regular assignments and lots of feedback. Additionally, he is firm that it is essential to encourage questions from students and welcome even questions that are difficult or not well-aimed, without presenting a defensive attitude, saying that an instructor should "always treat students and their ideas with respect" (e15). He notes that Morris Halle once told him "there are no bad students, just bad teachers" (e16).

2.2. TEACHING AND LEARNING ACROSS SCIENTIFIC DISCIPLINES. Because of the growing demand for a workforce that is educated and prepared to pursue STEM careers, the scholarship of teaching and learning within STEM and related disciplines has focused increasingly on learners' attitudes towards and achievement in STEM subjects (McDonald 2016). To this end, researchers have examined a variety of factors that contribute to students' motivation to pursue STEM subjects.

In a critical review of research on the scholarship of teaching and learning in STEM fields, (McDonald 2016) reports on some of the common themes in recent literature. Many studies report on the efficacy of student-centered pedagogies similar to the discovery-based method discussed in the preceding section. Conversely, researchers report that many science educators are more likely to favor teacher-centered instructional methods, like the more traditional lecture format. Many instructors are reported to avoid student-centered pedagogies due to a belief that they are less effective and structured, despite evidence to the contrary.

Within mathematics education, research suggests that high quality outcomes are improved when instructors are trained not only in content knowledge but also in pedagogical context knowledge. Providing more support and professional development opportunities for instructors can be pivotal in students' attitudes and motivation toward STEM-related subjects.

Given the recent dialogue around syntax teaching and learning, there is good reason to propose that improved pedagogical content knowledge, and the more widespread adoption of high-impact pedagogical methods, may benefit syntax educators as well, especially as syntax is often a

relatively formal, abstract, or "technical" subject. The SynTeach project is intended to establish a better understanding of the current state of syntax teaching and learning, and to begin identifying best practices for syntax educators.

2.3. PERCEPTION OF SUBJECTS AS "HARD". One of the most striking themes of the online discussion that sparked this study was the notion that syntax is a "hard subject" that only certain people have the ability to excel at, or that one either has talent in the subject or does not:

> "My horrible suspicion is that most of the population is inherently not very good at it, but it is largely taught by those who are (perhaps they have better memories for syntactic structures?), who then can't understand what is so problematic for the others."

(Avery Andrews @AveryAndrews)[4]

This perception, which is also common for STEM disciplines, suggests that individuals can possess a static and predetermined aptitude for certain subjects, which will create an additional barrier that these students must overcome in order to master the content.

Existing literature on STEM-related attitudes and achievement explores this concept. Davies & Ercolani (2019) find that students are more likely to pursue "hard" subjects if their grades reflect high achievement in those subjects, suggesting that they are either self-selecting or being encouraged into "hard" subjects. However, students' subject preference is not static in Davies and Ercolani's findings; an unexpected high grade on a standardized test for a "hard" subject can significantly impact a student's likelihood to switch from a soft to a hard subject. This suggests that students' perception of their own aptitude is flexible and actively updated relative to new information.

Furthermore, students' beliefs about their own abilities vary by gender and race/ethnicity (Nix & Perez-Felkner 2019). Ability beliefs positively impact students' probability of pursuing and achieving a degree in traditionally "hard" subjects, but boys have higher ability beliefs than girls, and there was significant variation among racial/ethnic groups.

These studies suggest that perceptions of student ability in traditionally "hard" subjects are, at the very least, vulnerable to bias and change. If there is an innate aptitude at play, it is deeply intertwined with a myriad of factors introduced by the environment and multicultural context.

2.4. THE EFFECT OF SOCIAL FACTORS ON CHOICE OF SUBJECT/MAJOR DISCIPLINE. Previous work has shown that representation in a field affects the rate at which minoritized groups enter that field (e.g., Thomas & Quinlan 2023). In linguistics, the largest study on this topic is Cépeda et al. (2021), who sought to update Macaulay & Brice (1997) in assessing bias towards male participants in linguistic example sentences in textbooks. They find male arguments to be overrepresented and represented in stereotypical ways, and suggest that these patterns perpetuate "gatekeeping of students from entering and remaining in the field, the erasure of nonbinary and genderfluid identities, and lack of equal access in faculty hiring and retention" (2021: 694). Cépeda et al. note that although race was outside the scope of their study, this and other social factors also undoubtedly affect the rate at which various groups are represented in the field.

