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Tell Me Something I Do Not Know:

Inference of Knowledge and Social Class From Conversation

By

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Abstract

Speech is an important signal of identity to others. The way someone speaks doubtless carries various information about that person. Drawing on sociolinguistic theories of listener design and common ground, this study further investigates the intricate role of conversation in social identity perception—positing that how one is spoken to also holds rich information about one's expected knowledge and experiences. Utilizing vignettes of a brief conversation, we empirically showed that speakers' adaptations in their explanations—*basic* and *neutral*—signal the listener's familiarity with the subject matter. By manipulating whether the topic reflected higher or lower social class connotation, we showed that people readily infer the listener's social class affiliation from how they are spoken to—drawing opposite conclusions across vignettes. The findings demonstrate how subtle linguistic elements can form perceptions of social identity in the eyes of a third party. Employing a nuanced analysis of conversational cues, this study contributes to the broader discourse on social signaling and highlights the complex ways social identities are navigated and negotiated in everyday interactions.

Keywords: listener design, knowledge inference, social class signaling, conversational cues

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Social groups entail linguistic, behavioral, and cultural variations. For example, using technical references to culturally specific knowledge not only embodies our familiarity with certain domains but also constitutes our belonging to particular social categories. Furthermore, we actively navigate interpersonal dynamics and code-switch according to different contexts (Jan, 2003). Therefore, conversations are not just a neutral conduit of information; they are arenas for shaping and negotiating social standing and hierarchies—which essentially involves an exploration of others' identities as well (Fiske & Markus, 2012).

Importantly, research collectively highlights the power of speech as a marker of social identity (Kinzler, 2021). Beyond reflecting an identity, subtle verbal cues (e.g., word choice and linguistic variations) inform others about one's ethnicity, social status, and age (Sebastian & Ryan, 2018). Amid many possible inferences, it has long been observed that audiences can rapidly judge interlocutors' former and current socioeconomic backgrounds based solely on what they say or how they say it (e.g., Lambert et al., 1960; Kinzler, 2021). Brief speech samples, mainly through pronunciation, effectively signal the speaker's social class (Kraus et al., 2019). Most relevant to the current work, people are found to accurately gauge other's social class with just seven random spoken words (Kraus et al., 2017).

Yet, speakers don't just reveal themselves during conversations. They are required to make an effort to relate to what their interlocutor knows (and doesn't know; Grice, 1975). In other words, beyond speaking differently, people should also be addressed differently; this may consequently give the third party an insight into what they have learned and experienced so far. This study explores a novel type of inference that people make about someone based on how he

or she is spoken to by others—proposing conversation as one of the pivotal means for social

status signaling. For example, the need to explain a college application may indicate that the

listener likely lacks knowledge of the admission process and, thus, has never attended a college.

The sections below provide a brief review of past works on listener design and social class

identity, which develops a framework for our research hypotheses.

Listener Design and Common Ground

Communication is not just about expressing oneself but also about understanding and

aligning with the listener's knowledge (Tannen, 1984). Grounded in this idea, the concept of

listener design in sociolinguistics postulates speakers' coordination of their utterances and

speech patterns with their audience (Clark & Murphy, 1982). In practical terms, we attend to our

dialect, use of slang, formality level, and other linguistic features based on who we are speaking

to (Brown-Schmidt & Hanna, 2011). For example, the level of explanation about *chopsticks* may

depend on the listener's ethnicity: one would be unlikely to explain how to use *chopsticks* to

someone they knew he or she grew up in China. This adaptability is a critical aspect of

communication, as it facilitates social rapport and ensures clarity in diverse social contexts. A

wide range of factors, including the interlocutors' social identities and interpersonal dynamics,

guides this modification process (Clark & Murphy, 1982).

In short, smooth conversation basically requires knowing what knowledge can be

assumed (thus go unexplained) and what knowledge is at issue (thus should be put forth). This

process requires a common ground of knowledge among the individuals involved (Clark et al.,

1983). Before taking the conversation forward, the speaker should ensure the listener grasps the

intended meaning of specific subjects. Empirical studies support this supposition (e.g., Clark &

Wilkes-Gibbs, 1986; Holtgraves, 2002; Pellegrino et al., 2011). For instance, communicative

partners of an experiment actively exchange perspectives and adjust their descriptions to clarify references and facilitate smoother interactions (Clark & Wilkes-Gibbs, 1986). Hence, we can logically presume that the listener's understanding manifests from how the speaker talks to him or her. Namely, the speaker's listener design would potentially shape how the third party views the listener's knowledge and experiences. Returning to the example from above, if we explain how to use chopsticks to someone, the observers will consider that person is highly unlikely to be from an Asian culture. No previous work of our awareness has explored whether or when people can use listener design to make such inferences.

Social Class-Specific Common Ground

Among several forms of common ground, cultural common ground involves a static knowledge that people are presumed to have based on their sociological variables or group identities (McGhee, 2003; Riel & Polin, 2004). Whereas discourse common ground continuously evolves during the course of a dialogue, cultural common ground relies on pre-existing commonalities among those belonging to the same group. Thereby, it significantly influences how communication is initiated even before a direct interaction occurs (Clark, 1996).

Social class identity has been steadily examined in studies of communication (e.g., Fiske & Markus, 2012). Social class—defined as one's position in the socioeconomic spectrum (Oakes & Rossi, 2003)—accompanies varying material, cultural, and educational experiences (Piff et al., 2017). For example, upper-class children attend schools with relatively better instructional quality (García & Weiss, 2017; Thomas & Bell, 2009). Social class context differentiates psychological propensities as well; upper-class individuals feel a higher sense of control over life events (Cote et al., 2010; Kraus et al., 2012; Manstead, 2018), while lower-class individuals are more vigilant to unpredictablility (Abele & Wojciszke, 2007).

Eventually, social class dictates the social circles and societal norms one adheres to, constructing an exclusive common ground (Lareau, 2014). The established identities not only shape speech patterns but also alter relational distances among interlocutors (Bee et al., 1969; Bernstein, 1964; Boxer, 1993). People recognize these facets without direct confrontation and communicate accordingly (Bucholtz & Hall, 2004). Remarkably, lower-status individuals are found to modify the style and content of their speech when engaging with upper-status individuals (Ogbu, 2004).

The leakage of class identities during social interactions often surpasses people's intentions, engendering psychological strains. The U.S. society persistently views those of low socioeconomic positions as unmotivated or incompetent (e.g., Blendon et al., 2006; Durante & Fiske, 2017). Moreover, verbal cues often trigger stereotypes regardless of the actual content, leading audiences to assume less intelligence, reliability, and employability of the lower-status speaker (Bjornsdottir & Rule, 2017; Kraus et al., 2019; Lambert et al., 1960). Consequently, especially within higher social class contexts, many working-class individuals struggle to conceal their identities and avoid stigma (Reay et al., 2009; Pachankis, 2007). Conversations may be the most ordinary route through which such identities are inadvertently expressed (Cozzarelli et al., 2001).

