Abstract

Facilitated by the increased availability of affordable broadband Internet (ITU, 2019), individuals around the world are taking language lessons online from private tutors. A large proportion of online language tutoring takes place through online teaching platforms (OTPs), which are two-sided online markets that connect individual learners and tutors for piece-meal lessons. This paper considers how salient aspects of teachers' identities drives teacher selection on OTPs. Using a discrete choice experiment design ($N = 971$) distributed to online English learners from four countries, (Brazil, Italy, Spain, and Korea) the paper tests hypotheses related to linguistic, racial, and gender-based discrimination. The results reveal that participants' preference for L1 teachers far exceeds their preference for pedagogically qualified instructors and that learners prefer female to male teachers. Further, learners' preference for L1 teachers is stronger when the teacher is White than when the teacher is Black. The results also indicate that foreign media consumption correlates with reduced racial bias. Implications and suggestions for further research are discussed.

Keywords: online teaching platforms, gig economy, language learning, native speakerism

Factors Driving Teacher Selection on Online Language Tutoring Platforms: An

Experiment-Based Approach

Over the past decade, an online market for language tutoring has rapidly emerged. Like

other industries in the nascent gig economy, the online language tutoring industry is composed of

digital intermediaries that connect customers (i.e., language learners) with service providers (i.e.,

language instructors) on a per-lesson basis (Authors, in press). These digital intermediaries, or

online teaching platforms (OTPs) have the potential to significantly affect the ways in which

people around the world study foreign languages. The potential of OTPs is signified by the

millions of people worldwide who have used one of these platforms, which include Cambly,

italki, VIPKid, Verbling, and Preply.

Because many OTPs function essentially as open marketplaces, analyzing students'

transaction records can yield considerable insights into what type of foreign language instructors

different students prefer. Unfortunately for researchers interested in studying students'

preferences for teachers, users' transaction data is proprietary and OTPs are reluctant to share

this data. However, an experimental design offers researchers a chance to replicate an OTP

market and collect information from users about their revealed preferences. Understanding the

factors that drive OTP users' preferences for language instructors can, in turn, offer insights into

language learners' preferences for teachers more broadly, and complements traditional

classroom-based research that uses course evaluations to collect information about students'

preferences for teachers (e.g., Lee & Du, 2021). Further, while previous research has attempted

to identify which teacher-attributes are most valued by students (e.g., Faranda & Clarke, 2004;

Pozo-Munoz et al., 2000), including in the context of language learning (e.g., Barnes & Locke,

2010, 2013; Javid, 2014; Park & Lee, 2006; Wei & Onsawad, 2007), comparatively little

research has addressed these issues in the context of OTPs. Research on OTPs highlights that they provide users with a wide degree of latitude in teacher selection (Authors, in press).

Much of the extant research on students' preferences for language teachers notes the value accorded to so-called "native" (e.g., L1) speakers (e.g., Lee & Du, 2021), and White L1 speakers in particular (see Jenks, 2017; Sung, 2011). Research also highlights the discrimination experienced by Black L1 teachers (Charles, 2019) as well as female L1 teachers (Lin et al., 2004). This article focuses on understanding English learners' preferences for teachers via a discrete choice experiment (DCE) conducted on a large OTP. Specifically, we test three hypotheses related to how various teacher characteristics affect teachers' likelihood of being selected by students on OTPs. By focusing on learners' choices, we are able to offer insights into how students discriminate among the thousands of potential instructors available on OTPs. Theoretically, the article contributes to scholarship on Native-speakerism (Holliday, 2005) and discrimination in applied linguistics and TESOL, and also opens up new lines of inquiry into the expanding gig economy for English language learning (Author, 2022).

Literature Review

The Rapid Rise of OTPs

OTPs differ from traditional language learning contexts in that they provide students with unprecedented control in terms of instructor selection. Through the use of search filters, students on OTPs are able to search for and select teachers according to a wide variety of criteria (Author, 2021). This autonomy and latitude of choice contrast with more typical language learning environments in which students have significantly less control over teacher selection. Whether at the primary, high school, or tertiary level, students have traditionally had limited direct input about who their instructor will be. Instead, instructors are generally chosen by hiring committees

or school administrators, who in turn select from a limited pool of applicants. These gatekeepers make their choices based on a wide range of considerations, including not only the perceived preferences of students, but also issues such as budgets, teacher qualifications, and local regulations. Further narrowing the pool of potential teachers are multiple other factors, including the minimum required qualifications as well as the geographic location of both the job and the potential job applicants. In other words, language students have until the rise of OTPs been relatively limited in terms of how much control they have over the teacher selection process.