Even prior to entering academia, however, Shiner & Noden (2015) show that UK higher education applicants from some ethnic minorities and from less privileged backgrounds target less prestigious institutions because of failings earlier in the education system. The knock-on effect is

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[4] https://twitter.com/AveryAndrews/status/1580340647411998720, Accessed March 9, 2024

that these minoritized students at less prestigious universities are less likely to progress to further study in prestigious programmes and then continue into linguistics teaching, while prestigious universities remain largely white and well-off.

Evidently, linguists and other scholars are aware of the barriers and problems that "gatekeeping" can cause. The question remains, then, of why syntax should find itself with such a reputation for these issues, particularly given the positive nature of the work cited in Section 2.1, and how much this reputation is deserved.

3. Pilot survey. In this section we report results from a pilot study focused on attitudes towards teaching and learning syntax, as well as the role of syntax in the linguistic curriculum.

3.1. PILOT METHODS. The pilot study consisted of an online survey administered through Google Forms. It was open for responses from May 26 to June 30 2023, and promoted using professional academic linguistics mailing lists (e.g., Linguist List) and social media networks of the authors (e.g., Twitter, Facebook). We received 309 responses. The pilot survey was aimed at anyone who had ever taken or taught a syntax course in higher education.

The pilot survey consisted of 5 sections, totaling 28 questions, a mix of Likert-style and free-response questions; the full text of all the questions in the survey is available in our online materials repository (https://osf.io/mtpa3/). The questions in the first section focused on the status of syntax in the field of linguistics. The second section was about experiences learning syntax, in which participants were asked to answer the questions with regards to their first-ever syntax-specific course. Respondents were instructed to skip this section if they had never taken a syntax course. The third section was about experiences teaching syntax; participants were instructed to skip the section if they had never taught a syntax course. The fourth section consisted of background and social demographic questions, including highest degree attained in linguistics, year of degree, subdisciplinary specialty, year first teaching syntax, academic rank/position, race/ethnicity, and gender. The fifth and final section consisted only of a free-response question allowing respondents to provide further information.

After response collection, we categorized social demographic responses (race/ethnicity and gender) based on the range of responses. For race/ethnicity, which was a free-response question, we created only three categories: "white," "unsure," and "not white" (and a fourth de facto category, "no answer"). This very coarse demographic categorization was in part due to the multinational nature of the pilot study, which did not separate out respondents by nation of origin or nation of residence; we discovered that it was not possible to create a coherent group of racial and ethnic categories that was socioculturally appropriate across the UK, US, and Canadian settings, and we had respondents who were in other locations besides these three countries. Examples of responses that we categorized as "white" include: "White, non-Hispanic," "Caucasian," "Lily white," and "White western european." We erred on the side of uncertainty, primarily only categorizing participants as "white" if they included the words "white" or "Caucasian" without reference to multiracial or multiethnic identities. Examples of responses we categorized as "not white" included: "Asian?," "British Indian," "Black," and "Oceanic (indigenous)." Examples of responses we categorized as "unsure," meaning we were unsure whether or not the participant would identify as a person of color within their cultural context, included "Latino," "Arab," "Middle Eastern," and "Mediterranean?." The full list of responses and how we categorized them is included in our online supplementary materials.

In addition to categorizing race/ethnicity responses, we categorized gender responses into

Race/gender summary	White	Not sure	Not white	Blank race	Total
Man	57	7	14	1	75
Woman	111	11	30	4	156
Else	33	3	9	1	46
Blank gender	4	1	0	27	32
Total	201	22	53	33	309

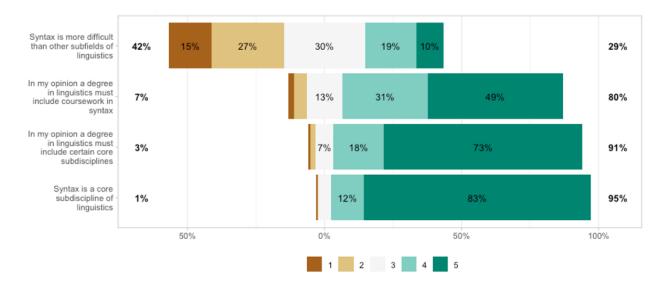Table 1. Demographic summary of responses to the pilot study