For whatever purposes, people actively discern and react to others' belonging and the entailed knowledge during communications (Kinzler, 2021). The unique cultural exposures of different social classes support our supposition that how the speaker talks about a specific topic will disclose how he or she thinks of the listener's affiliation. People will know the speaker would not have to explain how a *trust fund* works to a *wealthy* listener.

The Present Study

The present study investigated the types of social inferences people make about a person based on how others speak to him or her. Again, the model of listener design posits that the speaker correctly assumes and accommodates language to the listener. As noted above, people from different social classes accummulate different cultural common ground of knowledge. In settings where these people interact, they would need additional efforts to bridge the disparities (Lareau, 2014; Fiske & Markus, 2012). This very act of establishing *new* commonalities will demand adjusting language, predicting knowledge, and refining the explanation occasionally. Based on this premise, we postulated that the way a speaker opts to explain a particular topic to a listener would inform the third party of the listener's knowledge and social class.

The objective of this study was twofold. First, we investigated whether third-party observers guess the listener's knowledge differently by how the speaker talks to the listener, aiming to highlight people's comprehension of the listener design. Second, we explored whether this inference leads to the discernment of the listener's social class, expecting to uncover that people grasp the tie between social classes and specific common ground.

The experimental design was based on the following logic: If a speaker needs to provide a *basic* explanation of a topic (that a particular social class group typically knows), this will imply the listener's lack of knowledge. The lack of specific knowledge, perceived as a part of common ground, will indicate the listener's distance from that social class group. The detailed hypotheses are as follows:

Hypothesis 1. If the speaker provides a *basic*[*neutral*] explanation of the topic, people observing the conversation will infer that the listener is unfamiliar[familiar] with the topic.

Hypothesis 2. When discussing topics related to higher-class common ground, the speaker's *basic* explanation will indicate the listener's affiliation with the lower class. In contrast, when discussing lower-class common ground topics, the speaker's *basic* explanation will indicate the listener's affiliation with the higher class.

Compared to self-expressed linguistic cues, disclosure of one's social identity through a third party and the associated knowledge inferences can unintentionally expose people— especially those from lower social strata—to social stereotypes. This motivated us to explore the mediating role of knowledge for Hypothesis 2.

Hypothesis 3. The speaker's *basic* explanation will inform the listener's social class, mediated by their inferred knowledge encompassing class-specific sociocultural experiences.

Pilot Test

The first phase of the study was a pilot test involving 100 participants recruited and compensated through Prolific, a platform commonly utilized for recruiting subjects in social science research. We created six vignettes depicting conversations between two individuals (e.g., *Sophie*—the speaker, and *Daisy*—the listener), focusing on a topic that implied differing degrees of knowledge or experience based on social class (e.g., *financial aid* as a lower-class topic, *business class flight* for a higher-class topic). Three vignettes represented a common ground that higher-class groups typically share, while the other three were about topics usually well-known by lower-class groups. All six vignettes were designed to reflect two conditions: a *basic* explanation level, where the speaker offers a fundamental explanation of the topic, and a *neutral* explanation level, where the speaker assumes a shared understanding of the topic with the listener.

Participants were randomly divided into two groups and viewed two vignettes sequentially involving *either higher-class basic and lower-class neutral* explanations *or higher-class neutral and lower-class basic* explanations. After reading the vignettes, participants were asked to infer the listener's knowledge about the discussed topic and the listener's social class. The test yielded no effect of the explanation level on knowledge or social class inferences.

Overview of Main Study

The main study procedures consisted of Study 1a and Study 1b, which underwent gradual modifications based on the previous results. In the pilot test, the knowledge ratings were slightly higher for *basic* than *neutral* listeners, hinting they were confused about the intended target of inference. For example, the survey directly asked participants to guess *Daisy*'s (listener) knowledge and social class without specifying that *Daisy* was the listener. Prior studies suggest that the perception of intelligence can be influenced by the explicitness and detail of information provided, even directing attention towards the informant rather than the receiver (e.g., Starmans & Friedman, 2023). We suspected such ambiguity made our participants evaluate the *basic* speaker—whose explanation was longer and more than a *neutral* speaker—as more knowledgeable. Study 1a utilized revised vignettes where both *neutral* and *basic* explanations were presented within a single conversation—to ensure that participants differentiated their inferences about each interlocutor.

Study 1b was designed to reach a higher power through an increased sample size, determined with the effect size roughly estimated by the data from Study 1a. We adhered to the methodologies established in Study 1a to ensure consistency in data collection and analysis, except that slight modifications were made to one of the vignettes. Particularly, we found that in the *part-time job* vignette (i.e., lower-class common ground), the *basic* listener was not perceived

as higher-class—implying its inefficiency in capturing the necessary nuances to influence social class perceptions. We refined the sentences to enhance the impact of the manipulation.

Study 1a

Methods

Participants

Study 1a recruited 30 participants via Prolific, maintaining the recruitment platform from the pilot test (18 female, 12 male, M age = 34.12, SD = 10.93). Given the targeted nature of the adjustments and the exploratory objective of this phase, this smaller, focused cohort was considered sufficient to test the effectiveness of the revised methodology.

Procedure

Study 1b included four vignettes—two representing higher-class topics and the other two discussing lower-class topics—designed to observe participant inferences regarding the relative knowledge and social class of three interlocutors: the speaker, the listener receiving the neutral explanation (*neutral* listener), and the listener receiving the basic explanation (*basic* listener). For instance, one of the *lower-class* topic vignettes featured a conversation among three college students discussing the complexities of financial aid applications, designed to reflect socioeconomic disparities:

Amy, Lily, and Zoey are chatting at their college cafeteria. Amy says she got an email about her financial aid application and continues the conversation.

Amy tells Lily, "Ugh, the financial aid office person keeps asking me to submit documents I've already done." [*neutral*]

Then Amy tells Zoey, "Applying for financial aid is a huge pain. It's super complicated, you have to submit all these different documents, and you never know how much they'll cover." [*basic*]

Each participant was serially exposed to all four vignettes covering diverse topics, with the order of presentation randomized for each individual. This counterbalancing technique was intended to mitigate order effects that could bias the responses. We expected this within-subject design not only to inherently control for individual differences that might affect the outcomes—thus reducing the noise caused by between-subject variability—but also to enhance the statistical power and the efficiency in sample use without needing to increase the sample size. In addition to this, the design also more directly contrasted the different explanation types—which would accentuate the explanation level for participants.

