



The Substance of Style: How Social Class-Based Styles of Interpersonal Interaction Shape Hiring Assessments at Large Technology Companies

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Individuals' social class background shapes their life experiences and outcomes, including their familial upbringing and educational attainment. However, we know little about how social class background influences the hiring practices of professional settings, and specifically, the ways in which evaluators conceptualize a potential link between social class background and hiring. Through interviewing 50 evaluators at large technology companies, we find that only 19 of them discussed how social class background affects applicants' access to resources, and none articulated the ties between social class background and preferred interpersonal interactional styles. This is particularly troubling because all evaluators described assessing the key hiring criteria of "innovation potential" based on whether applicants display what we term a "transboundary interactional style." This style involves demonstrating an ease with articulating cross-disciplinary ideas as well as facilitating back-and-forth scholarly conversations and debates. While evaluators characterized this style as stemming from applicants' individual personalities, we draw on past sociological literature to suggest that this style is also cultivated in upper-middle-class environments. Given technology companies' expressed desire to hire a diverse workforce by minimizing biases in evaluators' assessments, we conclude with ideas for evaluators to develop more equitable hiring practices.

CCS Concepts: • **Social and professional topics** → Cultural characteristics, Employment issues

KEYWORDS

Technology companies, hiring, social class background, interpersonal interactional styles

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1 INTRODUCTION

Large technology companies in the United States publicly express a commitment to implementing equitable hiring practices [20,22,38]. These companies strive to increase evaluators' awareness of hiring biases so that they can make equitable assessments in hiring decisions and employ a more diverse workforce. For example, these companies regularly host conversations about implicit bias and require all employees involved in hiring to engage in diversity, equity, and inclusion training [20,22,38]. Such efforts are a response to widespread concerns about the lack of diversity in large technology companies. These efforts focus on recognizing and reducing potential biases against applicants' legally protected attributes (e.g., gender and race). However, despite these efforts, potential areas of bias remain invisible. Specifically, we know little about how applicants' social class background might shape evaluators' assessments of applicants' quality.

Social class background is an especially thorny sociodemographic factor for companies to account for in their efforts to promote equitable hiring practices. Social class background is not a protected attribute under U.S. employment discrimination laws. As a result, companies and the U.S. Equal Employment Opportunity Commission do not collect data on employees' social class background. This lack of data makes it more difficult for companies to be aware of and address any social class differences in hiring outcomes and experiences. Companies' attention to how social class background shapes hiring also becomes subsumed by other legally protected attributes [39,46].

While social class background is not a legally protected attribute, it is a well-studied axis of domination, where upper-middle-class environments often reproduce power structures that marginalize working- and middle-class individuals [26,31,43,47]. CSCW and sociological scholars generally define "social class background" as groups whose parents have similar educational, occupational, and economic attainment [9,14,31,54]. These scholars argue that parents' educational level, occupational type, and income heavily influence their parenting styles and access to cultural, social, and material resources. Parents' class-based parenting styles and resources in turn shape children's adoption of class-based practices, which include their style of interacting with authority figures (i.e., the kinds of opinions and ideas that they feel comfortable expressing to authority figures). Prior CSCW and sociological works on social class background have disproportionately focused on the home and classroom settings, and in particular, the ways in which social class background shapes how parents guide children and how teachers evaluate students [9,27,31]. However, we know little about the role that social class background might play in how evaluators assess applicants in professional contexts.

Without insight into whether evaluators are aware of the extent to which applicants' social class background may affect hiring assessments, companies are ill-equipped to develop hiring practices that fully promote an equitable hiring process. Therefore, we asked the following questions:

1. To what extent do evaluators (i.e., interviewers, hiring managers, and hiring committee members) display an awareness of the role that social class background might play in the hiring processes of their companies and the technology industry? For those who do display such an awareness, how do they articulate the role of social class background in hiring?
2. Regardless of their displayed awareness, do evaluators' current ways of assessing applicants create advantages for applicants from certain social class backgrounds?

We explored these research questions by interviewing 50 evaluators at large technology companies who assess Ph.D.-level internship applicants for computer science research and software engineering positions. All evaluators were full-time computer science researchers or software engineers at highly ranked companies in the U.S. (i.e., top seven in the country).

Strikingly, we found that less than half of the evaluators (19 out of 50) could articulate how social class background might figure into hiring, even after a direct prompt from the research interviewer. Those who did express opinions on the subject largely focused on how upper-middle-class applicants tend to enjoy valuable resources, such as prestigious educational credentials and influential connections. The minority of evaluators who displayed an awareness of potential links between social class background and hiring conceptualized class-based inequities in terms of access to resources. However, these data suggest another possible link between social class background and hiring that remained unacknowledged (and we assume to be unknown) by any of the evaluators interviewed.

We found that evaluators' methods for assessing a key criterion for hiring, what they call "innovation potential," has ties to social class background. All evaluators in our study reported prioritizing applicants whom they deem as having the potential to make innovative contributions in the workplace. They voluntarily brought up this criterion in the study interview without us prompting. When asked to describe how they assessed "innovation potential," participants explained that they focused on the ways in which applicants presented themselves during an interview. Specifically, evaluators tied "innovation potential" to applicants who displayed ease with drawing upon various academic disciplines when generating ideas; actively facilitated back-and-forth dialogue; and voiced differing opinions during high-pressure face-to-face conversations. In essence, they are looking for what we have come to call a "transboundary interactional style" during these exchanges. We chose the term "transboundary" because each element of the interpersonal interactional style desired by evaluators involves artfully negotiating traditional disciplinary, role, and power boundaries.

While evaluators viewed this interpersonal interactional style as stemming from applicants' individual personalities, our analysis of prior research on familial and educational socialization suggests that the desired transboundary interactional style also has structural, class-based origins [4,10,27,31]. Past studies have shown that individuals' social class background directly affects how they express themselves and engage with others [4,10,27,31]. These studies found that upper-middle-class individuals tend to be at ease with artfully rearranging disciplinary, role, and power boundaries when interacting with authority figures. Therefore, we suggest that the key hiring criterion of "innovation potential" is assessed via class-based interpersonal interactional styles and learned practices rather than just innate personality traits.

Our findings contribute to CSCW scholarship on social class background and hiring. Past literature has revealed how evaluators' assessments of applicants have ties to applicants' access to class-based resources and tastes [15,28,46]. We expand this literature by showing that evaluators also assess applicants' interpersonal interactional style, and in particular, the extent to which applicants display a transboundary interactional style in their interview responses. By comparing our findings with sociological literature on familial and educational socialization, we also suggest that this style of expressing ideas and responding to evaluators is often linked to an upper-middle-class upbringing. Drawing on our findings, we conclude by providing recommendations for evaluators to enact equitable hiring practices. As many CSCW community members are evaluators at large technology companies, these recommendations are of reflexive interest to CSCW.

2 RELATED WORK

2.1 CSCW and HCI Scholarship on Employers' Hiring Practices

CSCW and HCI studies have been increasingly interested in understanding applicants' various job search and interview processes. This scholarship tends to focus on marginalized applicants—including but not limited to Muslim-American women [2], low-income groups [16,19,24,49], and unhoused populations [23,32–34,52,53]—to develop strategies to support applicants in securing employment. These studies contribute a clear understanding of the roadblocks to socioeconomic mobility from the perspectives of applicants with minimal resources. However, less clear is the entrenched barriers in the hiring process of more elite and lucrative spaces. Further, while this research stream provides compelling analyses of applicants' perspectives, empirical examinations of employers' hiring practices are largely missing from this body of literature.