Figure 1. Distribution of responses to Likert-style questions (scale 15) about syntax as a core subfield

three categories: "woman," "man," and "else" (in addition to "no response"). Examples of responses that we categorized as "woman" include "female," "cis woman," and "woman/fem." Examples of responses that we categorized as "man" include "male," "man," and "male privilege." Examples of responses that we categorized as "else" include "genderqueer," "non-binary," "agender," "she/they," and "I don't know." The full list of responses and how we categorized them into gender categories is included in our online supplementary materials.

3.2. PILOT RESULTS. Table 1 shows a demographic summary of the responses by categorized race/ethnicity and gender.

In responses to Likert-style questions about the status of syntax as a core subfield of linguistics, we found that overall, participants agreed that syntax is a core subfield. Figure 1 shows the distribution of responses.

In responses to Likert-style questions about affective experiences of learning syntax, overall participants responded that they found syntax only somewhat difficult, and many found it fun. Figure 2 shows the distribution of responses.

In responses to Likert-style questions about experiences of teaching syntax, we found that overall, participants responded that it is important to them to teach syntax in an accessible way, and that they are generally confident in their abilities as a teacher. However, fewer participants
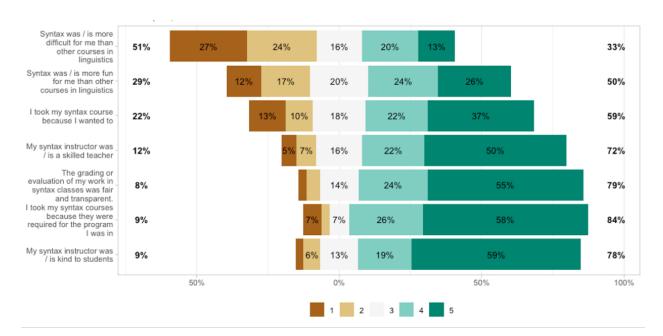
Figure 2. Distribution of responses to Likert-style questions (scale 15) about the difficulty of syntax

Items correlated	p	R
"Core courses are necessary" ∼ "Syntax should be required"	p<0.0001	R = 0.59
"Syntax is difficult in general" ∼ "Syntax is difficult for me"	p<0.0001	R = -0.52
"My instructor was skilled" ∼ "My instructor was kind"	p<0.0001	R = 0.56
"I took syntax because I wanted to" ∼ "Syntax is fun"	p<0.0001	R = 0.57
"Grading was fair" ∼ "My instructor was skilled"	p<0.0001	R = 0.51
"Grading was fair" ∼ "My instructor was kind"	p<0.0001	R = 0.50

Table 2. Correlated items in the Likert-style questions

reported that they believed their students like syntax. Figure 3 shows the distribution of responses to questions for instructors.

We conducted an exploratory analysis of correlations between the Likert-style questions in the survey instrument and found that, of the 16 questions, there were 6 correlated items (p<0.001); these are summarized in Table 2.[5]

In an exploratory analysis we did not find significant relationships between demographic variables (specifically race and gender) and Likert-style questions. Figure 4 shows the relationships (n.s.) between participant race (categorized) and instructor kindness, syntax funness, or syntax difficulty.

Likewise, we did not find significant relationships between participant gender (categorized) and instructor kindness, syntax funness, or syntax difficulty; shown in Figure 5.

Finally, we performed an exploratory content analysis of the responses to free-response questions in the pilot survey. We identified three major themes.

The first theme identified was the perception among respondents that there is a "knack" to

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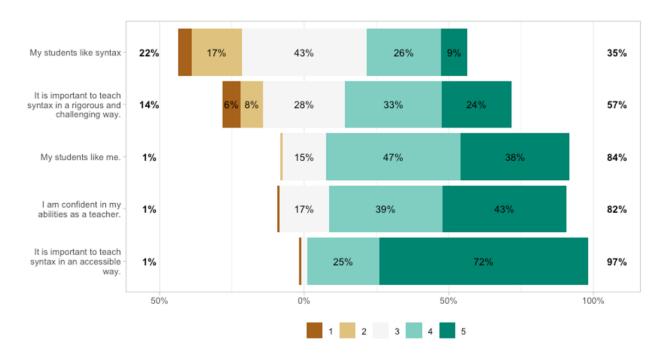[5] Abbreviated versions of the items are given for reasons of space.