Measures

Inferred Listener Knowledge. Unlike the pilot test, participants were instructed to sequentially infer the knowledge of three interlocutors: the speaker, the *neutral* listener, and the *basic* listener. This approach aimed to rectify the previous methodological ambiguity and clarify the focus of each question. Although not central to our research interests, the strategic inclusion of inferences about the speaker ensured the direction of participants' inferences as well as an observation of their comparative perceptions of all interlocutors involved. Participants evaluated each interlocutor's knowledge about the discussed topic on a 7-point Likert scale (1 = Not at all, 7 = Very well) for each of the four vignettes.

Inferred Listener Social Class. The MacArthur Scale of Subjective Socioeconomic Status (Adler et al., 2000) was employed to assess participants' inferences about three interlocutors' social classes. This scale uses ten rungs to represent the stratification of U.S. society, allowing participants to place each interlocutor on a perceived socioeconomic position (see Appendix A).

Inferred Experience. A new measure was introduced to capture participants' perception of three interlocutors' experiences with the discussed topic (e.g., "Do you think each person has applied for financial aid before?") on a 3-point scale (1 = No, 2 = Maybe or not, 3 = Yes). We aimed to rule out the possibility that participants perceived a *neutral* listener as someone with a broad spectrum of knowledge that transcends their concrete experiences.

Demographic Backgrounds. The social identities of all contributors, including the third person, influence the dynamics of speech-based class perception (Stephens et al., 2019). We collected participants' subjective social class, gender, and age in case of an analysis that takes their influence on the overall findings into account.

Analysis

The employment of a within-subject design necessitated using linear mixed model (LMM) analysis to account for the nature of the repeated measures. The LMMs, by simultaneously modeling fixed effects (the systematic effect of the independent variables) and random effects (the individual differences in response), not only allow for handling the correlated structure of the data but also provide a more comprehensive analysis of both the main effects of the independent variables (e.g., vignette topics) and their interactions.

Results

In Study 1a, we primarily conducted regression analyses (1) to see whether explanation level (*basic* versus *neutral*) predicts the inferences of each listener and (2) to investigate the relations between experience, knowledge, and social class inferences. The results are presented below.

Explanation Level and Inferences

Experience Inference. The linear mixed model (LMM) analysis, accounting for random effects by the participant, indicated a significant effect of explanation level on the inferred experience of each listener. Participants were more likely to infer that the listener had prior experience with the topic when *neutral* explanations were provided, compared to *basic* explanations (t(340) = 9.282, *p* < .001; Figure 1)—irrespective of the vignette topics.

Figure 1

Inferred Experience of Each Interlocutor by Explanation Level (Study 1a)
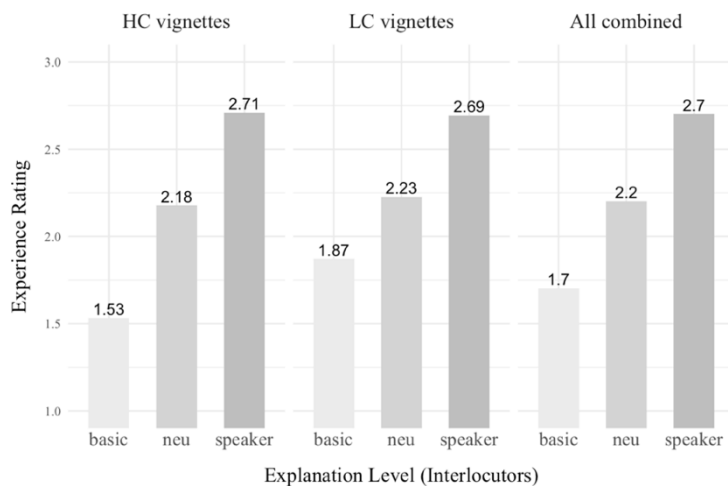
Knowledge Inference. Similarly, the explanation level significantly influenced the inferred knowledge of the interlocutors. Generally, *neutral* listeners were expected to have higher knowledge than *basic* listeners (t(340) = 11.43, p < .001; Figure 2). This was also true for each of the four vignettes.

Figure 2

Inferred Knowledge of Each Interlocutor by Explanation Level (Study 1a)
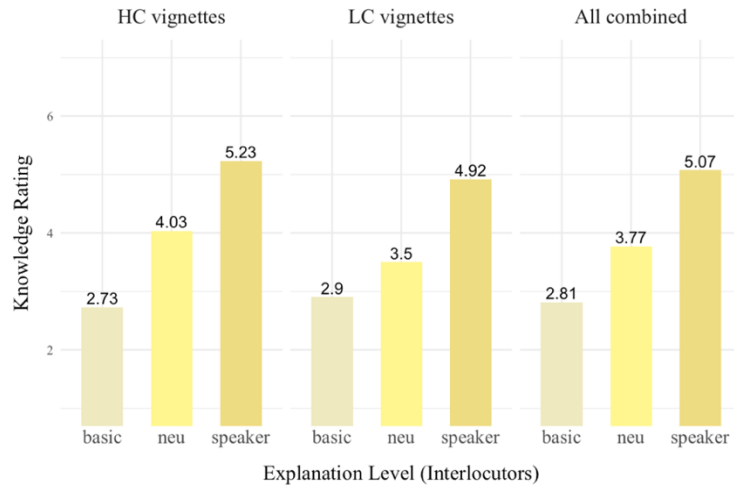
Social Class Inference. Our hypothesis was that in the higher-class context, the *basic* listener would be inferred as lower-class, while it would be exactly the opposite in the lower-class context—that the *basic* listener would be seen as higher-class. The influence of explanation level on inferred social class was significant and matched our expected direction only among higher-class vignettes. For two higher-class vignettes, *neutral* explanations were associated with higher inferred social class compared to *basic* explanations (t(92) = 5.66, p < .001). However, among lower-class vignettes, the effect of explanation level on inferred social class was not significant (t(92) = -1.648, p = .10), indicating a complex interaction between the content of the conversation and social class inference (Figure 3).

Figure 3

Inferred Social Class of Each Interlocutor by Explanation Level (Study 1a)
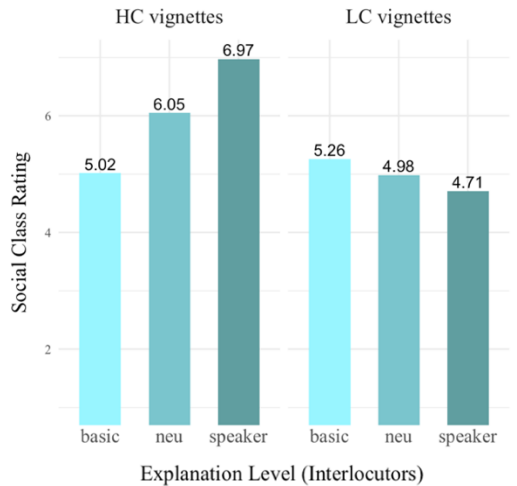
Additional Analysis: Lower-Class Vignettes. We conducted additional regression analyses separately for two lower-class vignettes to explore the reason for the insignificant effect found under the lower-class context.