The few HCI studies on employers' perspectives of the hiring process in elite spaces, such as the technology industry, have focused on what employers look for in applicants [5,21,35]. This scholarship shows that employers typically prize applicants who can demonstrate technical competence and strong "soft skills," such as clear communication abilities and effective time management skills [5,21,35]. While informative and valuable, this body of literature tends to focus on the traits that employers deem as important hiring criteria in the abstract rather than exploring how employers actually assess such traits during the hiring process. Thus, this scholarship does little to offer insight into the implicit social class biases in hiring exchanges.

CSCW and HCI studies have started to move beyond descriptions of desired traits and examine employers' actual hiring practices by examining the pre-interview assessments (i.e., recruiting and screening practices) of recruiters [13,36]. However, the pre-interview assessments with recruiters are not where final hiring decisions are made. The assessments that evaluators develop through their interpersonal dynamics with applicants during interviews are the cornerstone of hiring decisions. Given that less attention has been paid to how hiring decision-makers assess candidates in interviews, hiring scholars have recently called for a deeper understanding of evaluators' interviewing practices [45].

Following this call, our recent CSCW study explored the hiring practices of evaluators at large technology companies [15]. In our interview study, we found that in addition to technical competence, evaluators often assessed applicants' fit with the position based on applicants' resources and tastes. Specifically, evaluators prioritized applicants with access to valorized resources, such as degrees from prestigious educational institutions and referrals from social connections at the company. Evaluators also favor applicants who can hold casual conversations about shared tastes and experiences (e.g., extracurricular and lifestyle interests). These evaluators explain that applicants' shared tastes with colleagues will help them to build rapport and strengthen communication. By comparing these findings with insights from past sociological literature on familial and educational socialization [31,37,43], we showed that evaluators' emphasis on resources and tastes can pose advantages for upper-middle-class applicants. Upper-middle-class applicants are more likely than their working-class counterparts to enjoy the privilege of attending prestigious educational institutions and having robust social networks. In addition, since all evaluators are currently in upper-middle-class positions, evaluators' tastes often align more with those of upper-middle-class applicants than working-class applicants.

One of the most interesting undercurrents in this body of work is how evaluators judge applicants' fit with the company by assessing applicants' tastes and lifestyle preferences. However, the following threads are inchoate in current literature: how evaluators assess applicants' interactions when they are

talking about the technical work (e.g., an upcoming project), and how these assessments of interpersonal interactional styles might be tied to social class background. In other words, the relationship between hiring practices, interactional styles of engaging with evaluators, and social class background warrants future investigation.

2.2 Social Class Background and Elite Hiring Practices

To address the relationship between hiring practices, interpersonal interactional styles, and social class background, we need to understand how individuals' social class background influences their interpersonal interactional style. Sociological studies on familial and educational socialization have found that interpersonal interactional styles that are often viewed as stemming from individuals' personalities are also shaped by their social class background [10,31,47]. Individuals' social class backgrounds shape their expression of ideas and interactions with authority figures [10,31,47]. Upper-middle-class individuals grew up in families with high incomes and quality education [10,31,47]. As part of this milieu, children are encouraged to engage confidently with authority figures and think creatively about the world. By contrast, working-class individuals face higher levels of risk and fewer educational resources than their upper-middle-class counterparts. In response to these conditions, working-class individuals are socialized to be more cognizant of their position in the social hierarchy. They are expected to adhere to existing rules and boundaries, especially when interacting with authority figures in higher stakes situations [10,31,47]. Overall, compared to their working-class peers, upper-middle-class individuals are trained to express themselves and challenge the status quo in ways that are coded as "talented" and "bright" by authority figures in elite spaces [10,31,47].

For example, scholarship based in the home and educational institutions has shown that upper-middle-class individuals display greater ease in interacting with authority figures [10,31,47]. Upper-middle-class environments generally socialize individuals to treat authority figures, such as professors and teachers, as equal partners; to facilitate back-and-forth scholarly conversations with authority figures and voice opinions and disagreements on the spot [10,31,47]. By contrast, working-class environments often promote the value of deference to authority and code those who challenge authority figures as troublemakers [10,31,47]. These environments generally encourage individuals to defer to authority figures, politely follow the conversational lead of others, and not challenge the status quo.

Sociological research has also revealed key differences in resources and pedagogical styles in upper-middle- and working-class schools. Schools in predominantly upper-middle-class neighborhoods train their students to make abstract connections, think expansively, and pull threads from various academic disciplines when constructing an argument [4,27]. These schools can afford to hire teachers who are well-versed in a wide range of disciplines and are skilled at facilitating interdisciplinary conversations with students [27]. Smaller class sizes also provide students with the space to explore new ways of thinking and to voice their ideas [27].

By contrast, Anyon's landmark study found that schools in largely working-class neighborhoods instruct students to adhere to traditional disciplinary boundaries [4]. Such social class environments tend to de-emphasize conversations that center on creative interdisciplinary conceptualizations and often encourage students to correctly follow the rote steps laid out by the teachers [4]. In addition, most working-class schools struggle to fund the teachers and resources needed to cover their basic academic curriculum [4].

Although this research has yet to be applied directly to the context of hiring, it suggests that social class background might play a key role in hiring interviews in two ways. First, upper-middle-class applicants are likely to be more comfortable than their working-class counterparts in facilitating back-

and-forth academic conversations and debates with authority figures during interviews. Second, such applicants might have more practice weaving together concepts from multiple disciplines and articulating their ideas on the spot. The degree to which these learned interpersonal interactional styles figure into hiring is a critical question that needs empirical attention.

3 METHODS

3.1 Data Collection

Our study¹ aimed to understand the extent to which evaluators at large technology companies display an awareness of how social class background might figure into hiring and how they assess applicants in general. To pursue these goals, we interviewed 50 evaluators who have experience interviewing and hiring Ph.D.-level applicants for computer science research or software engineering positions.² These evaluators are all full-time computer science researchers or software engineers at large technology companies that often rank in the top seven in the U.S. Every participant had conducted interviews with internship applicants, and almost all had experience making final hiring decisions.

In terms of our participants' gender composition, 42 identified as men and eight as women. Regarding their racial or ethnic composition, 38 identified as white and 12 as Asian American or Asian³. We were unable to get information about participants' social class background.

We chose to focus on evaluators' hiring practices for Ph.D.-level internships at large technology companies for two reasons. First, sociologists have suggested that social class differences often factor more in evaluators' assessments of applicants with similar educational levels, prior work experiences, and technical skills [29,30]. Ph.D. student applicants in computer science-related fields tend to fit this description, so we expected to see more observable links between social class background and the hiring process in the evaluators' perspectives. Given that class-related dynamics in hiring practices are often subtle and hidden [15,46], the hiring process for Ph.D.-level internships at large technology companies is a fruitful site for addressing our research questions. Second, evaluators at large technology companies often assess Ph.D.-level internship applicants using the hiring criteria for full-time employees because they largely view interns as potential full-time employees. As such, our findings can likely be applied to early-career positions at these companies.

We primarily reached out to evaluators through their publicly available emails on the companies' websites. We recruited almost all of our participants using this approach. We also asked our participants and our university's computer science and software engineering professors to forward our study invitation to other potential participants. In an attempt to increase the diversity and representativeness of our sample, we posted study invitations in public online affinity groups for marginalized communities in the tech workforce, such as women in tech.

¹ The Institutional Review Board (IRB) at the authors' university approved the goals and protocols of this research study.

² The authors are affiliated with the School of Information and Computer Sciences (while not in the Department of Computer Science) at an R1 university on the West Coast. Large technology companies regularly recruit computer science research and software engineering interns from our university. While the authors have neither hired nor applied for these internships, many of our colleagues and students have. As such, we are familiar with this internship hiring process.