Figure 3. Distribution of responses to Likert-style questions (scale 15) about instructors' perceptions of their students
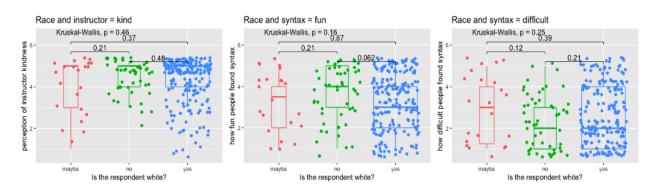

Figure 4. Relationship between participant race and experiences
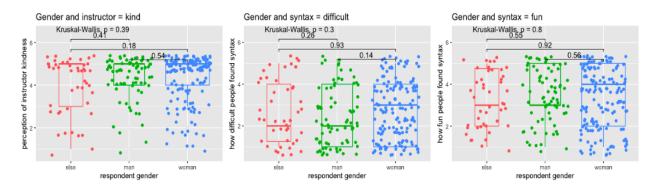

Figure 5. Relationship between participant gender and experiences

syntax – that it "just clicks or it doesn't." We found that this was an attitude conveyed by both instructors and students. Students who felt they lacked the knack found syntax "exhausting and frustrating" (1) or "a huge hurdle" (2), and instructors reported that they found it difficult to teach in a way that was accessible to students who were not excited about the topic (3). This sense of having the knack or not is reflected in a sharp bifurcation of grades: students do very well or very poorly, without the mediocre middle ground that the struggling students might expect to achieve with some effort (4).

(1)   "Syntax was exhausting and frustrating and I hated it. I desperately hope that what you're working on can help with that; in my experience, students either had the knack, or we didn't, and there was nearly no middle ground."

(2)   "I feel that the way I was taught (rigorously making us re-discover key principles for ourselves based on datasets) was great training for syntacticians and a huge hurdle for anyone else."

(3)   "For undergrad classes, my efforts to make it accessible to everyone often shortchanged the students who were really excited about syntax. I gradually started focusing undergrad syntax classes on the students who wanted to learn it."

(4)   "As a student, syntax just made sense to me, but I know that this was not the case for many of my classmates. I'm seeing a similar dynamic in my students. For some of them, it just "clicks," and is easy, but for others, it's a real struggle and they don't always seem to grasp even basic trees. There is a real divide in the grades as well. They often tell me it's one of the hardest courses they've taken in their undergrad."

The "knack" or innate talent theme is comparable to research by Davies & Ercolani (2019), and in the follow-up survey of instructors (below) we included questions specifically targeted at attitudes among instructors about innate talent.

The second theme identified was the perception of primacy or superiority of syntax among other subfields. Notably, comments along this theme were not only from people who themselves believed that syntax is more important than other subfields (5), but also from respondents who believed that syntax instructors held this belief (6). A component of this theme included comments about what constitutes "real syntax" (7). Some respondents named specific subfields that syntacticians had disparaged, notably with a division between formal theoretical subfields and typological (8) or more "performance-based" subfields such as sociolinguistics (9).

(5)   "I think knowledge of the structure of language is key in a Linguistics degree."

(6)   "I think many instructors make syntax seem more difficult than other subfields, and lots of syntacticians look down on other subfields."

(7)   "I care a lot about function but find form kind of boring. Am I a real syntactician? Do I teach syntax? The fact that the survey authors don't feel the need to address these issues – they assume that of course everyone knows what they mean by syntax – reminds me why I always found the North American syntax "community" so unpleasant."

(8) "I personally liked my syntax teacher, but I can also remember them being openly derisive towards other subdisciplines, especially typologists."

(9) "I think many of the issues that lots of people have with syntax are not with syntax itself, rather with some syntacticians. I love structure, grammar, and understanding certain hows and whys. But, some syntacticians are insufferable. They view other subfields, especially more "performance"-based ones, with obvious disdain."