While there are often some means of taking into account student input (for example, through end-of-course instructor evaluations), these are typically non-binding and ex-post. By contrast, OTPs function as a direct market between students and instructors, allowing students full control over the hiring process. It must be noted that OTPs invariably engage in their own, generally limited, gatekeeping practices. For example, many OTPs have minimum teacher qualification requirements. Further, the potential pool for OTP instructors—almost by definition—includes only those who have access to computing equipment and broadband Internet. Nonetheless, generally speaking the rise of OTPs allows students to bypass traditional gatekeepers in selecting a language instructor of their preference.

Further, because instruction takes place online through video-conferencing, geographic location is, in theory, no longer relevant. This "flattens" the market on a global scale, creating opportunities for matching teachers and students regardless of geographic location. In addition, many OTPs demand fewer qualifications (if any) from potential teachers than traditional schools and private academies. As a result, there is an enormous pool of potential instructors (Author, 2022). As one might expect, there are wide variations in price and teacher qualifications among OTPs as well as among teachers within OTPs. There are also significant differences in how

OTPs organize and present information about teachers to students, including customer-based ratings. Previous research has examined how OTPs unique affordances, such as the use of algorithmic matching, may negatively impact LX teachers and non-white teachers (Author, in press). These findings are consistent with broader findings about other types of gig economy platforms and their potential to exacerbate discrimination in hiring (Author, 2020).

Native-speakerism

The well-documented preference for so-called "native speaking" language teachers is rooted in ideology rather than pedagogical advantages (Canagarajah, 1999; Calafato, 2019; Phillipson, 2016). Despite its non-pedagogical basis, this ideology is pervasive in the English teaching industry across the globe, from Latin American (González & Llurda, 2016) to East Asia (Houghton, & Rivers, 2013; Liu, 2018). Dubbed *native-speakerism* (Holliday, 2005, 2006, 2018), the privileging of native speakers (by both students and institutions) is a perennial issue in TESOL. Scholars have rightfully criticized the term "native speaker," noting its theoretical imprecision as well as its racist undertones (e.g. Dewaele, 2018; Dewaele et al., 2021). Yet, many OTPs explicitly distinguish between the categories of "native" and "non-native" speaker teachers via their user interfaces and search filters (Author, 2022). In addition, many teachers also address their identities as "native" or "non-native" teachers in their self-crafted teacher profiles (Author & Author, in press). Thus, while the binary distinction between native and non-native reflects ideology and prejudice rather than linguistic difference (Lee, 2017) this binary is nonetheless explicit and omnipresent on OTPs. In this article, we adopt the more accurate terms L1 and LX speaker when discussing language identity, previous literature, and the implications of the study's findings.

Despite the large amount of attention devoted to the topic of discrimination against non-native speakers in TESOL, it is not sufficiently clear where the locus of discrimination lies. That is, it remains unclear whether discrimination towards LX teachers originates primarily from students themselves or from those in gatekeeping roles—who are effectively able to shut out LX and non-White teachers through their hiring decisions. Indeed, much of the research on discrimination against LX teachers identifies discrimination at the level of institutional recruitment/hiring (e.g. Mahboob & Gordon, 2013; Ruecker & Ives, 2015) and there is research suggesting that in many circumstances students themselves may actually favor teachers who share their linguistic and cultural background (e.g., Chun, 2014). Indeed, there is growing recognition that nowadays many English learners may not be seeking to acquire "native" English (e.g., Choi, 2016).

Relatively little research has explicitly explored discrimination against LX teachers in the context of OTPs. However, one study (Authors et al., 2021) found that English-speaking learners of German, Italian, and French tended to prefer L1 teachers. Author et al.'s (2021) findings imply that preference for L1 speakers is maintained in the context of OTPs—at least with respect to learners of languages other than English (LOTEs). However, it is not immediately clear if the results would be similar in the context of English learning by students from non-English-speaking countries. There are some reasons to question whether this is truly the case. For example, the fact that English functions as a *lingua franca* widely used in communicative exchanges between non-native speakers (Seidlhofer, 2005) could plausibly lessen students' preference for L1 teachers. Therefore, testing the preference for L1 teachers on OTPs is necessary. Nonetheless, due to the majority of number of studies on the topic identifying

preference for L1 teachers, we hypothesize that English learners will prefer an L1 teacher over a teacher who shares the learner's linguistic background.

H1: Online English learners will prefer (ceteris paribus) L1 teachers over LX teachers of their same nationality.

Gender

There is little work in general that quantitatively examines how teachers' gender affects hiring outcomes, much less in the context of OTPs. That being said, teaching is in most contexts stereotyped as a female occupation (Drudy, 2008). For example, in the United States, women account for three-quarters of K-12 teachers, a proportion that has grown steadily in recent years (Ingersoll et al., 2018). In OECD countries, the share of teachers at all levels that are female stands at 70% (OECD, 2019). It is a well-established finding that gendered occupational stereotypes tilts hiring in favor of those in the majority group, a finding that has been replicated in online hiring contexts (Chan & Wang, 2018).