Financial Aid Vignette. The effect of the explanation level was moderate in the *financial aid* vignette (i.e., 'fa'), indicating that a *neutral* explanation was linked to lower inferred social class (t(30): -1.90, *p* = .07)—aligning with the hypothesis under the lower-class context.

Part-Time Job Vignette. The analysis of the *part-time job* vignette (i.e., 'part') showed that the effect of the explanation level variable was not significant (t(30) = -0.66, *p* = .51).

Relationships Between Inferences

For Study 1b, we plan to examine whether inferred knowledge serves as a mediating variable between explanation level and inferred social class. Before this, we conducted regression analyses to confirm the existence of relationships between variables.

Experience and Knowledge. The linear mixed model revealed a significant predictive relationship between inferred experience and inferred knowledge (t(540.55) = 25.01, p < .001). As participants perceived a higher level of experience in a listener, they also inferred a higher level of his or her knowledge.

Knowledge and Social Class. Since we expected the relationship between inferred knowledge and social class to show distinct patterns depending on the social class context, we ran analyses separately for higher-class and lower-class vignettes. The results indicated a significant predictive relationship between inferred knowledge and inferred social class in higher-class vignettes ($t(108.65) = 7.08$, $p < .001$). In lower-class vignettes, an opposite direction of the relationship was observed, suggesting that higher inferred knowledge led to a lower inferred social class ($t(109.82) = -2.28$, $p = .03$).

Study 1b

Methods

Participants

Study 1b recruited 76 participants via Prolific (48 female, 25 male, 3 other, M age = 36.93, SD = 12.89). We expected this sample size to reliably detect the expected effects, ensuring robust testing of our hypotheses.

Procedure

Based on the vignette-specific analyses in Study 1a, slight adjustments were made to the *part-time job* vignette—to remedy its previous failure to capture the nuance that affects perceived social class in a predictable manner (see Appendix B).

Measures

The measures for knowledge inference, social class inference, and demographic variables remained identical to Study 1a.

Results

Explanation Level and Inferences

Study 1b aimed to replicate the findings of Study 1a, while adjusting for the insignificant effect previously shown. Consistent with Study 1a, the explanation level continued to significantly influence the inferred knowledge. Listeners who received *neutral* explanations were perceived to have higher knowledge than those who received *basic* explanations. This pattern was robust across different social class contexts (t(835) = 17.95, p < .001; see Figure 4).

Figure 4

*Inferred Knowledge of Each Interlocutor by Explanation Level (Study 1b)*
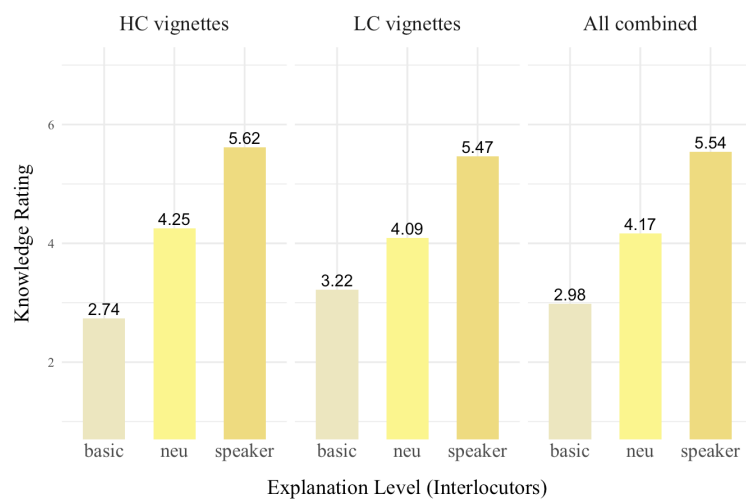
We also expected that explanation level influences perceived social class—positing that in higher-class contexts the *basic* listener would be inferred as lower-class and vice versa in lower-class contexts. In the higher-class vignettes, *neutral* explanations were significantly associated with higher inferred social classes than basic explanations (t(227) = 8.69, *p* < .001). Furthermore, after making specific adjustments to the *part-time job* vignette, the analysis revealed a significant impact of explanation level on inferred social class for the lower-class vignettes as well (t(227) = -4.57, *p* < .001). Contrary to the higher-class vignettes, listeners who

received *basic* explanations were perceived as a higher social class than those who received

*neutral* explanations (see Figure 5).

Figure 5

Inferred Social Class of Each Interlocutor by Explanation Level (Study 1b)
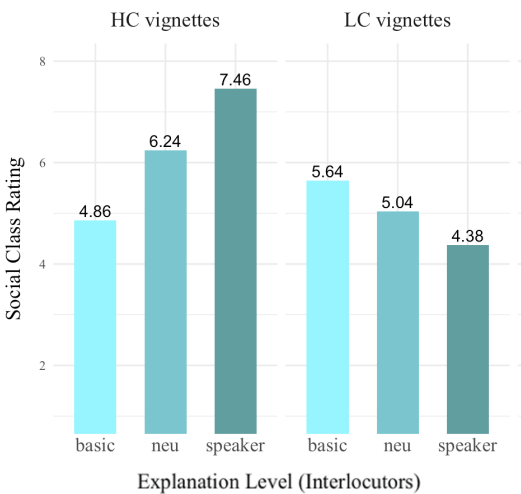
Additional regression analyses, focused separately on the two lower-class vignettes,

indicated that both vignettes showed a significant effect of explanation level on perceived social

class ($t(75) = -3.28$, $p < 0.01$ for financial aid vignette; $t(75) = -2.775$, $p < .01$ for *part-time job*

vignette; see Figure 6).

