Knowledge Inference and Social Class Common Ground

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Abstract

This study explores the nuanced way in which social class is inferred from conversational cues. Grounded in the disciplines of psychology and sociolinguistics, I examine how speakers' adjusted language allows third-party evaluators to draw inferences about the listener's social class. Through an experimental design involving vignettes that vary in the level of explanation provided, the research seeks to uncover the cognitive processes underlying the perception of social class from brief speech samples and the potential impact of these perceptions on judgments about a person's competence and social identity. This investigation into the subtleties of language and social signaling offers insights into the reproduction of stratification through everyday interactions.

Keywords: listener design, knowledge inference, social class

Knowledge Inference and Social Class Common Ground

In the realm of social interaction, our linguistic, behavioral, and cultural markers play a pivotal role in conveying our social identity, with research highlighting the ability of humans to discern others' social status through verbal and nonverbal cues. Sebastian and Bouchard Ryan (2018) have shown that language cues like accent, tone, and linguistic variations are key in revealing a speaker's ethnicity, social class, and age, while Bjornsdottir and Rule (2017) found that facial cues alone allow perceivers to accurately categorize individuals as rich or poor, often employing stereotype-related impressions in their judgments. Kraus, Torrez, Park, and Ghayebi (2019) further demonstrated that social class signals are effectively communicated through brief speech samples, emphasizing pronunciation as a significant indicator. This body of work suggests that social class can be inferred not only from one's speech or appearance but also from how others interact with and address the individual, indicating a broader, more nuanced understanding of social class perception.

The concept of listener design in sociolinguistics, which involves speakers tailoring their speech patterns and utterances to their audience's perceived knowledge and background, further enriches the discussion on communication and social identity. This adaptability in communication aims to establish social rapport and ensure clarity across diverse social contexts, guided by the speaker's and listener's social identities and the interpersonal dynamics at play. The notion of class-specific common knowledge underscores that individuals from different social classes possess distinct information and experiences, influencing the social circles they engage with and the societal norms they follow. Therefore, effective communication in diverse social settings necessitates an awareness of each other's social class background, highlighting the role of listener design in revealing and navigating social class perceptions.

The Present Analysis

Built upon the premise of the listener design—that the speaker correctly assumes and accommodates language to the listener, this study aims to demonstrate that the speaker's words may inform the third party of the listener's knowledge and social class. In specific objective of this analysis is to capture people's sense of class-specific knowledge. Identifying the listener's social class from the inferred knowledge will entail their recognition of the common ground that different social class groups possess.

The experiment will be constructed on the following logic: (1) The speaker's basic explanation of a topic (that a particular social class group typically knows) implies the listener's lack of knowledge. (2) The listener's lack of certain knowledge indicates his or her distance from that social class group.

Methods

Participants

100 participants from various socioeconomic backgrounds taok part in this study. The participants were recruited online and compensated through Prolific, a widely used recruitment platform for social research.

Procedure

I created vignettes of two individuals having a conversation, where a particular topic comes up, and one person clarifies. The topics are expected to differ significantly regarding knowledge or experience based on social class. Participants ("Evaluators") read one of the two (higher-class and lower-class) vignettes of conversation and were asked to report their perception of the listener's social class as well as their knowledge of the topic being discussed.

Measures

Manipulation check. After reading each vignette, participants indicated their knowledge of the topic on a 5-point Likert scale (1 = no knowledge, 5 = thorough knowledge).

Listener's social class rating. Participants were asked to identify the listener's social class using the MacArthur Scale of Subjective Socioeconomic Status (Adler et al., 2000), which shows ten rungs representing U.S. society. Participants indicated the position in which the listener would be placed.

Demographic backgrounds. Social identities of all contributors influence the dynamics of speech-based class perception (Stephens et al., 2019). Participants reported their subjective social class at the end of survey as well.