³ We understand that "Asian American or Asian" and "White" are very broad labels and that these groups comprise individuals from various races, ethnicities, and national backgrounds. We chose to use these labels because almost all of our participants used them as emic terms to describe themselves.

The first author conducted semi-structured interviews with evaluators between October 2020 and March 2021 through video calls. Each interview lasted between 30 to 45 minutes, with an average of 35 minutes. We considered this interview length to be generous because evaluators had packed schedules, and their one-on-one work meetings tend to be only 30-minutes long. We did not compensate evaluators for participating in the study.

When explaining our study's goals to participants in our recruitment materials and interviews, we mentioned our broad interest in understanding evaluators' perspectives of interviewing and hiring Ph.D.-level internship applicants. To avoid biasing evaluators' interview responses and to observe whether they would voluntarily bring up the potential role of social class background in hiring, we did not disclose this paper's research aims. Specifically, we did not tell them upfront that we were interested in understanding their reported awareness of how social class background might figure into hiring and how their assessments might have hidden and underlying social class dimensions. However, we did ask direct questions about the potential role of social class background in hiring toward the end of our interviews.

To encourage participants to feel comfortable expressing their thoughts during the study interviews, we explained how we would protect their anonymity and confidentiality by removing any mentions of personally identifiable information, company and team names, university affiliations, and specific job titles from our research publications. Following standard ethical research practices, we also told participants that they could skip any questions they felt uncomfortable answering. Finally, we informed participants that the interviewer was affiliated with a university and could not influence their job status and performance evaluations, thus reducing social desirability bias in participants' responses.

Throughout the interview study, the research interviewer asked open-ended questions and then focused on the discussion topics that were most salient to participants. The first set of interview questions revolved around understanding how evaluators assessed applicants. Examples of such questions include: "If you could think back to the recent interviews you conducted, what did you look for in a successful internship applicant?"; "What would you say are the top mistakes that applicants make?"; and "If an intern candidate were to ask you, 'What could I do to prepare for the interview? what would you say?'"

To start, the interviewer explored evaluators' understanding of the connection between applicants' experiences or backgrounds and their ability to display the desired hiring traits. The interviewer asked, "In your opinion, what are particular life experiences or backgrounds that might shape applicants' success in the hiring process?" If participants did not voluntarily discuss the potential role of social class background in hiring, the interviewer would then directly ask, "What role do you think social class background might play in hiring?"

While the interviewer also asked participants about gender and race, this paper focuses on their responses regarding social class because it is an oft-understudied sociodemographic factor in studies on hiring. In addition, the interviewer asked whether participants thought Covid-19 influenced their hiring criteria and assessments. Participants across the board mentioned that they did not observe any pandemic-induced changes. Overall, the interviewer invited evaluators to provide concrete examples whenever they gave general answers. For example, if an evaluator said, "We look for applicants who can provide interesting ideas," the interviewer would then ask, "Can you give an example of how an applicant showed that they can offer interesting ideas?"

We began hearing similar patterns across evaluators' responses after conducting 40 interviews. However, the interviewer continued to recruit and interview 10 more evaluators to ensure data saturation.

3.2 Data Analysis

We used an inductive thematic analysis approach to analyze the interview data [8]. Upon completing the data collection process, the first author conducted an open, line-by-line coding of the data. The first author would code a few transcripts and then meet with the second author to develop, discuss, and refine the codebook. After repeating these steps four times to create a clear and detailed codebook, the first author coded the rest of the transcripts. Throughout the coding process, the two authors labeled the codes based on the language that evaluators used during the study interviews. The first author also frequently wrote analytical memos to capture and engage with the emerging patterns and themes. The two authors met weekly over six months to discuss the codes, memos, and themes. Whenever questions or disagreements developed during the meetings, both authors reread the relevant transcripts and built consensus.

During the first round of open coding, we addressed our first research question by parsing the extent to which evaluators displayed an awareness of how social class background might play a role in hiring. Examples of initial codes included “prestigious educational credentials,” “influential connections,” “no information about applicants’ social class,” and “hiring assessments based on individual personalities.” In writing and analyzing our memos, it became clear that the minority of evaluators who identified the role of social class background in hiring commonly focused on the way this sociodemographic factor shapes applicants’ access to desired resources (e.g., educational prestige and referrals).

Next, we reflected on evaluators’ assessments of applicants. We noted the many instances and ways that evaluators across all companies focused on judging applicants’ “innovation potential.” This emic term refers to applicants’ potential to do innovative work at the company. During the second round of open coding, we created codes to capture evaluators’ descriptions of how applicants demonstrate “innovation potential.” Such codes include: “articulate how different disciplines might inform their work,” “facilitate engaging back-and-forth conversations,” “offer interesting ideas on the fly,” “raise differing opinions,” and “defend and advocate for their ideas.” We then grouped these codes under the themes: “artfully rearranging disciplinary boundaries,” “artfully rearranging role boundaries,” and “artfully rearranging power boundaries.”

Core themes became apparent after coding 42 transcripts. Nonetheless, we kept coding and analyzing the data to ensure that we had reached theoretical saturation. In reviewing all our codes and themes, we were struck by how every evaluator, regardless of whether they displayed an awareness of how social class background might figure into hiring, emphasized that their assessments of “innovation potential” are based on applicants’ interpersonal interactional styles during the interviews.

Two core themes emerged from this analysis. These themes were broadly expressed across the population with no discernable differences between evaluators with various sociodemographic characteristics. First, for the 19 participants who articulated the potential role of social class background in hiring, their awareness revolved around access to external resources. Second, all participants described using applicants’ interpersonal interactional styles to assess whether they displayed the specific traits needed to succeed in the company. Given the focus on assessing candidates through how they present themselves in one-on-one exchanges, we were inspired to further investigate this finding through past scholarship on interpersonal interactional styles. Specifically, we turned to prior studies on social class background in familial and educational socialization to explore whether the interpersonal interactional styles that evaluators use to assess core traits might carry social class implications.

By comparing our emergent insights with the findings from past literature (see Related Work Subsection 2.2), we find that evaluators’ assessments of the core trait of “innovation potential” can

indeed privilege applicants who enact upper-middle-class interpersonal interactional styles. Specifically, evaluators prioritize those who exhibit ease with expressing interdisciplinary ideas, facilitating back-and-forth dialogues, and voicing disagreements on the spot when interacting with authority figures. Taken together, our inductive findings align with previous sociological insights on learned interpersonal interactional styles and suggest that evaluators' reported ways of assessing desired individual traits have underlying social class dimensions.

4 RESULTS

4.1 Evaluators' Display of Awareness of How Social Class Background Might Figure into Hiring

When asked open-ended questions about "the life experiences or backgrounds that shape applicants' success in the hiring process," only five evaluators voluntarily brought up the potential role of social class background in hiring. When asked directly "what role social class background might play in hiring," only 14 additional evaluators discussed the ways in which the hiring practices of large technology companies might have social class dimensions. Almost all of these 19 evaluators focused on how social class can influence applicants' access to valuable resources, such as elite education and social networks. For example, several evaluators explained that upper-middle-class applicants often enjoy an advantage over their working-class counterparts when it comes to securing admission to elite universities. In turn, this advantage gives them a leg up in the competition for internship offers. Robert described why and how he often favors applicants from elite universities:

"[The company] is an elite, well-known organization, so there's a lot of competition to get here. We get hundreds and hundreds of internship applications. I have a job, right? I'm not going to spend hours every day pouring over them. So, there are signals that come through, like I'm automatically going to give a closer look to applicants from elite schools like Stanford, [schools] that tend to be very classist. I try hard to overcome that, but I know I don't." — Robert⁴

Robert's comment is representative of a common challenge that numerous evaluators expressed. Evaluators reported that their companies often expect them to review numerous applications in detail while juggling their core responsibilities as full-time software engineers or researchers. Given this reality, many of them explained that they often use educational prestige as a quick screen for "quality" applicants (again, with 19 evaluators explicitly recognizing that this practice might pose disadvantages for working-class applicants.)