We note that comments around this theme also referred to particular groups of syntacticians (as in (7), which directly refers to the authors of the survey).

The third theme we identified is that respondents noted that their subjective experience of taking syntax courses was strongly influenced by what they perceived as the quality of their instructors, for better or for worse. Those who liked their instructors remarked that they liked syntax more (10), and those who found their instructors to be unskilled or unpleasant remarked that it turned them off of the subject (11).

(10) "I enjoyed syntax because my professor was so engaging and wonderful and clearly passionate about it, not due to interest in the content. If my Syntax I class had been taught by someone else, I think I would have more strongly negative feelings about the topic."

(11) "First year I was taught syntax I found it very difficult. I then got a different teacher and it was a lot clearer."

Finally, the fourth theme we identified was that respondents found the syntax classroom to be a racist and misogynistic environment. These types of responses came exclusively from the perspective of (former or current) students rather than syntax instructors, and included specific mentions of linguistic prejudice or erasure (12), gendered dynamics of turn-taking and questions in the classroom (13), and exclusion from the academic field of syntax based on race (14).

(12) "I was studying in my native language but in a different dialect area, and was often made fun of for having different judgements... The casual making fun of languages that were less commonly studied (as though something wasn't real unless it was in English) was also really offputting."

(13) "Syntax was the class most dominated by men in my entire linguistics degree. The dynamic of the classroom felt unwelcoming and a situation where the men present, including the lecturer, were trying to show off their knowledge. Questions were ignored, and "comments" were dwelled upon."

(14) "I love syntax! Black linguists aren't allowed to be syntacticians."[6]

We note that comments around racial prejudice and misogyny did not attribute unusual racial or sexist animus to individual syntax instructors, but rather to the environment of the classroom

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[6] While we did not explore the demographic background of commenters generally, we find it important to note that (14) was, of course, said by a participant who identified themself as Black.

or the field. We find these comments to be the most concerning, especially given discussion of racism in academic linguistics overall (cf. Charity Hudley et al. 2020).

Based on these results of our pilot survey, we designed the next two phases of the study to explore some of these questions further. The program survey, described below, is intended in part to explore whether institutional hierarchies uphold syntax in a privileged position among subfields of linguistics, as well as explore whether institutional structures contribute to race-based exclusion from the field of academic syntax. The instructor survey, for which we report the methods, is an ongoing exploration into attitudes of instructors, including attitudes around natural talent of students, attitudes towards linguistic diversity, and attitudes towards rigor and accessibility in pedagogy.

4. Program survey. In this section we report results from a survey of linguistics degree programs. This survey is ongoing; results here are from the time of writing in March 2024.

4.1. PROGRAM SURVEY METHODS. The program survey consists of a review of program requirements at universities in Canada, the UK, and the US (with most programs located in the US), that offer linguistics as a subject, based on publicly accessible information on department and university websites. The list of universities for the survey was initially drawn from the Linguistic Society of America (LSA) and Linguistic Association of Great Britain (LAGB)'s lists of universities with linguistics programs, with additions to the list based on personal knowledge by members of the research team; the goal is a comprehensive review of existing linguistics programs. The survey is still under way; at the time of writing, it includes 63 linguistics programs in the US, 38 in the UK, and 29 in Canada, for a total of 130.

The following information was collected for each university: degree types offered (e.g., BA, MA, PhD); undergraduate programs offered (e.g., major, minor for Canada/US, single/joint honors for UK); credit requirements for undergraduate degrees; credit requirements for linguistics programs; required courses for Linguistics programs (BA, MA, PhD); subfields mentioned in an "Introduction to Linguistics" course description; non-required courses offered with significant syntax content; stated theoretical focus for the program (if any); stated theoretical focus in syntax courses (if any).

Realizing that our initial list of universities in the US included no HBCUs (Historically Black Colleges and Universities), we also conducted a review of all universities identified by the US Department of Education as HBCUs (based on https://www.thehundred-seven.org/). This survey identified no linguistics programs at HBCUs, though many have linguists on faculty, and may offer linguistics courses through another degree program (e.g., English, Spanish, Speech Pathology).