Analysis

Overall Descriptive Statistics

Table 1

Descriptive Statistics of Evaluators' Average Social class, Knowledge, and Rating

Vignette	Class	SD	Knowledge	SD	Listener Class Rating	SD
Higher-Class	4.73	1.48	3.17	0.70	6.57	1.91
Lower-Class	5.03	1.73	3.08	0.81	4.83	1.72

To examine the relationship between an evaluator's social class and their knowledge of the specific conversation topic, I implemented a two-fold analysis. The first part of the analysis utilized correlation analysis within each vignette[1] and the second part employed

[1] The analyses and visualizations were conducted using R's ggplot() function.

independent samples t-test between two groups of evaluators categorized by social class[2]. This dual approach aimed to verify two hypotheses: firstly, whether a higher social class correlates with increased knowledge about the topic typically associated with the upper class, and secondly, if an evaluator's social class (higher or lower) could predict their knowledge level on the topic related to their respective social classes.

Next, the difference in listener's social class rating was also assessed by independent samples t-test between two vignettes[3]. This revealed whether evaluators were able to accurately infer the social class of listener from the conversation.

Tables are used to present a more detailed quantitative analysis. These include descriptive statistics and summaries of t-test results, which provide a comprehensive overview of the statistical relationships. Complementing the statistical data, I employed several types of plots to visually represent the findings[4]. Scatter plots with fitted lines are used to illustrate the relationship between social class and knowledge on higher-class topics, offering a visual representation of any positive or negative correlations. Bar plots with error bars are generated, with each bar representing the mean level of a group, allowing for a clear comparison of mean levels between two groups.

Evaluator Knowledge: Correlation with Social Class

The analysis revealed a significant correlation for the higher-class vignette ($r = .44$, $p = .014$), indicating a strong relationship between social class and knowledge of topics typically associated with higher-class contexts. No significant correlation was found for the lower-class vignette ($r = .14$, $p = .041$).

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[2] The analysis was conducted using R's t.test() function.

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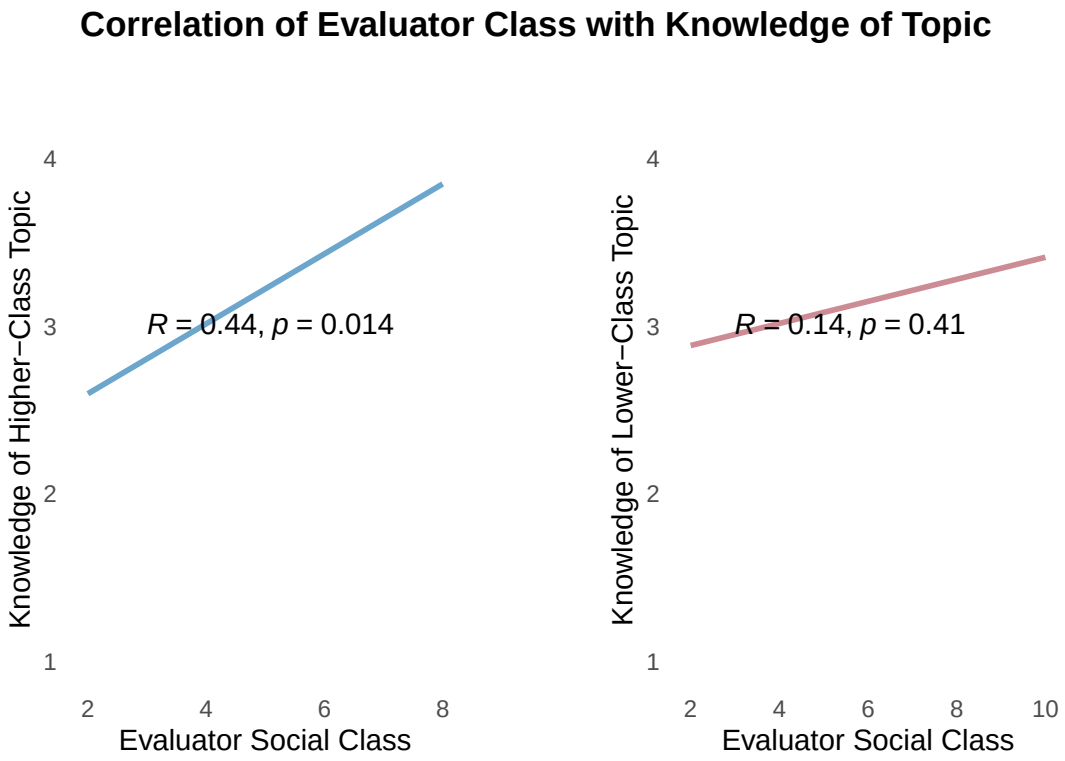