In addition, many of these 19 evaluators emphasized that the partnerships between large technology companies and elite universities can ease students' process of building first- and second-degree connections with evaluators. Participants described how large technology companies frequently host networking and recruiting events at elite universities, where applicants and evaluators can meet and get to know each other. They also reported frequently collaborating with professors at elite universities, and through these collaborations, meeting students whom they choose to recruit as interns. Nancy noted:

⁴ To protect our participants' anonymity and confidentiality, we used pseudonyms and did not list their race. We also removed all company and team names and slightly modified the research areas mentioned in their interview responses.

“[The company] doesn’t have many people from schools that aren’t Ivy and fancy. [The company] is in [a city], and we’re close to [an elite school that is near the city]. There’s a lot of connections there. And the biggest determinant is about networking—whether you know the person beforehand, or your advisor is great friends with them.” — Nancy

Nancy then explained how applicants’ connections to the evaluators can shape evaluators’ interview questions and experiences:

“If you’re interviewing somebody you don’t know at all, you must make sure they have all the skills you need. But if you already know them or someone can vouch for them, then you know they meet the basics, and you can get to the interesting conversations.” — Nancy

As Nancy’s comments reveal, knowing the applicant before the interviews or having a referral from a trusted source can allow evaluators to focus on discussing “interesting” topics during the interviews. Rather than assessing whether the applicant meets the minimum technical requirements needed to do the job, many evaluators described being able to have more engaging conversations that might foster positive impressions.

While the vast majority of evaluators talked about educational prestige and network ties in hiring, only a minority of participants felt that enjoying such resources had a social class dimension. More than half of the evaluators reported that either social class background did not play a role in hiring, or that it was unclear what exact role social class background might play in this process. Of the 32 participants who did not articulate a connection between social class background and hiring, many explained that they do not have information about applicants’ social class background throughout the hiring process. These evaluators emphasized that the internship application forms do not ask applicants about their social class background and that they have difficulty gauging applicants’ social class based on their self-presentation alone. According to these evaluators, they can only get this information if applicants voluntarily disclose it. As Helen said: “Social class is a characteristic that is not very visible unless they tell me.” When asked how applicants’ social class background might shape their interview performance, Harold explained:

“It’s hard to say. Actually, the better answer for you: I don’t ask people about their families. I don’t want to be biased by that in the slightest. I don’t think it’s relevant for an interview. It’s massively inappropriate to ask someone in an interview, ‘What was your home like growing up?’ If I found out a coworker did that, I would honestly report them.” — Harold

Like Harold, many evaluators described avoiding asking applicants about their social class background to minimize biases against them. These evaluators maintained that not knowing the social class background of applicants makes it difficult to intuit whether application strategies and performance are linked to social class structures or individual personalities. In other words, they reported lacking the necessary information needed to observe the patterns across different social class groups they encounter in hiring.

Further, several evaluators expressed that relevant educational and work experiences will matter more than upbringing as applicants move forward in their academic and professional careers. Linda explained:

“I don’t think social class matters. Getting a job solely lies in how well you do at the interview. I think just relevant background matters, not other backgrounds. If you’re a

software development candidate, then just your technical expertise and other soft skills matter.” — Linda

Linda’s quote illustrates how evaluators conceptualize interviews as a site that primarily assesses applicants’ individual abilities. For all evaluators, applicants’ interview performances and hiring outcomes largely depend on their displays of technical skills, time management abilities, and the most important and elusive trait, “innovation potential.” While a minority of evaluators displayed an awareness that social class influences applicants’ access to valued resources, none described a possible connection between social class background and the ways in which evaluators assess desired traits such as “innovation potential.” In the next section, we examine whether and how evaluators’ use of applicants’ interpersonal interactional styles to assess “innovation potential” might privilege those from a particular social class background.

4.2 Evaluators’ Assessments of “Innovation Potential”

Across the board, evaluators explained that their companies rate the job performance of current interns and full-time employees in computer science-related positions based on their abilities to make innovative contributions. As Roy said:

“We provide innovation. If you can get a piece of running code in one of our production services or publish an academic paper, or some combination of those two things, you’ve done great.” — Roy

Through analyzing evaluators’ descriptions of how they assessed applicants’ “innovation potential,” we find that they often interpreted applicants’ comfort with expressing and asserting themselves during power-laden interviews as signs of having such potential. Specifically, evaluators reported prioritizing applicants who demonstrate what we term a “transboundary interactional style,” in which applicants display ease with communicating how different disciplinary insights might inform their work, facilitating back-and-forth conversations about the potential internship project, and standing up for their opinions by voicing disagreements. In the following subsections, we unpack how evaluators described the elements of a transboundary interactional style and these elements’ relations to the trait of being “innovative.” We also illuminate how sociological literature suggests that the elements of this style are often cultivated in upper-middle-class backgrounds.

4.2.1 “Innovation Potential”: Displaying an Ease With Articulating How Different Disciplines Might Relate to One’s Work

More than half of all evaluators expressed a desire to hire interns who seem capable of integrating insights from different disciplines into their work. These evaluators often characterized their projects at the company as large-scale and complex. They believed that having a knowledge base that spans multiple domains and being able to configure different ways of thinking allow applicants to tackle their projects innovatively. Ray explained:

“The company solves complex problems, and we deeply believe that if you only know one research area, you’re not going to help solve the problem. The company needs very collaborative and interdisciplinary people. People who know how to combine different methods and distill core knowledge from various areas, like robotics, vision and language, anthropology, and economics. If you can combine all the fields and techniques, there’s great potential.” — Ray

Additionally, evaluators across the board emphasized that they often worked with colleagues from different disciplinary backgrounds. Thus, being familiar with a wide range of disciplines is seen as helping applicants to communicate and collaborate effectively with various team members. Michelle noted:

“If you only study computer science, then you are less exposed to being able to talk and express yourself clearly to people with other frames of mind. That’s important for being a team member. You’ll have to talk with people with different backgrounds, terminologies, and ways of saying the same thing.” — Michelle

Ray’s and Michelle’s comments illustrate how numerous evaluators tied innovation to an ability to work across disciplines. When asked about how they assessed applicants’ abilities to do such work, these evaluators described prioritizing applicants who explicitly expressed an interest in incorporating insights from people and fields outside of their domains into their work. For example, Thomas said:

“I look at whether they’re curious. Did they read about things that aren’t what they do but could be related? I look at whether they’re adaptable. Can they apply their skills [from different disciplines] to new problems? Do they value the contributions of people from all sorts of [disciplinary] backgrounds?” — Thomas

In a similar vein, Lucas explained:

“I look for people with a more diversified set of approaches or techniques.... I ask them about what other fields they’ve explored and what things they took away from that to shape how they think about their field.” — Lucas

Thomas’ quote widely reflects the comments of our study participants. Evaluators regularly described valuing applicants who seemed “curious” about topics that might initially appear unrelated to their projects. However, displaying curiosity was not sufficient. Evaluators also reported assessing applicants’ “adaptability” in drawing connections between the seemingly disparate topics and their work. Lucas’ remarks are particularly telling. Lucas’ comments show how evaluators often discussed favoring applicants who could articulate on the spot how they would apply their “diversified set of approaches and techniques” to their projects. Here, we observe that displaying a comfort in traversing disciplinary knowledge structures and uniquely combining various perspectives is seen as a key component of demonstrating “innovation potential.”

