

The effects of persona racialization on perceptions of pragmatic (im)precision

Background. Recent work suggests that *persona-based* information affects language processing (e.g. D’Onofrio 2018, 2019), including pragmatic reasoning; Beltrama and Schwarz (2024; henceforth B&S24) show that numerals uttered by **Nerdy** speakers are interpreted more precisely than those uttered by non-Nerdy (**Chill**) speakers. Crucially, B&S24 featured white Nerds, in line with prior work linking Nerds and whiteness (e.g. Bucholtz 2001). The current study revisits the relationship between social information and meaning by investigating how pragmatic reasoning is affected by non-white embodiments of the Nerd persona, and in particular, Black Nerds. **Methods.** We adapted the Covered Screen paradigm designed by B&S24- which portrays dialogues between either Nerdy or Chill pairs- such that the speaker characters in the dyads were Black, instead of white. They were normed for nerdiness to be comparable to those of B&S24. In this paradigm, one speaker asks for information and the other checks their phone and responds with a round numeral. Participants then see two pictures of a phone; selecting the VISIBLE screen indicates that they believe it to be the one the speaker is looking at, and the COVERED one otherwise. With respect to the number on the screen, the spoken numeral was either an exact **Match** or a complete **Mismatch** (control conditions), or an **Imprecise** match (critical condition; see Fig. 3). We take COVERED screen selections in the **Imprecise** condition as rejections of an imprecisely-fitting referent, thus indicative of a precise interpretation. If whiteness drives the Nerd-non-Nerd contrast, we predicted that Black Nerds would elicit a lower rate of precise interpretation than white Nerds, possibly with no difference between Black Nerds and non-Nerds. However, if whiteness does not drive this distinction, we predicted that, mirroring B&S24, Nerds would be found more precise than non-Nerds. **Results.** We found a significant effect of Speaker Race ($p < 2e-16$), such that Black characters received more selections of the COVERED screen than white characters in the target **Imprecise** condition. There was an additional significant interaction of Speaker Race and Persona ($p = 0.005$); contrary to B&S24, there was no significant difference in COVERED screen selections for Black Nerd characters than for Black Chill characters ($p = 0.09$; Fig. 5; Table 1-2; also note that numerically, Black Chill exhibited higher COVERED choice rates than Black Nerd). To account for these unexpected outcome patterns, we propose that there is an underlying dimension of imprecise speech for Black characters, such that speaking imprecisely may put them at risk to trigger negative racial biases. Black characters may then have been judged as less likely to speak imprecisely than their white counterparts assuming they would want to circumvent this risk, thereby accounting for the significant effect of Speaker Race. We further propose that this effect of risk is modulated by personae; Black *Nerds*, in their proximity to whiteness may be less associated with these racial biases, therefore decreasing the risk for them of imprecise speech, and hence weakening the above effect for them. We suggest that Black *Chill* characters, on the other hand, do not have this shield, and thus may have been expected to be even more cautious in their speech, without it. On this account, there are two factors in play, a risk factor increasing COVERED choices for Black speakers, though less so for Black Nerds, and the standard Persona effect of B&S24. The opposite directions of the effects cancel each other out and lead to greater COVERED choice rates for Black speakers overall, accounting for both the main effect of Race and the interaction of Speaker Race and Persona. **In sum**, we find that expectations of whiteness are essential to heightened perceived precision for Nerds, but do not generate decreased precision judgments for non-white Nerds; indeed both Black Nerd and Chill characters’ utterances are interpreted more precisely. Crucially, we suggest that the results of the current study reveal that racial variation in a persona like the Nerd may introduce previously untapped dimensions of imprecise speech, like risk, that together with B&S24’s persona effect give rise to an overall complex results pattern. Thus, race emerges as a piece of social information to be forefronted in the study of how sociolinguistic information affects pragmatic reasoning.

Selected References. Beltrama & Schwarz. (2024). (Im)precise personae: The effect of socio-indexical information on semantic interpretation. *Language in Society*: 1-28. **Bucholtz. (2001).** The whiteness of nerds: Superstandard English and racial markedness. *Journal of linguistic anthropology*, 11(1), 84-100. **D'Onofrio. (2018).** Personae and phonetic detail in sociolinguistic signs. *Language in Society*, 47(4), 513-539. **D'Onofrio. (2019).** Complicating categories: Personae mediate racialized expectations of non-native speech. *Journal of Sociolinguistics*, 23(4), 346-366.

“[Person A] and [Person B] are looking for a one-way plane ticket”



Figure 1. *Nerdy* stimuli Figure 2. *Chill* stimuli



Figure 3. **VISIBLE vs. COVERED** screen (**Imprecise** Condition)

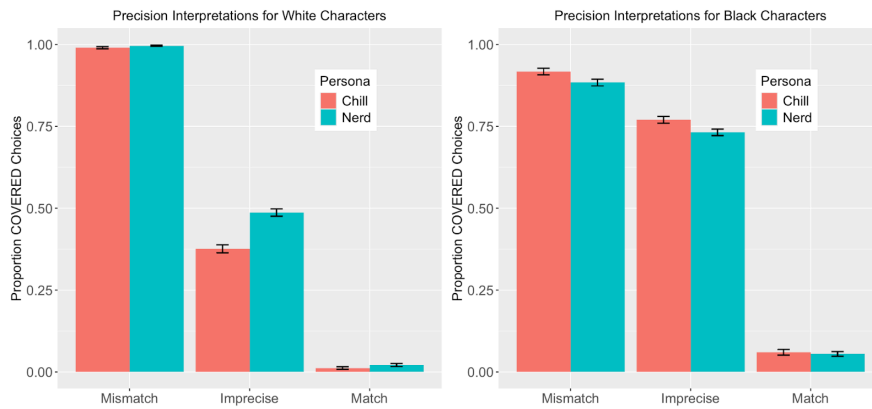


Figure 5. Precision interpretation for Black characters vs. white characters (Beltrama & Schwarz 2024).

Table 1. Summary output of model evaluating the effect of Persona for Black characters.

	Estimate	Std. Error	z value	Pr(> z)	
(Intercept)	2.84	0.32	8.75	<2e-16	***
PersonaNerdvs.Chill	-1.05	0.63	-1.68	0.09	
Mismatch	4.84	0.94	5.14	2.77e-07	***
Match	-10.81	0.84	-12.92	<2e-16	***
Match:PersonaNerdvs.Chill	-1.31	0.78	1.69	0.44	
Mismatch:PersonaNerdvs.Chill	-1.22	1.88	-0.65	0.51	

Model: Screen.Choice ~ Screen.Fit*Persona + (1 | Item) + (1 + Screen.Fit*Persona | Subject)

Table 2. Summary output of model evaluating the effect of Speaker Race.

	Estimate	Std. Error	z value	Pr(> z)	
(Intercept)	2.84	0.32	8.75	<2e-16	***
SpeakerRaceWhitevs.Black	3.25	0.33	9.96	<2e-16	***
PersonaNerdvs.Chill	-0.06	0.33	-0.18	0.85	
SpeakerRaceWhitevs.Black:Persona	-1.82	0.65	-2.80	0.005	**

Model: Screen.Choice ~ Persona*SpeakerRace + (1 | Item) + (1 + Persona*SpeakerRace | Subject)