4.2. PROGRAM SURVEY RESULTS. Of the 130 universities surveyed, 124 offer an undergraduate major (Canada/US) or single honors (UK) in linguistics; the remaining 6 offer an undergraduate minor. 65 offer an MA, and 68 offer a PhD. These offerings are broken down by country in Table 3.

Figure 6 shows the number of programs that specifically require a course in syntax, at the PhD, MA, and undergraduate levels; this is compared with requirements for both phonology and sociolinguistics. If a course such as "Phonetics/Phonology" was required, this was counted as a required course in Phonology (and similarly for any other combination of subdisciplines); if the requirement was for some selection of courses (e.g., 2 of Phonology, Syntax, Semantics) this was

	Canada	UK	US	Total
PhD	15	15	38	68
MA	19	21	25	65
BA/BSc (major/single honors)	24	37	62	123

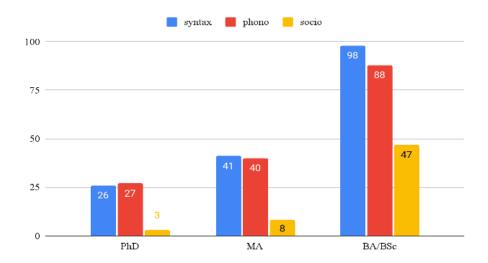Table 3. Number of schools with degree programs in linguistics

Figure 6. Required courses for undergraduate and graduate degrees

counted as no requirement for any specific course on that list. Unsurprisingly, similar numbers of programs require courses in syntax and phonology, both being "core" areas of formal linguistics; well over half of both undergraduate and MA programs require courses in these areas, as do nearly half of PhD programs. By contrast, only 43 undergraduate programs, 8 MA programs, and 3 PhD programs, require sociolinguistics.

Most programs (79) identified no specific theoretical framework for syntax courses, at least in publicly available course descriptions. 32 programs were identified as adopting a generative syntactic framework (most frequently because "generative" or "universal grammar" appeared in a course description), but did not further specify the particular theory adopted. 20 programs have course descriptions that specifically mention Government and Binding, Principles and Parameters, or Minimalism, and were classified as adopting "Mainstream" (broadly "Chomskyan") Generative Grammar. Only two programs specified a non-generative approach: one descriptive and explicitly non-formal, and one Systemic Functional Syntax.

The results of the program survey at time of writing (March 2024) are available in our online supplementary materials at https://osf.io/mtpa3/.

5. Instructor survey. Using the pilot study as a basis, we constructed a survey aimed specifically at syntax instructors, both past and current. This phase of the project is ongoing, and here we report just on the method.

5.1. INSTRUCTOR SURVEY PARTICIPANTS. The survey was shared via the researchers' networks, Linguist List and national subject association mailing lists. The accompanying information asked respondents to self-identify as having taught linguistics at any time in the past or cur-

rently, even if it was not their main specialization. Although we were explicit about the focus on Canada, the UK, and the US, participants were not restricted to having taught in those locations. The survey received 247 responses, with around 57% of these being complete. We attribute the relatively high incompletion rate to the length of the survey, taking around 30 minutes to complete.

5.2. INSTRUCTOR SURVEY MATERIALS. The survey was hosted on the Qualtrics online survey platform. It was open for responses from January 9 to March 12 2024. It consisted of up to 86 questions (many of the questions had a branching structure), with the themes and response options informed by responses to the pilot survey. The questions were a mix of multiple-choice and free text questions, with a final question in each section to allow respondents to add anything else that they felt was relevant. The questions were presented in the following seven categories: (a) Your linguistics background; (b) Your teaching experience; (c) Preparing to teach syntax; (d) In the classroom (questions about the number of students, textbooks and theories used, teaching philosophy, and assessments for a single class/module); (e) COVID; (f) General attitudes (agreement scales); (g) Instructor demographics. A full list of questions is available in our online supplementary materials (https://osf.io/mtpa3/).

Data analysis is ongoing for the instructor survey at the time of this writing, so we do not report results here. Instead, below we discuss larger implications of the results we have presented so far, then outline next steps for the SynTeach project.