Another strand of research discusses the role of gender in English teachers' experiences (Nagatomo, 2016; Simon-Maeda, 2004; Yoshihara, 2018), especially as it intersects with other important variables that affect teachers' experiences such as status as L1 or LX, race, and age (e.g., Kubota, 2020; Lin et al., 2004; Park, 2017; Mason & Chick, 2020). The evidence suggests that gender plays a key role in students' affective orientations towards learning English. For example, writing about private English institutes in Japan, Kubota (2011) notes that it is not just White L1 teachers who are the most sought-after teachers but in particular White L1 *male* teachers. In contrast, other studies point to student preferences for female teachers, with Tajima (2018) examining how female online English teachers from the Philippines are constructed as intimate and romantic entities by their male students in Japan. Based on literature on both

teaching as a gendered occupation, and studies on English teaching in particular, we formulate the following hypothesis:

H2: Online English learners will prefer (ceteris paribus) female teachers over male teachers.

Race Salience

The literature on discrimination against LX teachers highlights that not all English teachers benefit equally, with White L1 speakers being the primary beneficiaries and non-White L1 teachers experiencing discrimination in hiring and performance reviews (e.g., Wu et al., 2020). In particular, the literature notes the racism experienced by Black L1 teachers in particular (e.g., Charles, 2019; Choe & Seo, 2020; Author, in press). In one of the few experiment-based investigations of LX versus L1 teacher, Rivers and Ross (2013) demonstrate that White teachers were evaluated more favorably than Asian and Black teachers by Japanese university students. In light of this research, the following hypothesis is suggested:

H3: Among online English-language learners, the preference for L1 teachers will be stronger when the teacher is White than when the teacher is Black.

Method and Analytical Approach

Our study was approved by the University Institutional Review Board and conducted in cooperation with LanguaSpeak (pseudonym), a large OTP with more than 5 million students and over 10,000 teachers. In collaboration with LanguaSpeak, we distributed surveys to registered users who were identified as English learners from South Korea, Brazil, Italy and Spain. In total, we sent the surveys to 41,579 users, yielding an average response rate of 3.2%. Gift cards worth $25 were raffled among respondents as an incentive for participation. Our final sample consists of 967 English learners (South Korea: $N = 237$; Brazil: $N = 465$; Italy: $N = 152$; and Spain: $N =$

117). Table 1 provides descriptive statistics for the demographic characteristics and the variables used in the analysis.

[TABLE 1 NEAR HERE]

The survey included questions about demographic characteristics, learning motivations, patterns of OTP use (number of classes, months since first class and so forth), and teacher preferences. In addition, respondents were presented with four choice tasks, each comprising a pair of mock teacher profiles. For each pair, respondents were asked to select the English language teacher of their choice. These profiles were virtually identical to the actual profiles of LanguaSpeak teachers. Figure 1 offers two examples of mock teacher profiles.

[FIGURE 1 NEAR HERE]

Three variables were manipulated across all teacher profiles: native speaker status (native vs non-native), gender (male vs female), teacher qualifications (credentialed vs non-credentialed teacher). In addition, race (White vs Black) was manipulated for native non-credentialed teachers. In the mock profiles, teacher attributes were signaled in various ways. *L1 status* was signaled through teachers' names, nationality (represented by the flag next to the teacher's name), and the self-introduction text in the bio section. *Gender* was signaled through the black-and-white sketched drawing of a stereotypical "man" or "woman" (real profiles typically contain a headshot of the teacher). In addition, profiles contained common male and female names from each language group (for instance, Maria and Antonio were the names used for the non-native speaking teachers in the survey of Brazilian learners).

Teaching qualifications were signaled by manipulating the designation used by LanguaSpeak (immediately below the name) of each teacher as either "community tutor" (without teaching credentials) or "professional teacher" (with teaching credentials). In addition,

the mock bios for professional teachers mentioned a TESOL certificate and an MA degree in

language teaching. Finally, *race* was signaled through the use of race-stereotyped names (for

instance, DeAndre in the Black male teacher profile), as well as through the text in the short

teacher bio. Specifically, our White instructor profile mentions having Northern European

heritage in the context of a tour to Norway, while our Black instructor writes about being the

only Black person on an identical tour to Norway. Having this information in the teacher bio

mirrors real LanguaSpeak profiles, on which it is common for instructors to mention travel

experiences, hobbies, and other personal information. The complete set of teacher profiles used

in the choice sets can be found in Table 2. In Table 2 we also presented the number of

respondents each profile is chosen by and the respective percentage.

       Our DCE has two components. The first component tests for H1 (preference for L1

teachers) and H2 (preference for female teachers), while the second component tests for H3

(preference for White over Black L1 teacher). Each component is further discussed below.