Figure 6

Inferred Social Class of Each Interlocutor in Two Lower-Class Vignettes (Study 1b)
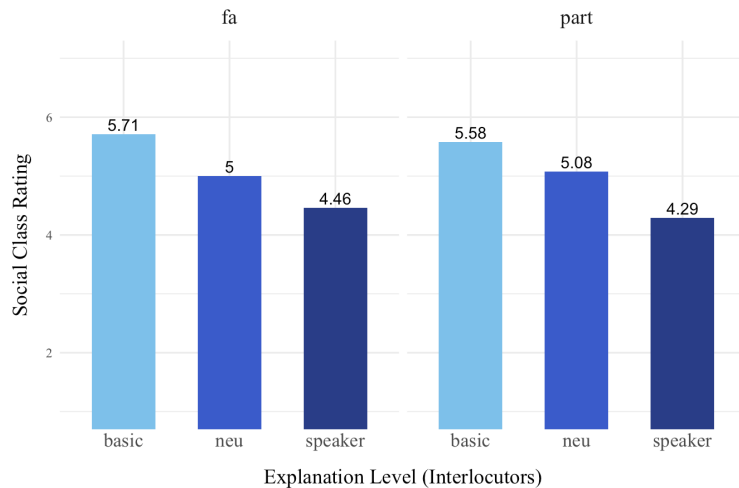
Mediation Analysis

We moved on to validate a mechanism behind the above phenomena, speculating that inferred knowledge of the listener—prompted by the way that the speaker explains a particular topic to the listener—in part differentiates the social class that participants assign to the listener. Specifically, we expected that knowledge inferred from the explanation level has opposing effects on inferred social class in higher-class and lower-class contexts.

In both higher-class and lower-class contexts, the total effect of explanation level on social class was significant (b = 1.38, p < .001 in higher-class vignettes; b = -.61, p < .001 in lower-class vignettes; see Table 1 and Table 2). This suggested a strong overall influence of *basic* explanations towards higher social class perceptions in lower-class contexts and towards lower social class perceptions in higher-class contexts.

Figure 7

Relationship Between Explanation Level and Inferred Social Class as Mediated by Inferred Knowledge in Higher-Class Vignettes (Study 1b)
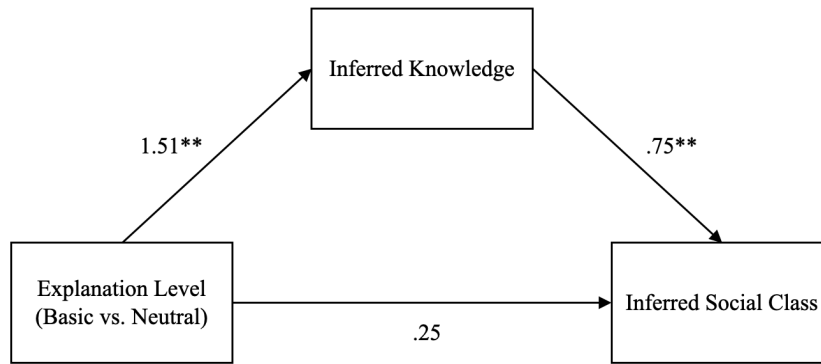
The standardized regression coefficient between explanation level and inferred social class, controlling for inferred knowledge, is in parentheses.
** $p < .001$

Higher-Class Vignettes. In the higher-class vignettes, the direct effect of explanation level on perceived social class was not significant (b = .25, p = .20), suggesting that the type of explanation (i.e., basic and neutral) did not directly influence social class perceptions (Figure 7). Meanwhile, a significant positive effect of *neutral* explanations on inferred knowledge (b = 1.51, $p < .001$) and a significant positive effect of knowledge on social class (b = .75, $p < .001$) were observed. Moreover, the indirect effect was significant and positive (b = 1.13, $p < .001$; Table 1), indicating that higher knowledge, typically imparted by neutral explanations, significantly elevated social class perceptions.

Table 1

Regression Analysis for Mediation of Inferred Knowledge Between Explanation Level and Inferred Social Class in Higher-Class Vignettes (Study 1b)

	Higher-Class Vignettes					
Path	Estimate	Standard.Error	Z.value	P.value	CI.Lower	CI.Upper
Direct Effect (c)	0.252	0.199	1.265	0.206	NA	NA
a-Path	1.513	0.142	10.653	0.000	NA	NA
b-Path	0.746	0.074	10.136	0.000	NA	NA
Indirect Effect (ab)	1.129	0.160	7.076	0.000	0.8154	1.4426
Total Effect	1.382	0.187	7.387	0.000	NA	NA

Lower-Class Vignettes. In the lower-class context, a significant negative direct effect was found, where the *basic* explanation was associated with perceptions of higher social class (b = -.47, $p < .01$; see Figure 8).

Figure 8

Relationship Between Explanation Level and Inferred Social Class as Mediated by Inferred Knowledge in Lower-Class Vignettes (Study 1b)
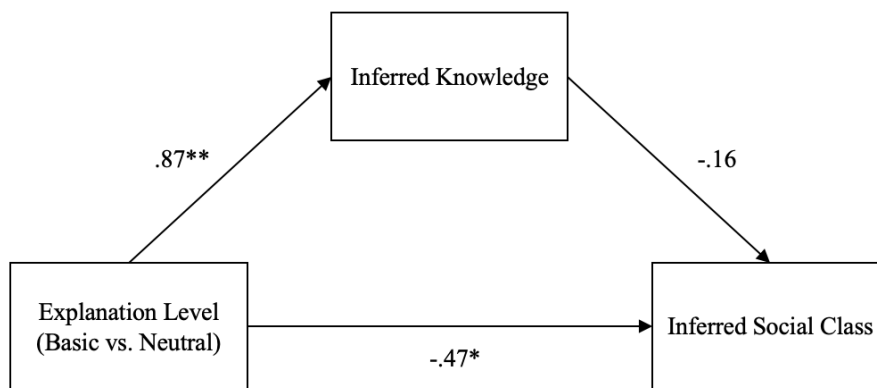
The standardized regression coefficient between explanation level and inferred social class, controlling for inferred knowledge, is in parentheses.
*$p < 0.1$ **$p < .001$

While the increase in inferred knowledge from *neutral* explanations was significant (b = .87, $p < .001$, it was moderately associated with lower perceived social class (b = -.16, p = .09). However, the indirect effect of explanation level through inferred knowledge on social

class was negative but not significant (b = -.14, *p* = .11; Table 2), indicating that knowledge did

not significantly mediate the relationship between explanation level and social class.

Table 2

Regression Analysis for Mediation of Inferred Knowledge Between Explanation Level and

Inferred Social Class in Lower-Class Vignettes (Study 1b)

Path	Estimate	Standard.Error	Z.value	P.value	CI.Lower	CI.Upper
			Lower-Class Vignettes			
Direct Effect (c)	-0.471	0.184	-2.552	0.011	NA	NA
a-Path	0.868	0.147	5.898	0.000	NA	NA
b-Path	-0.155	0.095	-1.640	0.101	NA	NA
Indirect Effect (ab)	-0.135	0.087	-1.541	0.123	-0.30552	0.03552
Total Effect	-0.605	0.186	-3.258	0.001	NA	NA

Discussion

The refined experimental design in Study 1a, incorporating both *neutral* and *basic*

explanations within a single vignette, enabled a clearer differentiation in participant inferences

about each interlocutor. The results showed that the explanation level had significant impacts on

inferred experience, knowledge, and social class. *Neutral* explanations were consistently

associated with higher inferred knowledge and experience compared to *basic* explanations,

affirming our initial predictions. Moreover, significant predictive relationships found between

inferred experience and knowledge and between inferred knowledge and social class (1) assured

that participants considered the interlocutors' knowledge to be derived from cumulated

experiences and (2) provided a robust basis for proceeding with mediation analysis.