6. Discussion. Based on the findings of our pilot survey and program survey, we have identified several points of concern for the field of academic syntax within linguistics. First, we note that it is at least partially true that syntax is structurally privileged over at least some other subfields of linguistics; we base this on the fact that syntax is a required course for significantly more linguistics degrees (at all levels) than sociolinguistics, which we selected as a comparator subfield (Figure 6). This, in conjunction with the pilot survey results (both quantitative results in Figure 1 and free response comments), supports the hypothesis that syntax is indeed held as more "core" in academic linguistics. Recent work has challenged the core/periphery model (Dockum & Green 2024), and it is possible that that the perception of syntax as more "core" than other subfields of linguistics is at least partially related to perceptions of disproportionate difficulty, innate natural talent, and un-inclusive learning environments.

The perception of difficulty or inaccessibility we found in the pilot survey was not obvious in the quantitative results of our direct questions about difficulty ("Syntax is more difficult for me than other subdisciplines"); however, we did find a correlation between respondents' perception that syntax is difficult for them personally and that syntax is difficult in general. Likewise, several of the comments in answer to open questions highlighted the particular challenge students faced, for example identifying syntax as "one of the hardest courses they've taken in their undergrad." Perhaps not surprisingly, respondents did not report that syntax teaching should be inaccessible; rigor and accessibility were both reported as being important to a majority of respondents. But this is at odds with the experiences of the respondents who had found that syntax instructors "make syntax seem more difficult than other subfields." Whether this disparity is unawareness of the effects of their own behavior or an effect of the sample of respondents to our survey, the perceived inaccessibility of the subject is key to the "trauma" referred to in the Twitter discourse that inspired the project.

Related to the perception of syntax as a "difficult subject" is the notion that there is a "knack"

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or innate ability in syntax, and that some people are more suited to the subject than others. This was clearly evident in comments from both instructors and students, and exacerbates the problem of syntax being "difficult" if instructors do not feel able to teach it in a way that includes all students, not only the "natural syntacticians" (as one participant in the 2022 Twitter discussion was designated by their instructor). Furthermore, the notion of "natural ability" risks perpetuating unconscious bias, in the same way that men are frequently perceived to be "good at math" (McCoy et al. 2022), which in turn leads to a disadvantage for female students in those subjects (Carlana 2019; Wu & Cai 2023).

Un-inclusive teaching environments was also an alarming finding of our pilot. We did not find correlations between gender or race and perceptions of the difficulty or funness of syntax in our Likert-style questions. However, many of the comments from former students expressed either that they did not feel they belong in the field due to their gender or ethnicity, or to explicitly being told this, or that what they were doing was not "real" syntax. Clearly, such attitudes are highly damaging to the field and to individuals in it.

7. Conclusions and next steps. The next stage for the SynTeach project is to analyze the results of the instructor survey and the extended program survey. The program survey will give us a better picture of the situation of syntax within linguistics across the three countries (here, we focused on the United States). The instructor survey will give greater insight into the themes that arose from our pilot survey including perceptions of what is and isn't considered "real" syntax, what methods are primarily used to teach, and attitudes towards students' ability and engagement. The final survey will be aimed exclusively at students, and will allow us to follow up on the themes of perceived difficulty, (un-)inclusive teaching environments, and the "other side" of the theme of ability and engagement.

References

Adger, David. no date. Syntax: Generative grammar. *Subject Centre for Languages, Linguistics and Area Studies Good Practice Guide*. Accessed March 12, 2024. `https://web-archive.southampton.ac.uk/www.llas.ac.uk/resources/gpg/402.html`.

Carlana, Michela. 2019. Implicit stereotypes: Evidence from teachers' gender bias. *The Quarterly Journal of Economics* 134(3). 1163–1224. https://doi.org/10.1093/qje/qjz008.

Cépeda, Paola, Hadas Kotek, Katharina Pabst & Kristen Syrett. 2021. Gender bias in linguistics textbooks: Has anything changed since Macaulay & Brice 1997? *Language* 97(4). 678–702. https://doi.org/10.1353/lan.2021.0061.

Charity Hudley, Anne H., Christine Mallinson & Mary Bucholtz. 2020. From theory to action: Working collectively toward a more antiracist linguistics (Response to commentators). *Language* 96(4). e307–e319. https://doi.org/10.1353/lan.2020.0081.