Component 1 (Tasks 1 and 2)

       In the first component, we presented participants with two discrete choice tasks (see

Table 2). Task 1 paired a female, LX credentialed teacher against a male, non-credentialed L1

speaker, while in Task 2 the profile genders are reversed. This setup is based on findings from

previous research which shows that OTP learners strongly prefer L1 teachers (Author et al.,

2021). However, it is not empirically tested whether students would still prefer an L1 teacher

who lacks qualifications versus a professional (credentialed) LX teacher. By coupling these two

attributes, our aim is to explore a more nuanced understanding of the "native speakerism"

phenomenom. In addition, Authors et al. (2021) study examined learners of languages other than

English (LOTEs) while this study considers learners of English. These choice set reflect teacher

profiles that are typical in LanguaSpeak, where many LX speakers tend to be more qualified and credentialed than their L1 peers (Author, 2020).

Since our outcome variable is binary (selected vs. not selected), our estimation approach is based on a series of mixed logit models (MLM) that recover the factors that influence teacher preferences. Using MLM, respondents' choices can be modeled on both the attributes of the teachers (the choice attributes manipulated in teacher profiles) as well as respondents' characteristics (the individual attributes collected in the survey). We used Stata 16 and the function *cmxtmixlogit* to estimate the MLM model and calculated margins to determine the probability of choosing a teacher profile.

Component 2 (Tasks 3 and 4)

To examine the salience of racial attributes in respondents' choices for language teachers, another two pairs of mock-profiles were presented to language learners. In Task 3, a Black L1 teacher without credentials is paired against a L1 credentialed teacher, while in Task 4 a White L1 teacher is similarly paired against a LX teacher with professional teaching credentials (see Table 2). In other words, we manipulate the race of the first teacher presented from Black (Task 3) to White (Task 4), while holding constant all other teacher attributes.

[TABLE 2 NEAR HERE]

Two empirical strategies are used to test H3 (preference for White over Black L1 teacher). First, we use a nonparametric test commonly used for paired data (McNemar's test) to examine the difference in the proportion of respondents choosing the White teacher and the Black teacher (both paired against a non-native speaking teacher). Second, we create a discrete variable that flags respondents who chose the White teacher in Task 4 but not the Black teacher

in Task 3, and fit a logit model to predict the probability of these events controlling for

respondents' demographic attributes and patterns of LanguaSpeak use.

Control variables

Our survey included questions related to students' activity on LanguaSpeak, such as

number of languages studied, number of months on LanguaSpeak, and weekly hours taking

lessons. We also asked students if they pay for lessons or rely on free lessons from language

exchange partners. In addition, we probed for patterns of English-language media consumption.

Following Author et al.'s (2021) finding that OTP students' motivations can affect teacher

preferences, we also included two items that capture learners' motivations for language learning

(see Appendix for items). These two items captured extrinsic (i.e., career-related) and intrinsic

(i.e., personal desire) motivations separately, each using a 7-point Likert scale (1=strongly

disagree to 7= strongly agree).

In addition, our models control for demographic student attributes such as age, gender,

education, and income. Finally, an indicator variable was included to control for differences

across the four groups of students from different countries (South Korea, Brazil, Italy and Spain).

Results

The raw proportions of choices made by respondents for each of the tasks (shown in

Table 2) anticipate the main results obtained from the MLM models. As shown, respondents

strongly prefer L1 teachers (despite lacking credentials) over L2 teachers (despite being

presented as having appropriate pedagogical credentials), thus confirming the strength of "native

speakerism" among individual language learners. The effect is somewhat smaller for female LX

credentialed teachers, which suggests that female teachers are generally preferred. These results

are consistent with those in the MLM models discussed below (Table 3).

[TABLE 3 NEAR HERE]

To formally test H1 (preference for native speakers), we fit Model 2 which estimates the overall probability of choosing a L1, non-credentialed teacher over a LX, credentialed teacher. As shown in Table 3, the exponentiated coefficient indicates that the odds of choosing a L1, non-credentialed teacher are about three times higher than the odds of selecting a LX, credentialed teacher, regardless of teacher gender. Using Stata's *margin* command, we calculate the overall predicted probability of choosing L1 teachers over LX speakers, controlling for teacher gender and individual respondent characteristics. The results are 75% versus 25% in favor of native speaker, non- credentialed teachers ($p < .001$), thus further confirming H1.

To test for H2 (preference for female teachers), we fit Model 1 which shows a small but statistically significant preference for female teachers regardless of native speaker status ($OR = 1.12, p < 0.01$). Using Stata's margins command we obtain the predicted probability for each gender, which shows a small but statistically significant difference in favor of female teachers (52% versus 48%, $p < .001$). Overall, these findings confirm, as proposed by H2, that female teachers have a hiring advantage, due likely to stereotypes related to teaching as a gendered profession.