Interestingly, prior literature on familial and educational socialization suggests that upper-middle-class educational settings often train individuals to build an argument in this desired way. These individuals may feel at ease with artfully rearranging disciplinary boundaries and expressing interdisciplinary insights during scholarly conversations because they have had much practice doing so (see Related Work Subsection 2.2). Building on these studies, we suggest that regardless of whether applicants can make these connections, evaluators’ methods of assessing “innovation potential” can pose advantages for upper-middle-class applicants.

4.2.2 “Innovation Potential”: Demonstrating a Comfort with Facilitating Interesting Back-and-Forth Conversations about the Work

According to evaluators, another vital part of demonstrating “innovation potential” entails displaying one’s abilities to be a dynamic collaborator who can contribute to team endeavors. All evaluators described judging the extent to which applicants took initiative in leading a conversation about the

upcoming internship project in a way that evaluators found interesting. Nancy explained how she deliberately sought applicants who provided “interesting” ideas during the interviews:

“I’ll talk about my ideas, things I want to do [for the project]. And I’ll see if they like them and if they have interesting things to add. I want a candidate who has a trajectory that’s parallel to mine and can find interesting interconnections that could be interesting for everybody.” — Nancy

Nancy’s quote illustrates how evaluators prioritized applicants who gave fresh insights into their project pitches during the interviews. Evaluators’ perceptions of how fast applicants produced interesting responses also mattered. Almost all evaluators reported assessing applicants’ abilities to “think on their feet” and carry a “back-and-forth conversation.” Lance discussed what he looked for in an ideal intern candidate:

“I’m looking for whether they can ask questions. Can they run with a line of reasoning? And I like people who can interact and respond on the fly. I like the banter [and] the back-and-forth discussion. [It’s because] I’m looking for a collaborator.... Most work that I run into at [the company] has an innovative part associated with it. And I’m trying to maximize joint success.” — Lance

Like the vast majority of evaluators, Lance interpreted applicants’ displays of quick thinking during the interviews as signals of their potential to enhance collaborative innovation later in the internship.

Almost all evaluators explained that maintaining a two-way dialogue involves posing thought-provoking questions about the project. However, merely asking questions was insufficient. These evaluators also sought applicants who could build on evaluators’ responses to applicants’ inquiries. Later in his interview, Lance said:

“They also need to be able to cope with the answers. If they ask me a question and I give them an answer, what do they do with it? If they answer, ‘Thank you,’ that’s probably not the correct response. A good response might be, ‘Huh, that’s interesting. What about this?’”
— Lance

Similarly, Carol stressed the need for applicants to contribute to the conversation actively:

“I’m seeing how proactive they are in the interview itself. Part of it is how much of an equal exchange you have at the appropriate time in the conversation. A naturally curious person can do that because you’re picking up and feeding off something I said. Versus sitting there waiting for my question, then answering it and stopping. It’s where I realize that this conversation has become much more interesting because I was talking to you and learned something new.” — Carol

As Lance’s and Carol’s remarks illustrate, numerous evaluators described distinguishing between applicants who “proactively” contributed to the flow of the conversation and those who merely followed evaluators’ conversational lead. A critical aspect of maintaining an engaging back-and-forth dialogue involved appearing at ease with steering the conversation to explore intriguing ways of thinking about the internship project. Evaluators largely took applicants’ comfort levels with fostering an “equal exchange of ideas” during interviews as indicators of individual personality traits that contribute to innovative endeavors. As her quote shows, Carol directly tied this interpersonal interactional style to being a “naturally curious person.”

However, our analysis of past research on social class differences in home and school settings reveals that such style is promoted in upper-middle-class environments. These environments tend to encourage individuals to practice the art of witty exchange and feel comfortable with artfully rearranging role boundaries (see Related Work Subsection 2.2). Looking at our findings through this perspective, it becomes clear that evaluators' emphasis on applicants who seem comfortable treating them as equal conversation partners and facilitating back-and-forth conversations may privilege learned behaviors from upper-middle-class environments.

4.2.3 “Innovation Potential”: Displaying a Willingness to Challenge the Status Quo by Voicing Disagreements

In addition to judging applicants' ability to generate and communicate interesting ideas on the fly, many evaluators reported tying applicants' willingness to assert their personal opinions during conversations to their “innovation potential.” Specifically, just under half of the evaluators described seeking applicants who seemed willing to challenge the status quo by voicing their opinions. As Carol explained:

“Rebelling against authority can be a very good trait. Challenging the status quo can be very innovative.... To be willing to stand their ground and speak out against the rest, the person has got to be self-confident. It's admirable.” — Carol

When asked how they assessed whether an applicant is willing to express strong and often contradictory opinions, evaluators reported inviting the applicant to describe past experiences of challenging the status quo or pointing out the mistakes of others in constructive ways. For instance, Carol gave an example of the language that interviewees could use to demonstrate this hiring criterion: “It could be like, ‘I see what your organization is doing and where you’re headed, but I think we can go further if we go this other direction.’” Similarly, Susan said:

“We try to suss out if [the applicant] is willing to stand up for something. If you think that something is not being done correctly or that people are making a technical mistake, we want you to stand up and say respectfully, ‘Can we reconsider this?’” — Susan

Many evaluators also described favoring applicants who appeared comfortable “defending” their ideas in the face of feedback. According to Cody:

“There are certainly jobs for people who just do what they’re told. But, to have a good career, you need to be able to advocate for your ideas. That means concisely describing your ideas and defending them against critiques, either well-meaning or hostile ones. Thinking on your feet is part of it. When people can have back-and-forth conversations, it makes the process of doing a collaborative project faster and more fun.” — Cody

In a similar vein, Deborah explained how she assessed this hiring criterion during interviews:

“It’s the way that [the applicants] respond to feedback [or ideas]. If they’re an expert and understand why [they disagree with the feedback], then they’ll explain it. Versus just shooting it down like, ‘Oh no, that’s not a good idea.’” — Deborah

As Cody’s and Deborah’s remarks reveal, many evaluators viewed the ability to “advocate for one’s ideas” in ways that sustain back-and-forth dialogue—even when responding to “hostile critiques” and authority figures such as evaluators, senior colleagues, and managers—as indicative of assertiveness. Evaluators regularly viewed assertiveness as an individual personality trait that allows applicants to be intellectually stimulating and innovative collaborators.

At the same time, evaluators commonly deemed applicants who seemed too defensive or argumentative as terrible collaborators. “Some candidates can be very argumentative, and then you’ll know that they won’t be good people to work with,” said Linda. She then described how evaluators typically judged whether an applicant was argumentative:

“I’ve read stories of how the interviewee told the interviewer repeatedly ‘this is not the right method to solve it’ or ‘my method is better,’ got into an argument, and went on about it.” — Linda

Numerous evaluators underscored applicants’ need to strike the right balance between standing up for their own opinions and incorporating others’ ideas. Craig explained:

“All [hiring criteria] must be balanced. If you take [a criterion] and go to the extreme, that’d be too much, and that’d be wrong.... Like with [the criterion of] disagreeing, [it’s about] disagreeing with people in ways that don’t cause conflict but cause innovation and thought.” — Craig

Linda’s and Craig’s comments illuminate the delicate line between productively and destructively voicing disagreements. Like Linda and Craig, many evaluators described wanting interns who they felt would work well with team members due to an ability to welcome “productive conflict.” Taken together, their remarks reflect how evaluators often relate applicants’ willingness to voice differing opinions to authority figures to the demonstration of “innovation potential.”