Figure 1. Correlation Between Evaluator Class and Knowledge

Evaluator Knowledge: Comparison by Social Class

Table 2

Summary Statistics of Evaluator Knowledge of Higher-Class Topic

Social Class	Mean	SD	sem	N
Higher-Class	3.43	0.53	0.20	7
Lower-Class	3.09	0.73	0.15	23

Further investigation through independent samples t-tests between higher-class and lower-class evaluators showed no significant difference in the knowledge regarding both conversation topics (Table 4). Albeit the non-significant difference, bar plots for these analyses are presented (see Figure 2, Figure 3).

Table 3

Summary Statistics of Evaluator Knowledge of Lower-Class Topic

Social Class	Mean	SD	sem	N
Higher-Class	3.36	0.67	0.20	11
Lower-Class	2.96	0.84	0.17	25

Table 4

Difference in Evaluator Knowledge of Topic by Social Class

Vignette	MeanDifference	t_value	p_value	df
Higher-Class	0.34	1.35	0.20	13.62
Lower-Class	0.40	1.53	0.14	23.73

Listener Social Class Rating: Comparison by Vignette Type

Table 5

Summary Statistics of Listener Social Class Rating by Vignette Type

Vignette	Mean	SD	sem	N
Higher-Class	6.57	1.91	0.35	30
Lower-Class	4.83	1.72	0.29	36

Table 6

Difference in Listener Social Class Rating by Vignette Type

	MeanDifference	t_value	p_value	df
Higher- vs. Lower	1.73333	3.84846	0.00029	59.06428

Upon analyzing the dataset, I grouped observations by vignette type and calculated summary statistics for the listener's social class rating. The average inferred social class for

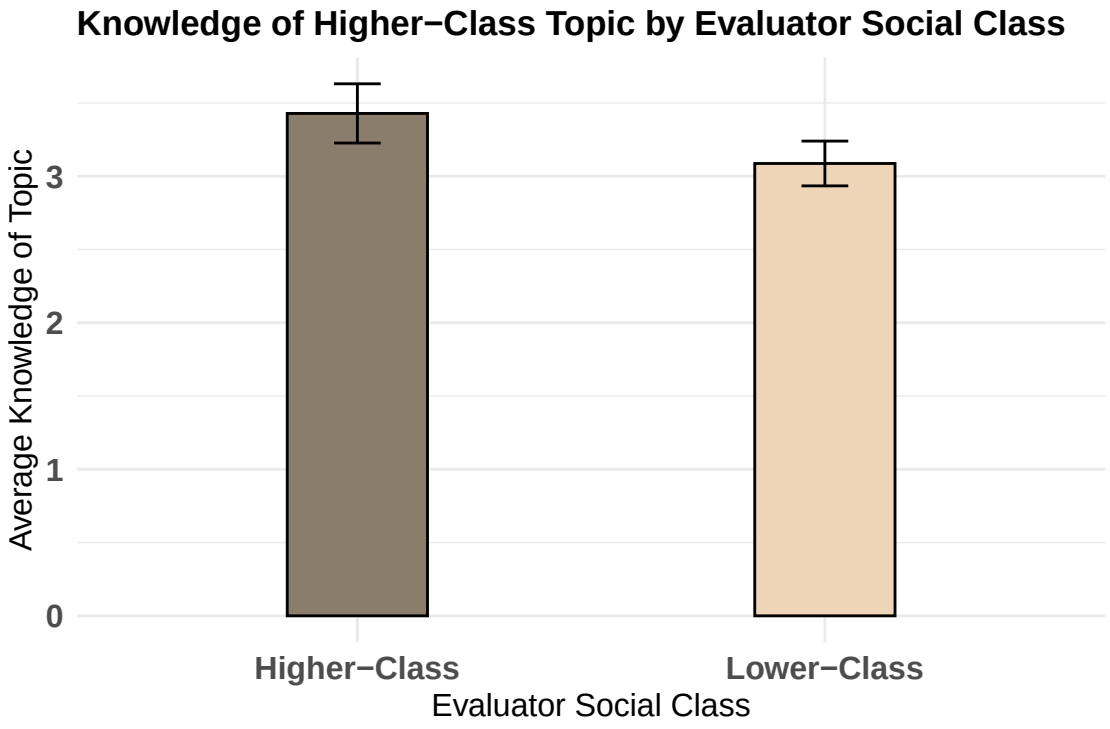

Figure 2. Knowledge of Higher-Class Topic by Evaluator Class

the higher-class vignette was 6.57, with a standard deviation of 1.91 and a sample size of 30. Conversely, for the Lower-class vignette, the average was 4.83, with a standard deviation of 1.72 and a sample size of 36.