In addition to the main results, the findings also suggest several variations in teacher preference based on individual-level attributes. Age has a small but significant (positive) effect on the risk of selecting a L1 teacher ($RR = 1.02, p < .05$), while female respondents are less likely to select a L1 teacher ($RR = 0.69, p < .05$). Another finding is that respondents who are more motivated by career goals are less likely to choose a non-credentialed L1 teacher ($RR = 0.89, p < .05$). In other words, teaching credentials are more salient for these "extrinsically motivated" students. Finally, respondents who consume more media from the culture associated

with the language they are studying—who Author et al. (2021) call "pop cosmopolitans"—are more likely to select a native speaker teacher (RR = 1.15, p < .001) on the basis of perceived language authenticity (on preference for L1 teachers and the topic of authenticity see Lowe & Pinner, 2016).

The raw percentages shown in Table 2 indicate a small effect of the race manipulation in favor of the White (over the virtually identical Black) teacher. A McNemar's test of proportions indicates that the difference (76% versus 73%), though relatively small in magnitude, is statistically significant (p < .05). This finding supports the hypothesis (H3) that White teachers are preferred to Black teachers by individual learners themselves. In addition, we fit a logit model that seeks to identify the individual characteristics of those who selected the White L1 teacher but not the Black L1 teacher (both paired against the LX credentialed teacher). That is, the model identifies those participants who preferred a L1 teacher *only when the teacher was White.* The goal is to identify the attributes associated with the activation of race as a salient teacher trait (Table 4).

[TABLE 4 NEAR HERE]

Interestingly, the only significant parameter in Model 3 is the number of hours of foreign language media consumption. According to the results, every hour of foreign language media reduces the salience of the race attribute in teacher selection by about 10%. These marginal effects are plotted in Figure 2. There are several possible interpretations for this finding, which we discuss in the following section.

[FIGURE 2 NEAR HERE]

Discussion

Online language learning platforms allow English learners to effectively bypass traditional gatekeepers in offline learning settings, such as schools and language learning centers. To our knowledge, this is the first study that uses an experimental design to assess online language learners' preferences for teachers according to race, gender, and qualification. In particular, we probe for evidence of preference for L1 teachers as well as gender-based and race-based preferences, which previous studies suggest determine teacher hiring in face-to-face language learning settings (e.g., Mahboob & Gordon, 2013; Ruecker, T., & Ives, 2015).

Discrimination on OTPs

Our results show that L1 non-credentialed teachers are generally preferred by OTP learners over LX credentialed teachers. While previous studies have found similar results (Authors et al., 2021), our findings provide a more nuanced analysis that demonstrates that a teacher's status as an L1 speaker far outweighs the effect of teaching credentials. If participants' tendency to choose an L1 teacher is similar to that of choosing a credentialed teacher, we would expect the test for the difference between predicted probabilities of choosing two teacher profiles in Model 1 to be non-significant. However, we observed not only a significant difference but also a large effect size for participants choosing L1, non-credentialed teachers (75%) over LX, credentialed teachers (25%). These results highlight that LX speaker teachers are at a considerable hiring disadvantage that is not compensated by higher qualifications. This has far-reaching implications for the potential success of qualified but LX English instructors online.

In addition, it is worth noting that respondents were presented with LX teachers of the same nationality (in other words, Brazilian English learners were presented with a Brazilian LX teacher, Italian English learners were presented with an Italian non-native speaking teacher, and so forth). This was done primarily due to the constrains of experimental design, which

necessitate keeping as many variables constant as possible. However, we anticipate that the disadvantages to non-native speaking teachers that we identified will be even greater when students and teachers do not share a linguistic or cultural background. That is, the effect of native speakerism may have been partially attenuated in our study by the shared background of the alternative teacher.

Overall, the implications of the overwhelming preference for L1 teachers is troubling, and seems to indicate that, despite growing recognition that English is a *lingua franca* used successfully every day by non-native speakers in workplace settings around the globe (Ladegaard & Jenks, 2015), most learners still cling to the notion that so-called "native speakers" are the ideal English teacher.

Gender

Our findings suggest that female teachers are preferred over male teachers. Interestingly, this finding holds after controlling for student gender. However, it is still possible that men and women differ in their reasons for preferring female teachers. For example, Tajima (2018) found male student preference for female teachers was linked to a desire for a flirtatious relationship with their teacher. Similar motivations could be at play on LanguaSpeak as well. In contrast, it is possible that many female students would prefer female teachers due to concerns about online harassment. Future interview-based studies are needed to better unpack the role of gender (both student's and teacher's) in affecting preferences for teachers on OTPs.