Scholars who study familial and educational socialization have contended that upper-middle-class environments largely socialize individuals to feel at ease with artfully rearranging power boundaries by challenging and debating with authority figures (see Related Work Subsection 2.2). Returning to our empirical findings, we thus argue that evaluators’ assessments of how comfortable applicants are with advocating for their personal opinions and challenging the status quo are also related to upper-middle-class parenting and educational styles.

5 DISCUSSION

In sum, our research offers two insights. First, we observe a pervasive lack of awareness among evaluators that social class background may affect hiring decisions. Second, evaluators—even those who display an awareness that social class background can provide applicants with valuable resources—do not draw connections between social class background and the desired transboundary interactional style. Across the board, evaluators interpret this style as evidence of “innovation potential.” They report valuing applicants who display an ease with drawing upon ideas from across disciplinary boundaries, facilitating conversations through witty exchanges, and defending their opinions and challenging the status quo in high-pressure face-to-face exchanges.

Whether or not the transboundary interactional style is indicative of applicants’ actual “innovative potential,” prioritizing applicants who seem comfortable with displaying this style can privilege upper-middle-class applicants. Our review of sociological literature on familial and educational socialization shows that the desired transboundary interactional style is cultivated in upper-middle-class backgrounds. Thus, despite evaluators’ best intentions and active efforts to reduce potential hiring biases in general, we find that their current hiring practices can create hidden advantages for upper-middle-class applicants. Table 1 offers an overview of how our analysis of past sociological studies suggests that evaluators’ assessments of innovation potential can have underlying social class dimensions.

It is important to note that we are not arguing that upper-middle-class applicants are more “innovative” than their working-class peers. We are asserting that regardless of their actual abilities to be innovative, upper-middle-class applicants likely have more practice with demonstrating the transboundary interactional style that evaluators use to judge applicants’ innovation potential. As a result, evaluators could be rejecting working-class applicants who are indeed innovative but do not display the desired interpersonal interactional style in the high-pressure environment of a face-to-face interview.

We are also asserting interpersonal interactional styles are not purely a reflection of personality traits. Interpersonal interactional styles are, to a degree, learned. Studies on the influence of social class background on educational socialization have shown that working-class students who attend upper-middle-class schools can indeed learn to display the transboundary interactional style that their schools promote [11,26]. That said, scholars have asserted that adopting this style is not a quick or straightforward process [11,26] and may take several years. Further, past sociological studies have found that some working-class students may resist acquiring upper-middle-class interpersonal interactional styles in service of maintaining their working-class styles from childhood [11,26,51].

Table 1. Summary of how evaluators’ assessments of “innovation potential” can privilege upper-middle-class applicants

<i>Elements of a transboundary interactional style that evaluators use to assess “innovation potential”</i>	<i>Ties between social class background and ease with enacting elements of a transboundary interactional style</i>
Assessing applicants’ ease with artfully rearranging disciplinary boundaries by expressing ideas that draw on insights from multiple disciplines	Upper-middle-class individuals are often encouraged to engage with a wide variety of academic disciplines and to feel at ease with sharing their thoughts on the potential connections between various disciplinary insights [4,27].
Assessing applicants’ ease with artfully rearranging role boundaries by facilitating back-and-forth conversations with evaluators	Upper-middle-class individuals are often trained to feel comfortable treating authority figures as equal conversation partners [10,31,47].
Assessing applicants’ ease with artfully rearranging power boundaries by challenging ideas and asserting their opinions	Upper-middle-class individuals are often shaped to be at ease with challenging the status quo and voicing their differing opinions to authority figures [10,31,47].

5.1 Implications for CSCW Scholarship

Our study has several implications for CSCW and HCI scholarship that explores how social class background influences hiring processes. First, prior scholarship has found that working-class applicants often lack valuable resources in securing professional positions at elite companies, such as educational prestige and social connections at the companies [17,18,25,50]. However, our findings suggest that only a minority of evaluators display awareness of this dynamic in hiring. Thus, there

are opportunities for the insights generated by the CSCW and HCI communities to be better translated into practice.

Even more importantly, our research adds another layer to our scholarly insight into how social class background shapes hiring decisions. As noted above, past CSCW and HCI studies on hiring have focused on examining social class disparities in terms of access to employment-related resources (e.g., educational prestige and professional networks) [17,18,25,50]. However, resources are not the only class-related factors that create advantages for certain applicants. By showing how social class differences also play out in the form of communication, or *interpersonal interactional styles*, our research adds to scholarly discussions about the mechanisms that perpetuate social class bias in hiring.

Social class biases are difficult to address partially because these differences are subtle and often invisible to evaluators. Evaluators commonly assume that deeply ingrained practices—such as tastes (e.g., extracurricular interests) and styles of interacting with others—are the sole product of core personality traits. Our findings challenge this assumption by showing that individuals' practices are not reducible to core personality traits. Their practices are also the product of social class upbringing. That is, evaluators describe favoring a transboundary interactional style when assessing “quality” candidates. This style, as sociological literature suggests, is cultivated in upper-middle-class environments. Thus, we argue that beyond influencing access to valorized resources, applicants' social class background also affects the extent to which they display the desired transboundary interactional style during interviews.

Based on our findings, we assert that CSCW studies on hiring inequality should also account for interpersonal interactional styles as a crucial dimension of hiring that is related to social class background. The influence of class-based interpersonal interactional styles on the perspectives and practices of those involved in the hiring process warrants continued scholarly attention. We show that class-based interpersonal interactional styles can contribute to stratification and social inequalities. In other words, systematic biases favoring upper-middle-class interpersonal interactional styles reproduce power structures that exclude working- and middle-class individuals from entering prestigious occupations.

Further, our findings push forward the current understanding of how the interpersonal interactional exchanges between applicants and evaluators figure into the hiring practices of elite companies. Our recent CSCW study shows that interpersonal interactions are an avenue for evaluators to establish connections with applicants and assess applicants' fit with the company [15]. Specifically, we find that evaluators positively assess applicants who can connect on a personal level by identifying and discussing shared tastes (e.g., hobbies and lifestyle interests) [15]. As evaluators tend to be from upper-middle-class backgrounds themselves, such hiring practices can privilege upper-middle-class applicants because these applicants are more likely than their working-class counterparts to share similar interests and experiences to those of evaluators. Our research expands this argument by delving into how evaluators assess applicants during interactions about technical work (e.g., an upcoming project). These conversations provide minimal opportunities for applicants to find common ground with evaluators and discuss shared experiences or hobbies. As such, these exchanges bring into relief the more subtle factors that perpetuate hiring bias, including the embodied and subconscious class-based ways of engaging with others. Therefore, this paper suggests the challenge for working-class applicants to navigate the elite hiring process. That is, even though it might be a viable application tactic for working-class applicants to embrace upper-middle-class hobbies or interests, it is much more difficult for them to modify their interactional styles that are deeply ingrained and learned from their working-class upbringing [6,7].

5.2 Implications for Evaluators' Hiring Assessments

Our research suggests a pervasive lack of awareness among evaluators about the relationships between social class background and hiring assessments. Building on our findings, evaluators must challenge the assumption that applicants' ingrained practices, such as ways of interacting with authority figures, can only be attributed to individuals' core personality traits. We encourage evaluators to recognize the role of applicants' social class background in the development of the transboundary interactional style that evaluators prioritize in interview assessments. We suggest two distinct intervention approaches for evaluators to promote a more equitable competition for elite employment.