Study 1b was strategically positioned to delve deeper into the role of explanation level in

shaping knowledge and social class inferences. The results not only replicated but also clarified

the findings of Study 1a, demonstrating a consistent effect of explanation level on inferred

knowledge and a context-dependent effect on inferred social class. The adjustment made to the

vignette also amplified these nuanced effects. Different from Study 1a, the hypothesis that

explanation level influences perceived social class was fully supported; the *basic* listener was

inferred as lower-class in higher-class contexts and as higher-class in lower-class contexts.

The mediation analyses confirmed our hypothesis only under the higher-class context. In

the higher-class vignettes, *neutral* explanations—which convey more knowledge—were

associated with higher inferred social class. In the lower-class vignettes, however, inferred

knowledge did not appear to account for the path from the explanation level to inferred social

class.

General Discussion

Our studies illuminated that people judge others' social status not just by what they say

but also by how they are addressed. Specifically, we explored whether third-party observers can

derive social inferences about a listener simply from the nature of the explanations given to him

or her. The speaker's explanation of topics assumed to be well-known within a certain social

class was expected to signal the listener's relevance to the community. Refining the experimental

manipulations twice, we showed that *basic* explanations, regardless of the topic, led participants

to perceive the listener as less knowledgeable. In the higher-class context, these listeners were

seen as likely to be lower-class. Conversely, in the lower-class contexts, they were positioned as

relatively higher-class.

The predictive relationship found between the experience and the knowledge attributed to

the listener suggested that participants inferred the listener's knowledge constructed upon actual

experiences—prompting us to proceed with the mediation analysis. The results supported our

hypothesis primarily in contexts involving higher-class common ground. Within these vignettes, the knowledge level conveyed indirectly connected *basic* explanations with the perception of a lower social class, whereas it did not influence the perception of a higher social class under the lower-class context.

Theoretical Implications

Language production has long been recognized as a window into a speaker's understanding and knowledge. Previous research has extensively documented how speakers tailor their language to reflect their own cognitive states and intentions. Building on this foundation, this study introduces a novel dimension by examining how the speaker's language can also contain significant clues about the listener's background. This perspective shifts the focus from the speaker to the implications of their choices on the perceived attributes of the listener.

Moreover, by pinpointing how linguistic cues intersect with different roles within a dialogue through the eyes of external observers, our study enriches the discourse in the field of linguistic accommodation. We showed that the verbal attitude to which one is exposed serves as a powerful indicator of his or her knowledge base and social identity to others. This challenges the conventional focus on dyadic interaction and opens an avenue for exploring the intricate ways in which language functions as a social signaling tool.

Practical Implications

Conversations can reinforce social distances and entrench disparities in educational and professional settings. Our findings illustrate one compelling, contextually bound process of knowledge and social class inference through listener design. In other words, listener design is not just about adapting language but about sensitivity to the listener's sociocultural context.

This sensitivity is important as it can either bridge or widen gaps. When a speaker chooses to explain certain facts or norms, they risk creating a social label that might alienate the listener. Conversely, not providing such information might leave the listener unprepared for navigating new environments. For example, informing the listener about dress codes for high-end restaurants can protect the listener from social faux pas but inadvertently signal assumptions about his or her cultural exposure. The balance seems critical in listener design, or it risks bolstering social stigma and stereotypes.

Studies provide a further link to the discussion on the broader societal impact of such procedures. In upper-class contexts (e.g., elite universities), informal communicative norms make it difficult for working-class individuals to socially integrate with their affluent peers (Ostrove & Long, 2007; Rivera, 2015). One study argues that the languages used within the economics field—marked by class distinctions or implicit devaluation of certain statuses—can remind lower-class students of their societal position and make them feel "out of place" (Mendoza-Denton et al., 2002; Stansbury & Schultz, 2023). A sense of low social standing during face-to-face interactions can undermine self-worth, academic and social engagement, and mobility (Benner & Graham, 2013; Fiske & Markus, 2012; Kraus et al., 2011; Tan & Kraus, 2015). Our findings on how even colloquial expressions could disclose the identities of interlocutors demand individuals to carefully select when and how to impart culturally specific information without augmenting social barriers.

Limitations and Future Direction

While this study entails theoretical and practical implications, there is vast space for improvement. First, we did not counterbalance the order in which the listeners were evaluated. This was mainly to preserve the naturalism of a conversation where people typically mention

something first and move on to elaborate as the occasion demands. However, the fixed order in which the *basic* listener was always evaluated after the *neutral* listener could have unintentionally implied a gradient of knowledge between them, potentially biasing participants' inferences (e.g., attributing significance to the sequence). Future studies should consider randomizing the order of response assessment to mitigate these effects.

Second, with regard to the discrepancy found in the mediation analyses, we speculated that the mechanism through which people infer the listener's class affiliation may fundamentally operate differently under higher and lower social class contexts. In other words, other factors might have played a more dominant role in shaping social class perceptions in the lower-class vignettes. For instance, the conversational engagement within a contextually lower-class setting might have prompted participants' mutual class categorization based on social association rather than individual attributes. One idea for a future study could involve designing experiments where the relationships (e.g., grabbing lunch together or coincidentally encountered) are manipulated. By analyzing how this affects participants' inferences, the study could provide deeper insights into whether people rely more on social dynamics or environmental cues in lower-class contexts.

Third, we had a significant portion of younger participants—with 31 individuals under the age of 30 in Study 1b. While studies show that even children can discern the social status associated with different languages (e.g., Kinzler, 2021), knowledge of social class markers may be proportional to life experiences. For instance, despite being relatively upper-class, college students would lack concrete knowledge of exclusive social clubs. Incorporating age-specific examinations as well as more diverse topics of vignettes will spotlight how the range and type of social perceptions evolve across the lifespan. Such works could also explore children's ability to

discern social power or rank from language cues. This will offer insights into educational efforts to intervene in the early development of in and out-group distinctions and prejudices.