To further investigate the impact of vignette type on social class rating, a t-test was performed. The mean difference in perceived class ratings between higher- and lower-class vignettes was 2, with a t-value of 3.85 and a p-value of 0.00029. The findings were significant, indicating a strong effect of vignette type on perceived class. (see Table 6).

Figure 4 presents the average social class ratings of two vignettes and their associated standard errors. The average rating for the higher-class vignette type was 6.57 with a standard error of 0.35, whereas for the second vignette type, the average rating was 4.83 accompanied by a standard error of 0.29. The result underscores the significant difference

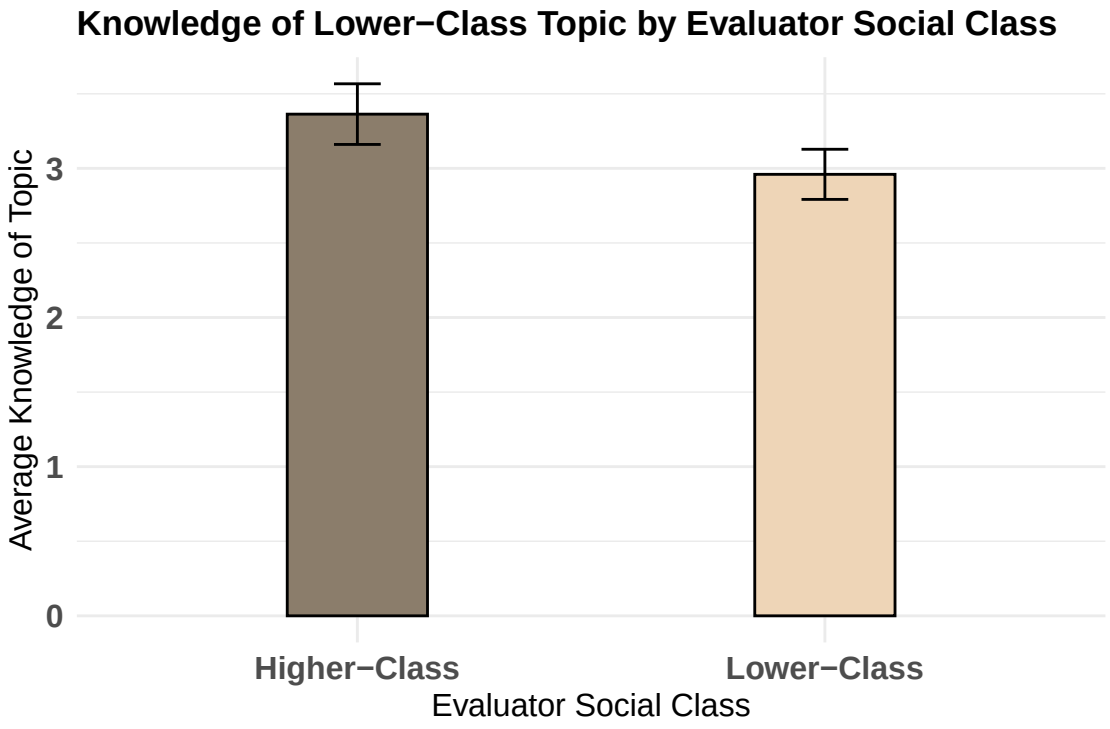

Figure 3. Knowledge of Lower-Class Topic by Evaluator Class

(0.000294) in listener's social class ratings based on the topic of conversation.