The first approach involves supporting applicants to navigate the current hiring system and facilitating their access into elite workplaces. Elite companies can help scaffold applicants' process of acquiring the valorized upper-middle-class transboundary interactional style. With increased awareness of how class-based interpersonal interactional styles shape hiring, elite companies could share the considerable burden on educational institutions to teach students the desired interpersonal interactional styles. For example, elite companies could provide mentorship programs and job preparation workshops that help applicants to express interdisciplinary ideas, assert themselves, and engage evaluators in a more casual way during the interviews.

The second approach involves changing the hiring system and addressing the cultural misalignment between upper-middle-class hiring expectations and working- and middle-class interactional styles. Current ways of assessing "innovation potential" will likely perpetuate bias in hiring and continue to benefit upper-middle-class applicants. Exploring other ways of assessing "innovation potential" that do not rely on high-pressure and power-laden face-to-face interactions may help evaluators more equitably assess applicants' quality.

Specifically, our findings suggest that when evaluators focus on an applicants' ability to express interesting and differing opinions on the fly during interviews, they may be privileging upper-middle-class applicants. Past research on familial and educational socialization has shown that working-class individuals may feel more comfortable deliberating and carefully crafting their responses before voicing them to authority figures [10,31]. Considering this working- and middle-class interactional style, evaluators could provide applicants more information before the interviews and offer different avenues for them to express themselves.

For example, evaluators could provide an overview of the potential internship project and interview questions beforehand. If evaluators prioritize interdisciplinary ideas, they could inform applicants about this expectation. If evaluators prefer applicants who are willing to challenge the status quo, they could ask applicants to prepare a response about how they voiced disagreements in a prior situation. Evaluators could also ask applicants to submit a written reflection on interesting ideas to explore during the interview and internship.

Such changes to the evaluative practices would allow all applicants more time to generate interesting ideas and think about how they could best communicate their ideas to evaluators, thus alleviating the stress of expressing their thoughts on the fly during high-pressure interviews. Such tweaks could also result in an interview setting that better reflects applicants' future work environment. Compared to interview settings, work environments at large technology companies often allow employees to familiarize themselves with a project, prepare their ideas before presenting them to colleagues, and share their perspectives via different channels (e.g., written documents and emails). By conducting hiring interviews that better approximate the work environment, evaluators can better assess applicants' abilities to contribute meaningfully to the workplace. As with all intervention efforts, evaluators should pay attention to how each change in their evaluative

practices affect each applicant group. They should examine the effects of these changes on all applicants and avoid unintentionally imposing additional burdens on a particular group.

5.3 Limitations and Future Work

While we designed this study to examine evaluators' opinions of social class background in hiring, we did ask participants about the potential roles that gender and race could play in the hiring process. However, given the pervasive lack of awareness regarding the role of social class background in hiring, we were unable to explore their perspectives of the intersection between social class, gender, and race. That said, prior literature suggests that applicants' abilities to enact the transboundary interactional style that evaluators use to assess "innovation potential" can also have gendered and racial dimensions [12,41,44,48].

To start, entry into upper-middle-class environments is deeply racialized. Numerous studies have shown that racially marginalized groups often face structural racism in gatekeeping mechanisms, such as school admissions and hiring practices at prestigious institutions [12,41,44,48]. Discrimination in these settings often prevents such groups from entering and immersing in upper-middle-class environments, thus excluding them from opportunities to learn the desired transboundary interactional style in elite hiring [26].

In addition, past scholars suggest that regardless of their social class background, applicants with marginalized gender and racial identities might experience less "participative safety" [1] when engaging with perceived hostile environments. While the technology industry is actively trying to make its work environment more inclusive, it is well-known that the industry has been a historically hostile environment for marginalized social groups [40]. Consequently, compared to their white men counterparts, upper-middle-class applicants with marginalized gender and racial identities might feel less comfortable expressing their ideas on the fly and engaging in debates during interviews.

Despite our concerted efforts to recruit a demographically diverse sample, 19% of our study participants identified as women, which is lower than the 29% of women in computer science positions at technology companies [3]. We conducted the interview study during the insurgenze of COVID-19, which might have contributed to the lower participation rate of women in our study. COVID-19 worsened existing social inequalities for women in general [42], including heightening job pressures and increasing care work. These added burdens likely made it more difficult for them to participate in our research. Further, the majority of our participants identified as white, and none of our participants identified as Black, Indigenous, and Latinx. Thus, future research should explore the extent to which evaluators with marginalized gender and racial identities display an awareness regarding the role of social class background in hiring and whether their hiring assessments have underlying social class dimensions.

Finally, it is important to note that we are not arguing that applicants' social class background predetermines their interpersonal interactional styles. Some working-class individuals have more outgoing personalities that allow for greater comfort during conversations in an interview setting. Some upper-middle-class individuals have shyer personalities and prefer to take more time to deliberate before immediately voicing their opinions to authority figures. Future work should investigate how the intersections between applicants' personalities and social class background figure into the hiring process.

6 CONCLUSION

After interviewing 50 evaluators at large technology companies who assess Ph.D.-level applicants for computer science research and software engineering internships, we found that only 19 evaluators displayed an awareness of the role that social class background might play in hiring. These evaluators focused on how upper-middle-class applicants are more likely than their working-class peers to have access to valuable resources, such as prestigious educational credentials and robust social networks. While we agree that social class background affects access to valuable resources in hiring, our research surfaces a more subtle and troubling relationship between social class background and hiring. Across the board, evaluators reported valuing applicants who demonstrate “innovation potential.” Evaluators described identifying candidates as having “innovation potential” if they displayed what we call a transboundary interactional style, in which applicants seem at ease with the following: responding to interview questions by drawing on a wide range of disciplinary ideas, taking the reins in conversation, and pushing back on the status quo and defending their opinions. Evaluators emphasized that this interpersonal interactional style is tied to applicants’ individual personalities. However, our analysis of past research on familial and educational socialization suggests that this interpersonal interactional style is also often cultivated in upper-middle-class environments. This insight suggests that hiring practices aimed at assessing whether an applicant has a core individual trait (e.g., “innovation potential”) may also be evaluating whether the applicant comes from an upper-middle-class background. We thus call for evaluators to be cognizant of how applicants’ social class background might shape their comfort with displaying the desired transboundary interactional style during interviews. We also urge them to implement hiring practices that are equitable toward applicants from different social class backgrounds.

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REFERENCES

- [1] Richard Adams, John Bessant, and Robert Phelps. 2006. Innovation management measurement: A review. *International Journal of Management Reviews* 8, 1 (2006), 21–47. DOI:<https://doi.org/10.1111/j.1468-2370.2006.00119.x>
- [2] Tanisha Afnan, Hawra Rabaan, Kyle M. L. Jones, and Lynn Dombrowski. 2021. Asymmetries in Online Job-Seeking: A Case Study of Muslim-American Women. *Proc. ACM Hum.-Comput. Interact.* 5, CSCW2 (October 2021), 404:1–404:29. DOI:<https://doi.org/10.1145/3479548>
- [3] Yamelith Aguilar, Hayley Brown, Shannon Cheng, Jennifer Kirker, Lin Lu, and Talanda Williams. 2020. *Top Companies for Women Technologists: 2020 Key Findings and Insights*. AnitaB.org. Retrieved from <https://4b7xbg26zfmr1aupi724hrym-wpengine.netdna-ssl.com/wp-content/uploads/2020/09/2020-TopCompanies-InsightReport-rFINAL.pdf>
- [4] Jean Anyon. 1980. Social class and the hidden curriculum of work. *Journal of education* 162, 1 (1980), 67–92.
- [5] Janet L. Bailey and Greg Stefaniak. 2002. Preparing the Information Technology Workforce for the New Millennium. *SIGCPR Comput. Pers.* 20, 4 (August 2002), 4–15. DOI:<https://doi.org/10.1145/571475.571476>
- [6] Pierre Bourdieu. 1987. What Makes a Social Class? On The Theoretical and Practical Existence Of Groups. *Berkeley Journal of Sociology* 32, (1987), 1–17.
- [7] Pierre Bourdieu. 2002. The Forms of Capital. In *Readings in Economic Sociology*, Nicole Woolsey Biggart (ed.). Blackwell Publishers Ltd, Oxford, UK, 280–291. DOI:<https://doi.org/10.1002/9780470755679.ch15>
- [8] Virginia Braun and Victoria Clarke. 2006. Using thematic analysis in psychology. *Qualitative Research in Psychology* 3, 2 (January 2006), 77–101. DOI:<https://doi.org/10.1191/1478088706qp063oa>

[9] Jessica McCrory Calarco. 2018. *Negotiating opportunities: How the middle class secures advantages in school*. Oxford University Press.