Fourth, developing more realistic vignettes will increase the ecological validity of our study. This could involve natural observations of interactions that take place in workplaces. Notably, our study did not consider the rich context provided by non-verbal elements in real-world settings. Speakers' gaze or posture shifts can indirectly signal their perceptions of listeners' understanding and status (Cassell et al., 2001). Furthermore, inconsistencies between spoken words and non-verbal cues can impact the speaker's credibility (Gillis & Nilsen, 2017). Multimodal observations can be done to capture the fuller spectrum of social signaling—including how linguistic and paralinguistic signs of social identity contradict or synergize with each other.

Fifth, in the contemporary landscape, where digital platforms facilitate widespread information dissemination, knowledge may increasingly be decoupled from traditional social group boundaries. Younger generations are especially known for their familiarity with the internet and social media. Whereas our regression analysis suggested participants' inferences about the listener's knowledge as accompanying presumptions about experiences, future research could investigate whether (1) people can clearly discern differences between knowledge acquired from direct experiences and that indirectly learned and (2) the younger, the more people separate knowledge from social group membership.

Finally, linguistic adjustments may manifest differently across cultures. Especially in societies with well-defined caste systems (e.g., India and North Korea), it would be interesting to see (1) whether the rare physical and cultural exchanges foster or impede skills in listener design and (2) whether this marks or masks the stark disparities. In addition, further investigation could

examine how one's social class affects his or her sensitivity to knowledge and social status cues in conversation. As previous studies suggest, vigilance to societal stereotypes may make lower-strata individuals better attuned to social cues (Kraus et al., 2010). On the other hand, a preference for homophily may make upper-strata individuals better at spotting status-related information (Kraus et al., 2012).

Conclusion

Integrating the universality of listener design, the power of social identity over dialogues, and the effluence of social status cues across interpersonal interactions, this study has effectively highlighted the critical role of conversational cues in shaping social perceptions. Through meticulous experimental design, we showed that how information is explained—*basically* or *neutrally*—can signal a speaker's assumptions about a listener's knowledge and social class. This insight extends our understanding of language not just as a medium of information but as a powerful source for social signaling and identity construction.

Our findings contribute to sociolinguistics and social psychology, prompting further investigation into the relational dynamics of communication and their interaction with social hierarchies. These efforts will provide a foundation for future studies not only on effective communication but also on mitigating socioeconomic disparities across diverse social landscapes.

References

Adler, N. E., Epel, E. S., Castellazzo, G., & Ickovics, J. R. (2000). Relationship of subjective and

  objective social status with psychological and physiological functioning: preliminary data

  in healthy white women. *Health Psychology: Official Journal of the Division of Health*

  Psychology, American Psychological Association, *19*(6), 586–592.

Bee, H. L., Van Egeren, L. F., Pytkowicz Streissguth, A., Nyman, B. A., & Leckie, M. S. (1969).

  Social class differences in maternal teaching strategies and speech patterns.

  Developmental Psychology, 1(6, Pt.1), 726–734.

Bernstein, B. (1964). Social Class, Speech Systems and Psycho-Therapy. *The British Journal of*

  Sociology, 15(1), 54–64.

Bjornsdottir, R. T., & Rule, N. O. (2017). The visibility of social class from facial cues. *Journal*

  of Personality and Social Psychology, 113(4), 530–546.

Boxer, D. (1993). Social distance and speech behavior: The case of indirect complaints. *Journal*

  of Pragmatics, 19(2), 103–125.

Bucholtz, M., & Hall, K. (2004). Language and identity. *A Companion to Linguistic*

  Anthropology, 1, 369-394.

Brown-Schmidt, S., & Hanna, J.E. (2011). Talking in another person's shoes: Incremental

  perspective-taking in language processing. *Dialogue Discourse, 2*, 11-33.

Cassell, J., Nakano, Y. I., Bickmore, T. W., Sidner, C. L., & Rich, C. (2001b). Non-verbal cues

  for discourse structure. *Proceedings of the 39th Annual Meeting on Association for*

  Computational Linguistics - ACL '01.

Clark, H. H. (1996). Communities, commonalities, and communication. In J. J. Gumperz & S. C.

    Levinson (Eds.), *Rethinking linguistic relativity* (pp. 324–355). Cambridge University

    Press.

Clark, H. H., & Murphy, G. L. (1982). Audience design in meaning and reference. *Advances in*

    Psychology, 287–299.

Clark, H. H., & Wilkes-Gibbs, D. (1986). Referring as a collaborative process. *Cognition*, *22*(1),

    1–39. https://doi.org/10.1016/0010-0277(86)90010-7

Clark, H. H., Schreuder, R., & Buttrick, S. (1983). Common ground at the understanding of

    demonstrative reference. *Journal of Verbal Learning and Verbal Behavior*, *22*(2), 245–

    258. https://doi.org/10.1016/s0022-5371(83)90189-5

Cozzarelli, C., Wilkinson, A. V., & Tagler, M. J. (2001). Attitudes toward the poor and

    attributions for poverty. *Journal of Social Issues, 57*(2), 207–227

Cuddy, A. J. C., Fiske, S. T., & Glick, P. (2008). Warmth and competence as universal

    dimensions of social perception: The stereotype content model and the BIAS map. In M.

    P. Zanna (Ed.), *Advances in experimental social psychology,* Vol. 40 (pp. 61–149).

    Elsevier Academic Press.

Durante, F., Tablante, C. B., & Fiske, S. T. (2017). Poor but warm, rich but cold (and

    Competent): Social classes in the stereotype content model. *Journal of Social Issues,*

    73(1), 138-157.

Fiske, S. T., & Markus, H. R. (2012). *Facing social class how societal rank influences*

    interaction. Russell Sage Foundation.

Gillis, R. L., & Nilsen, E. S. (2017). Consistency between verbal and non-verbal affective cues: a

    clue to speaker credibility. *Cognition and Emotion, 31*(4), 645–656.

Grice, H. P. (1975). Logic and conversation. In P. Cole & J. Morgan (Eds.), *Syntax and Semantics 3: Speech Acts* (pp. 41-58). Academic Press.

Holtgraves, T. M. (2002). *Language as social action: Social psychology and language use.* Lawrence Erlbaum Associates Publishers.

Jan, J. M. (2003). Code-switching for power wielding: Inter-gender discourse at the workplace. *Multilingual-Journal of Cross-Cultural and Interlanguage Communication, 22*(1), 41–57.

Kraus, M. W., Côté, S., & Keltner, D. (2010). Social class, contextualism, and empathic accuracy. *Psychological Science, 21*(11), 1716–1723.

Kraus, M. W., Park, J. W., & Tan, J. J. (2017). Signs of social class: The experience of economic inequality in everyday life. *Perspectives on Psychological Science, 12*(3), 422-435.

Kraus, M. W., Piff, P. K., & Keltner, D. (2011). Social Class as Culture: The Convergence of Resources and Rank in the Social Realm. *Current Directions in Psychological Science*, *20*(4), 246-250.