Discussion

As Fiske and Markus (2012) note, social class profoundly impacts social identity, as it often dictates the social circles one interacts with and the societal norms one adheres to. The distinct life circumstances and standards build rigorous common ground within social class groups. Each norm, experience, and cultural reference builds unique knowledge bases (Lareau, 2014) and physical, psychological, and behavioral propensities (Kraus, Piff, Mendoza-Denton, Rheinschmidt, & Keltner, 2012; Manstead, 2018; Piff, Kraus, & Keltner, 2017). Notably, in settings where diverse social identities interact, bridging these common grounds will be necessary for productive conversation. This would involve being aware of

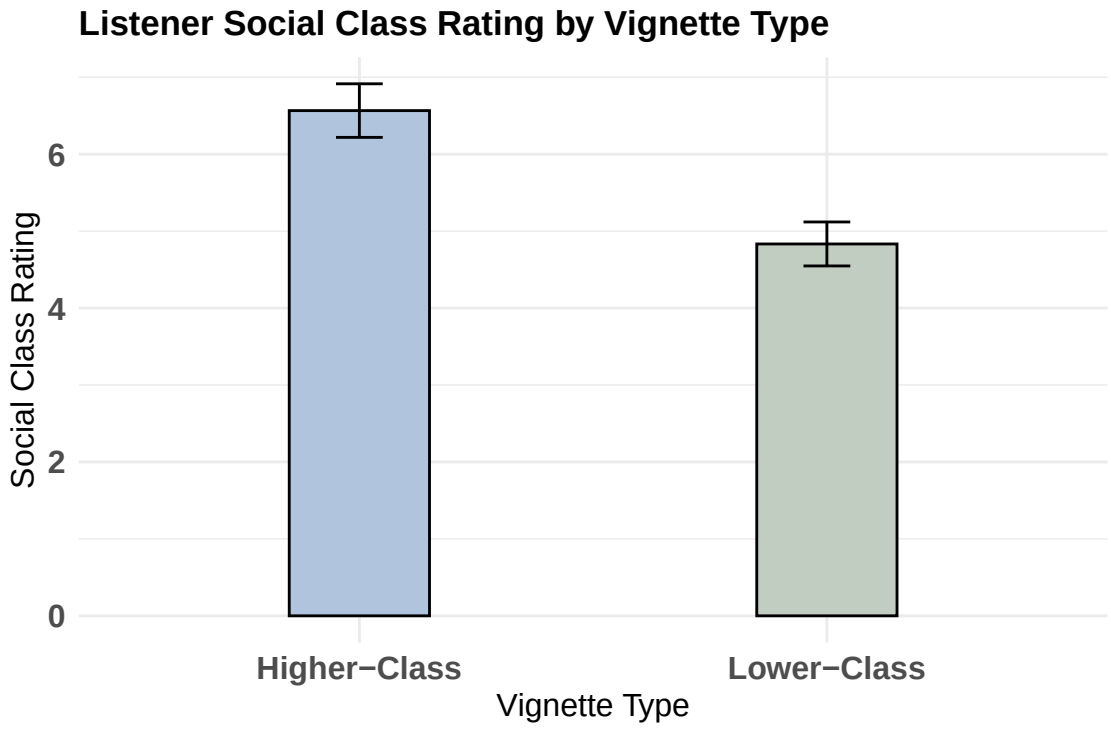

Figure 4. Listener Class Rating by Vignette Type

each other's social class background, predicting gaps in perspectives and knowledge, and explaining concepts as occasion demands (Allen, 2020). It is well known that speakers' language production reveals much about their awareness of the listener's knowledge. This study takes an additional step by illustrating how the very act of establishing new common ground also reveals the listener's social class. Considering that people from different social classes have access to different information, the listener design will enable inferences about social class. By probing whether the speaker's words hint at the social class background of the listener, this study introduces one subtle and intricate way in which class information circulates during social interactions. This study also points out the broader societal consequences of status perception. Cuddy and colleagues (2008) showed that subtle social status cues can respectively predict impressions—for example, warmth and competence

(i.e., Stereotype Content Model (SCM); (Durante, Tablante, & Fiske, 2017)—which could influence interpersonal relationships and selection processes (Kraus, Park, & Tan, 2017; Rivera & Tilcsik, 2016; Stangor, 2016). In a large sense, unraveling the dynamics of social class signaling can yield meaningful insight into the barriers that may account for socioeconomic mobility.

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