Race Salience

The preference for the White teacher over the Black teacher may be due to the language ideologies about English and Whiteness that circulate globally in English institutes (e.g., Ramjattan, 2019) and pedagogical materials (e.g., Joo et al., 2020), which present White teachers

as ideal English instructors. At the same time, issues of non-language-related racism may also play a role. Further, it may be that issues of response bias yielded findings that underestimate the difference in users' preferences between Black and White teachers. In other words, some respondents may have chosen the Black teacher in the experiment in order to avoid appearing overtly racist. Only careful examination of OTP users' transaction data could reveal the degree to which survey choices mirror their actual behavior. Unfortunately, platforms are extremely reluctant to share this data.

Interestingly, our results showed that a high level of foreign media consumption is related to a decrease in the salience of race (i.e., alleviates the racial bias against Black teachers). However, based on the cross-sectional survey data alone, we cannot fully explicate the mechanism underlying this relationship. It is possible that media consumption provides participants with greater exposure to Black people and thus reduces racial prejudice. Based on the finding that foreign media consumption correlates with learners' preference for L1 teachers, it is also possible that students who consume higher levels of foreign media may associate Black Americans with "authentic" English, or that media exposure reduces the salience of race in general. Future studies should further investigate the relationship between foreign media consumption and the salience of race on OTPs.

The implications of our finding that White L1 teachers are overall preferred to Black L1 teachers is troubling. These findings are particularly worrisome in the context of OTPs, due to the fact that many OTPs use a combination of customer-based ratings and algorithmically-enhanced matching. It is well documented that algorithms can exacerbate and reinforce existing biases (Fosch-Villaronga et al., 2021; Noble, 2018). In the context of OTPs, even a few students' prejudices could have severe negative implications for Black teachers if this prejudice results in

lower ratings. Extant research documents this process; one Black teacher interviewed in Author (in press) observed: "if you get one bad rating, your profile goes all the way to maybe page 20 or page 40." In other words, even relatively small differences in racial preferences can become enormously when magnified by OTPs' algorithms.

Corroborating the Results

Our survey also included an open-ended question that asked users to describe their ideal teacher. The responses, which are reported in detail elsewhere (Author, in press) revealed that L1 status, gender, and qualifications were explicitly mentioned by 30%, 13% and 7% of users, respectively. These figures roughly correspond with the relative differences in weight that users of the platform assigned these characteristics in the DCE. The results from the present study are also in line with findings from a previous experiment we conducted with OTP users learning French, German, and Italian (Authors et al., 2021). That experiment, which also utilized a DCE design—but which did not include race as a variable—obtained similar findings of users' preferences for native speaking teachers vis-a-vis gender and qualifications. Therefore, the finding that students on OTPs seem to place greater value on L1 status than qualifications, is strongly supported.

Conclusion

The findings of this study present large-scale empirical evidence about L1/LX and racial bias in teacher hiring that have been hitherto underexplored, and which was severely lacking in the context of OTPs. The full implications of OTPs remain to be seen, and it is not yet clear what role they will play in either combatting or reinforcing harmful language ideologies among language learners. On the one hand, OTPs empower students by giving them full control over preferred teacher traits. This will likely favor teachers who embody previous preconceptions

about what a teacher of English *should* be like and look like. On the other hand, the short nature of the student-teacher contracts on OTPs (often a single 30-minute lesson) lowers the opportunity cost of taking lessons from a teacher who diverges from a student's preconceptions, which may encourage students to take lessons from teachers who diverge from their preconceptions.

Some caution is warranted in extrapolating from this study's findings to offline language learning. For example, while this study has identified learners' preferences across several different nationalities, it would be premature to assume that offline learners' preferences are identical. That is, online learners may differ in important ways from offline learners. For example, the preference for women teachers, White teachers and L1 teachers identified in this survey may reflect a selection bias in that OTP users choose to study online in part because of their strong preferences in terms of specific teacher characteristics. Indeed, qualitative research on teachers' self-presentation on OTPs reveals that L1 teachers heavily emphasize their status as L1 speakers, indicating that this is a prized trait on OTPs in particular (Authors, in press). Indeed, one obvious selling point of OTPs is their ability to obviate the issues of distance and connect learners in one country with (L1) speaking teachers far away, which adds to the possibility that OTP users are potentially more affected by the "native-speakerism" than offline peers.

This study has a number of severe limitations, the majority of which are linked to the experimental design adopted. Although experiments are extremely helpful for isolating and identifying which variables contribute to students' teacher selection, experiments are also artificial environments and do not reflect the complexity of the real world. For example, this study used a fixed price for all teachers. However, it may be that in reality students' choices are

dependent upon the price of each teacher. In addition, the signals for gender (e.g., cartoon photos and names) and race (which cleaved L1 teachers into "Black" and "White") lack nuance—they certainly do not capture the complexity of gender and race in real world. We hope that future research on OTPs can combine both quantitative and qualitative methods to explore issues of race and gender in greater depth and with more nuanced measures. Given the rapid growth of OTPs, and the vital role they can play in either countering or exacerbating problems of discrimination, further research is urgently needed.