Kraus, M. W., Piff, P. K., Mendoza-Denton, R., Rheinschmidt, M. L., & Keltner, D. (2012). Social class, solipsism, and contextualism: How the rich are different from the poor. *Psychological Review, 119*(3), 546-572.

Kraus, M. W., Torrez, B., Park, J. W., & Ghayebi, F. (2019). Evidence for the reproduction of social class in brief speech. *Proceedings of the National Academy of Sciences of the United States of America*, *116*(46), 22998–23003.

Lambert, W. E., Hodgson, R. C., Gardner, R. C., & Fillenbaum, S. (1960). Evaluational Reactions to Spoken Language. *Journal of Abnormal and Social Psychology, 60*, 44-51.

Lareau, A. (2014). *Unequal childhoods: Class, race, and Family Life*. University of California Press.

Manstead, A. S. (2018). The psychology of social class: How socioeconomic status impacts

      thought, feelings, and behaviour. *British Journal of Social Psychology, 57*(2), 267-291.

McGhee, D. (2003) Moving to 'our' common ground: A critical examination of community

      cohesion discourse in twenty-first century Britain. *The Sociological Review, 51*(3), 376-

      404.

Oakes, J., & Rossi, P. H. (2003). The measurement of SES in health research: Current practice

      and steps toward a new approach. *Social Science & Medicine, 56*(4), 769-784.

Ogbu, J. U. (2004). Collective identity and the burden of "acting white" in Black history,

      community, and education. *The Urban Review, 36*(1), 1–35.

Ostrove, J. M., & Long, S. M. (2007). Social class and belonging: Implications for college

      adjustment. *Review of Higher Education: Journal of the Association for the Study of*

      Higher Education, 30(4), 363–389.

Pachankis, J. E. (2007). The psychological implications of concealing a stigma: A cognitive-

      affective-behavioral model. *Psychological Bulletin, 133*(2), 328–345.

Pellegrino, F., Coupé, C., & Marsico, E. (2011). A cross-Language Perspective on Speech

      Information Rate. *Language*, *87*(3), 539–558.

Piff, P. K., Kraus, M. W., & Keltner, D. (2017). Unpacking the inequality paradox: The

      psychological roots of inequality and social class. *Advances in Experimental Social*

      Psychology, 53-124.

Reay, D., Crozier, G., & Clayton, J. (2009). 'Strangers in paradise'?: Working-class students in

      elite universities. *Sociology*, *43*(6), 1103-1121.

Riel, M., & Polin, L. (2004). Learning communities: Common ground and critical differences in

      designing technical support. In S. Barab, R. Kling, & J. Gray (Eds.). *Designing for*

Virtual Communities in the Service of Learning. Cambridge, MA: Cambridge University Press.

Rivera, L. A., & Tilcsik, A. (2016). Class advantage, commitment penalty: The gendered effect of social class signals in an elite labor market. *American Sociological Review, 81*(6), 1097-1131.

Sebastian, R. J., & Bouchard Ryan, E. (2018). Speech cues and social evaluation: Markers of ethnicity, social class, and age. *Recent Advances in Language, Communication, and Social Psychology*, 112–143.

Stangor, C. (2016). The study of stereotyping, prejudice, and discrimination within social psychology: A quick history of theory and research. In T. D. Nelson (Ed.), *Handbook of prejudice, stereotyping, and discrimination* (pp. 3–27). Psychology Press.

Stansbury, A., & Schultz, R. (2023). The economics profession's socioeconomic diversity problem. *Journal of Economic Perspectives, 37*(4), 207–230.

Stephens, N. M., Townsend, S. S. M., & Dittmann, A. G. (2019). Social-class disparities in higher education and professional workplaces: The role of cultural mismatch. *Current Directions in Psychological Science, 28*(1), 67–73.

Tan, J. J., & Kraus, M. W. (2015). Lay theories about social class buffer lower-class individuals against poor self-rated health and negative affect. *Personality & Social Psychology Bulletin*, *41*(3), 446–461.

Appendix A

MacArthur Scale of Subjective Socioeconomic Status

Think of this ladder as representing where people stand in the United States.

At the top (10) of the ladder are the peoplewho are the best off – those who have the most money, the most education, and the most respected jobs. At the bottom (1) are the people who are the worst off – those who have the least money, least education, the least respected jobs, or no job. The higher up you are on this ladder, the closer you are to the people at the very top; the lower you are, the closer you are to the people at the very bottom.

Where would you place each person on this ladder?
Please select a number where you think each person would stand at this time relative to other people in the United States.

Appendix B

Vignettes

Lower-Class Vignette (1)
Amy, Lily, and Zoey are chatting at their college cafeteria. Amy says she got an email about her financial aid application and continues the conversation.
[neutral] Amy tells Lily,
"Ugh, the financial aid office person keeps asking me to submit documents I've already done."
Then Amy tells Zoey,
[basic] "Applying to financial aid is a huge pain. It's super complicated, you have to submit all these different documents, and you never know how much they'll cover."

Lower-Class Vignette (2)
[**Study 1a**]
Joe, Greg, and Will are chatting at a cafeteria. The topic shifts to part-time jobs.
Joe tells Gregory,
[neutral] "Many people need to work multiple part-time jobs, but they usually have fewer benefits, like health insurance, and managing taxes can also be more complicated."
Joe tells Gregory,
[basic] "I might download a new scheduling app to keep track of my shifts."
[**Study 1b**]
Joe, Greg, and Will are in line at a sandwich shop when the topic of conversation shifts to jobs.
Joe tells Greg,
[neutral] "I picked up another gig at that bar, still no health insurance or anything, but that's how it is."
Then Joe turns to Will and tells him,
[basic] "You know, even juggling a couple of part-time jobs, you still don't get health insurance or benefits. Plus it makes your taxes such a headache."

Higher-Class Vignette (1)
Peter, Connor, and Zack are planning to go out to Ryan's birthday party that will be next week.
Peter tells Connor,
[neutral] "I can't wait for dinner next week! I've been wanting to go to that restaurant for so long."
Then Peter says to Zack,
[basic] "Oh Zack, just so you know you have to wear a blazer at this place. Many of these fancy restaurants have a dress code."

Higher-Class Vignette (2)
Audrey, Clara, and Olivia are chatting over lunch. Audrey mentions the country club she recently joined.
Audrey tells Clara,
[neutral] "I finally got off the waitlist for that country club I applied to join. The one with the beautiful golf course!"
Then Audrey turns to Olivia and says,
[basic] "Joining a new country club can be a whole thing. You have to be sponsored, and there is often a long waitlist, plus the initiation fees."