Chung, Sandra. 1993. *A book of GB syntax problems*. University of California at Santa Cruz: Linguistics Research Center. `https://linguistics.ucsc.edu/research/publications/chung/problembook.pdf`.

Costa-Silva, Jean & Vera Lee-Schoenfeld. 2023. Syntactically branching out beyond the traditional classroom: A report on the Discovery Method. Paper presented at the Conference on Scholarly Teaching in Linguistics 2023. Accessed April 19, 2024. `https://lingscholarlyteaching.org/2023/06/07/abstract-5a/`.

Davies, Peter & Marco G. Ercolani. 2019. Hard and soft choices? Subject selection by schools and students. *Oxford Review of Education* 45(1). 1–31. https://doi.org/10.1080/03054985.2018.1469483.

DeGraff, Michel. 2020. Toward racial justice in linguistics: The case of Creole studies (Response to Charity Hudley et al.). *Language* 96(4). e292–e306. https://doi.org/10.1353/lan.2020.0061.

Dockum, Rikker & Caitlin M. Green. 2024. Toward a big tent linguistics: Inclusion and the myth of the lone genius. In *Inclusion in Linguistics*, Oxford: Oxford University Press.

Kolb, David A. 1983. *Experiential learning: Experience as the source of learning and development*. Englewood Cliffs, NJ: Prentice Hall.

Lasnik, Howard. 2013. Teaching introductory graduate syntax. *Language* 89(1). e11–e17. https://doi.org/10.1353/lan.2013.0017.

Liera, Roman & Cheryl Ching. 2019. Reconceptualizing merit and fit: An equity-minded approach to hiring. In Adrianna Kezar & Julie Posselt (eds.), *Higher Education Administration for Social Justice and Equity*, London: Routledge.

Macaulay, Monica & Colleen Brice. 1997. Don't touch my projectile: Gender bias and stereotyping in syntactic examples. *Language* 73(4). 798–825. https://doi.org/10.2307/417327.

McCoy, Selina, Delma Byrne & Pat O'Connor. 2022. Gender stereotyping in mothers and teachers perceptions of boys and girls mathematics performance in Ireland. *Oxford Review of Education* 48(3). 341–363. https://doi.org/10.1080/03054985.2021.1987208.

McDonald, Christine V. 2016. STEM Education: A review of the contribution of the disciplines of science, technology, engineering and mathematics. *Science Education International* 27(4). 530–569.

Nix, Samantha & Lara Perez-Felkner. 2019. Difficulty orientations, gender, and race/ethnicity: An intersectional analysis of pathways to STEM degrees. *Social Sciences* 8(2). 43. https://doi.org/10.3390/socsci8020043.

Perez-Felkner, Lara. 2018. Conceptualizing the field: Higher Education research on the STEM gender gap. *New Directions for Institutional Research* 2018(179). https://doi.org/10.1002/ir.20273.

Rosa, Jonathan & Nelson Flores. 2017. Unsettling race and language: Toward a raciolinguistic perspective. *Language in Society* 46(5). 621–647. https://doi.org/10.1017/S0047404517000562.

Shiner, Michael & Philip Noden. 2015. Why are you applying there?: Race, class and the construction of higher education 'choice' in the United Kingdom. *British Journal of Sociology of Education* 36(8). 1170–1191. https://doi.org/10.1080/01425692.2014.902299.

Sultana, Shaila. 2022. Applied linguistics from the Global South: Way forward to linguistic equality and social justice. *Applied Linguistics Review*. https://doi.org/10.1515/applirev-2022-0071.

Thomas, Dave S. P. & Kathleen M. Quinlan. 2023. Reimagining curricula: Effects of cultural (in)sensitivity of curricula on racially minoritised students' engagement. *Studies in Higher Education* 48(2). 283–298. https://doi.org/10.1080/03075079.2022.2134332.

Wu, Sherry Jueyu & Xiqian Cai. 2023. Adding up peer beliefs: Experimental and field evidence on the effect of peer influence on math performance. *Psychological Science* 34(8). 851–862. https://doi.org/10.1177/09567976231180881.