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Table 1

Descriptive statistics

	N	Min	Max	Mean / %	SD
Age	*948*	18	72	34.51	9.37
Gender	*971*			100%	
Female	407			42%	
Male	564			58%	
Education	*971*			100%	
Bachelor's degree	736			76%	
Below bachelors	235			24%	
Income	*895*			100%	
No income	99			11%	
0 - 500	52			6%	
500 -1000	107			12%	
1000 - 2000	170			19%	
2000 - 3000	142			16%	
3000 - 5000	119			13%	
5000 - 10000	155			17%	
10000 +	51			6%	
Survey Language	*971*			100%	
Korean learning English	237			24%	
Brazillian learning English	465			48%	
Italian learning English	152			16%	
Spaniard learning English	117			12%	
Number of Language studied	*971*	0	22	2.04	1.47
Months on LanguaSpeak	*957*	0	100	12.60	14.50
Paying user	*971*			100%	
Paying users	805			83%	
Non-paying users	166			17%	
Weekly hours on LanguaSpeak	*942*	0.5	6.5	1.17	1.06
Intrinsic Motivation	*895*	1	7	3.07	1.60
Extrinsic Motivation	*895*	1	7	5.40	1.52
Foreign language media (in hours p/week)	*928*	0.5	6.5	3.02	1.96

Table 2

Discrete choice experiment task results

		Profile A			Profile B		
		Profile attributes	*n*	*%*	*Profile attributes*	*n*	*%*
	Task 1	LX, Credentialed, Female	279	28.7%	L1, Non-credentialed, Male	692	71.3%
Component 1	Task 2	LX, Credentialed, Male	225	23.2%	L1, Non-credentialed, Female	746	76.8%
	Task 3	LX, Male, Credentialed	253	26.0%	L1, Male, Non-credentialed, Black	719	74.0%
Component 2	Task 4	LX, Male, Credentialed	230	23.7%	L1, Male, Non-credentialed, White	742	76.3%

Note. Profiles are randomized within each task. Tasks are not randomized

Table 3

Mixed logit estimates for teacher traits and individual attributes

	Model 1		Model 2	
	Exponentiated coefficient	SE	Exponentiated coefficient	SE
Choice Attributes				
L1, non-credentialed teacher (yes= 1)	n/a		3.07***	0.22
Female (yes=1)	1.12**	0.05	n/a	
User Characteristics				
Number of languages studied	0.97	0.05	1.03	0.03
Months on LanguaSpeak	1.01	0.01	1	0
Paying user (yes = 1)	1.5	0.33	0.86	0.12
Weekly hours on LanguaSpeak	0.95	0.07	0.94	0.04
Intrinsic motivation	0.94	0.05	1.02	0.03
Extrinsic motivation	0.89*	0.05	1	0.03
Foreign language media (in hours p/week)	1.15***	0.05	1.04	0.02
Demographics				
Age	1.02*	0.01	1	0.01
Gender (female = 1)	0.69*	0.11	0.94	0.08
Education (Bachelor = 1)	1.17	0.23	0.97	0.1
Income control	Yes	Yes	Yes	Yes
Survey language	Yes	Yes	No	No
Constant	1.55	0.86	1.07	0.34
AIC	1737.376		1822.414	
BIC	1855.714		1940.753	
Log Likelihood	-846.6882		-889.2072	

Note: * p < .05; ** p < .01; *** p < .001. For choice attributes coefficients, exponentiated coefficients represent odds ratios. For individual-specific variables, exponentiated coefficients represent relative-risk ratios.

Table 4

Probability of choosing White but not Black teacher (Logistic regression)

	Model 3	
	Odds Ratio	SE
User Characteristics		
Number of languages studied	0.99	0.11
Months on LanguaSpeak	0.99	0.01
Paying user (yes = 1)	1	0.39
Weekly hours on LanguaSpeak	1.18	0.12
Intrinsic motivation	1.12	0.11
Extrinsic motivation	1.03	0.08
Foreign language media (in hours p/week)	0.89*	0.05
Demographics		
Age	1	0.02
Gender (female = 1)	1.65	0.49
Education (Bachelor = 1)	0.85	0.28
Income control	No	No
Survey language	No	No
Constant	0.06***	0.06
Pseudo R^2	0.0435	
Log Likelihood	-222.70639	

*Note: * $p < .05$; ** $p < .01$; *** $p < .001$*

Figure 1

An example of mock teacher profiles in a choice task

Antonio 🇧🇷
Professor profissional
De Brasil
● Online
★★★★★ 5.0
3216 AULAS
337 ALUNOS
—
ENSINA Inglês‖‖‖

Sobre mim professor italki desde 27 de Jan de 2017

Hi, my name is Antonio, and I was born in São Paulo, Brazil. I have been learning English since I was in junior-high. After graduating from University, I worked for a tech company for a few years and then got a Master's degree in Teaching English to Speakers of Other Languages (TESOL). Now, I teach English on italki full time. I'm looking forward to giving you an English lesson!
Fun Fact: Last year I went on vacation to Norway. It was a super cool experience. The highlight was seeing a fjord while on a tour that was 95% middle-aged ladies from Asia.

Olá, meu nome é Antonio. Nasci em São Paulo no Brasil. Nasci e cresci em São Paulo no Brasil. Eu aprendo inglês desde o ensino fundamental. Depois que eu me formei na universidade, trabalhei durante alguns anos em uma empresa de tecnologia e, em seguida, fiz um mestrado em ensino de inglês para estrangeiros. Agora, ensino inglês no italki em tempo integral. Estou animado para te dar uma aula de inglês!
Fato curioso: No ano passado, passei minhas férias na Noruega. Foi uma experiência muito legal. O ponto alto da viagem foi visitar um fjord em um tour com 95% de senhoras asiáticas de meia idade.

Currículo

Experiência profissional	Educação	Certificados
2017 – present Professional Teacher italki	2015 – 2017 Master's – Language Teaching	3 Uploaded certificates
2012 – 2015 Tech Company	2008 – 2012 Bachelor's	

DeAndre 🇺🇸
Tutor da comunidade
De Estados Unidos
● Online
★★★★★ 5.0
3216 AULAS
337 ALUNOS
—
ENSINA Inglês‖‖‖

Sobre mim professor italki desde 27 de Jan de 2017

Hi, my name is DeAndre, and I was born and raised in Detroit, United States. After graduating from University, I worked for a tech company for several years. Now, I teach English on italki full time. I'm looking forward to giving you an English lesson!
Fun Fact: Last year, I went to Norway for vacation. The highlight: I got to see a fjord, and I was the only American (and the only Black person) on a tour with 95% middle-aged ladies from Asia.

Olá, meu nome é DeAndre. Nasci e cresci em Detroit nos Estados Unidos. Depois que eu me formei na universidade, trabalhei durante muitos anos em uma empresa de tecnologia. Agora, ensino inglês no italki em tempo integral. Estou animado para te dar uma aula de inglês!
Fato curioso: No ano passado, passei minhas férias na Noruega. Pontos altos da viagem: consegui visitar um fjord e eu era o único americano (e o único negro) em um tour com 95% de senhoras asiáticas de meia idade.

Currículo

Experiência profissional	Educação	Certificados
2017 – present Comunity Tutor italki	2008 – 2012 Bachelor's	1 Uploaded certificates
2012 – 2017 Tech Company		

Figure 2

Predicted probability of racial salience at the different levels of foreign media consumption
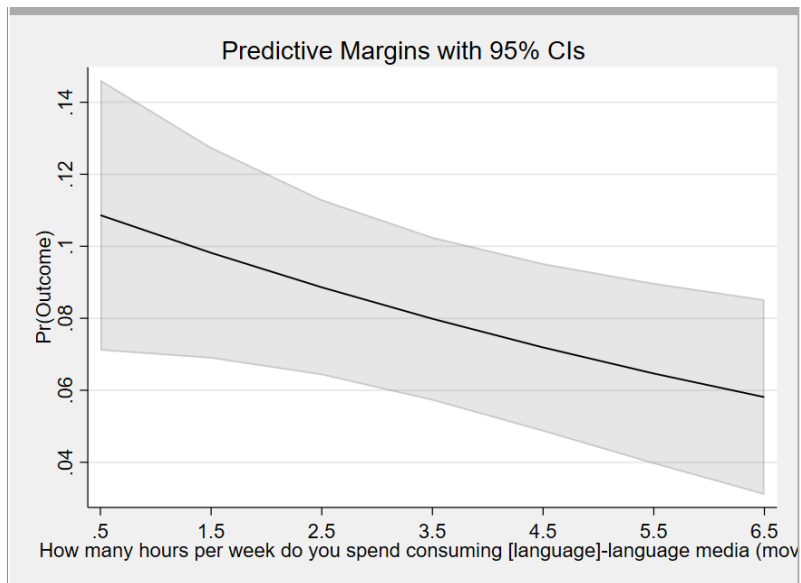
Appendix

We used the question "I study on LanguaSpeak primary because language learning is interesting" to measure learners' intrinsic motivation and the question "I study on LanguaSpeak primarily to help my employment prospects" to measure learners' extrinsic motivation.