[10] Jessica McCrory Calarco. 2018. *Negotiating opportunities: How the middle class secures advantages in school*. Oxford University Press.

[11] Prudence L Carter. 2005. *Keepin' it real: School success beyond Black and White*. Oxford University Press.

[12] Emilio J Castilla. 2008. Gender, race, and meritocracy in organizational careers. *American journal of sociology* 113, 6 (2008), 1479–1526.

[13] Le Chen, Ruijun Ma, Anikó Hannák, and Christo Wilson. 2018. Investigating the impact of gender on rank in resume search engines. Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems, 1–14.

[14] Phoebe K. Chua, Hillary Abraham, and Melissa Mazmanian. 2021. Playing the Hiring Game: Class-Based Emotional Experiences and Tactics in Elite Hiring. In *PACM on Human-Computer Interaction*, New York, NY, USA, 27.

[15] Phoebe K. Chua and Melissa Mazmanian. 2020. Are You One of Us?: Current Hiring Practices Suggest the Potential for Class Biases in Large Tech Companies. In *Proceedings of the ACM on Human-Computer Interaction*, New York. DOI:<https://doi.org/10.1145/3415214>

[16] Tawanna R Dillahunt, Vaishnav Kameswaran, Linfeng Li, and Tanya Rosenblat. 2017. Uncovering the values and constraints of real-time ridesharing for low-resource populations. ACM, 2757–2769.

[17] Tawanna R Dillahunt, Vaishnav Kameswaran, Linfeng Li, and Tanya Rosenblat. 2017. Uncovering the values and constraints of real-time ridesharing for low-resource populations. ACM, 2757–2769.

[18] Tawanna R Dillahunt and Amelia R Malone. 2015. The promise of the sharing economy among disadvantaged communities. ACM, 2285–2294.

[19] Tawanna R. Dillahunt and Amelia R. Malone. 2015. The Promise of the Sharing Economy among Disadvantaged Communities. In *Proceedings of the 33rd Annual ACM Conference on Human Factors in Computing Systems* (CHI '15), Association for Computing Machinery, Seoul, Republic of Korea, 2285–2294. DOI:<https://doi.org/10.1145/2702123.2702189>

[20] Facebook. 2019. Facebook 2019 Diversity Report: Advancing Diversity and Inclusion. *Facebook Newsroom*. Retrieved September 19, 2019 from <https://newsroom.fb.com/news/2019/07/2019-diversity-report/>

[21] Ernest Ferguson. 2005. Changing Qualifications for Entry-level Application Developers. *J. Comput. Sci. Coll.* 20, 4 (April 2005), 106–111.

[22] Google. 2019. Google Diversity Report 2019. *Google Diversity*. Retrieved September 19, 2019 from <https://diversity.google/annual-report/>

[23] David G. Hendry, Norah Abokhodair, Rose Paquet Kinsley, and Jill Palzkill Woelfer. 2017. Homeless Young People, Jobs, and a Future Vision: Community Members' Perceptions of the Job Co-op. In *Proceedings of the 8th International Conference on Communities and Technologies* (C&T '17), ACM, New York, NY, USA, 22–31. DOI:<https://doi.org/10.1145/3083671.3083680>

[24] Julie Hui, Kentaro Toyama, Joyojeet Pal, and Tawanna Dillahunt. 2018. Making a Living My Way: Necessity-driven Entrepreneurship in Resource-Constrained Communities. *Proc. ACM Hum.-Comput. Interact.* 2, CSCW (November 2018), 71:1-71:24. DOI:<https://doi.org/10.1145/3274340>

[25] Julie Hui, Kentaro Toyama, Joyojeet Pal, and Tawanna Dillahunt. 2018. Making a Living My Way: Necessity-driven Entrepreneurship in Resource-Constrained Communities. *Proc. ACM Hum.-Comput. Interact.* 2, CSCW (November 2018), 71:1-71:24. DOI:<https://doi.org/10.1145/3274340>

[26] Anthony Abraham Jack. 2019. *The privileged poor: How elite colleges are failing disadvantaged students*. Harvard University Press.

[27] Shamus Rahman Khan. 2010. *Privilege: The Making of an Adolescent Elite at St. Paul's School*. Princeton University Press.

[28] Sharon Koppman. 2016. Different Like Me: Why Cultural Omnivores Get Creative Jobs. *Administrative Science Quarterly* 61, 2 (June 2016), 291–331. DOI:<https://doi.org/10.1177/0001839215616840>

[29] Michèle Lamont. 1992. *Money, morals, and manners: The culture of the French and the American upper-middle class*. University of Chicago Press.

[30] Michèle Lamont. 2009. *How professors think: inside the curious world of academic judgment*. Harvard University Press, Cambridge, Mass.

[31] Annette Lareau. 2003. *Unequal Childhoods: Class, Race, and Family Life*. University of California Press.

[32] Christopher A Le Dantec and W Keith Edwards. 2008. Designs on dignity: perceptions of technology among the homeless. 627–636.

[33] Christopher A Le Dantec and W Keith Edwards. 2008. The view from the trenches: Organization, power, and technology at two nonprofit homeless outreach centers. 589–598.

[34] Christopher A Le Dantec, Robert G Farrell, Jim E Christensen, Mark Bailey, Jason B Ellis, Wendy A Kellogg, and W Keith Edwards. 2011. Publics in practice: Ubiquitous computing at a shelter for homeless mothers. 1687–1696.

- [35] Robert L. Leitheiser. 1992. MIS Skills for the 1990s: A Survey of MIS Managers' Perceptions. *Journal of Management Information Systems* 9, 1 (June 1992), 69–91. DOI:<https://doi.org/10.1080/07421222.1992.11517948>
- [36] Linfeng Li, Tawanna R. Dillahunt, and Tanya Rosenblat. 2019. Does Driving as a Form of "Gig Work" Mitigate Low-Skilled Job Seekers' Negative Long-Term Unemployment Effects? *Proc. ACM Hum.-Comput. Interact.* 3, CSCW (November 2019), 156:1–156:16. DOI:<https://doi.org/10.1145/3359258>
- [37] Miller McPherson, Lynn Smith-Lovin, and James M Cook. 2001. Birds of a Feather: Homophily in Social Networks. *Annual Review of Sociology* 27, 1 (2001), 415–444. DOI:<https://doi.org/10.1146/annurev.soc.27.1.415>
- [38] Microsoft. 2020. Global Diversity and Inclusion Report at Microsoft. Retrieved August 11, 2021 from <https://www.microsoft.com/en-us/diversity/inside-microsoft/default.aspx>
- [39] Sherry B Ortner. 2003. *New Jersey Dreaming*. Duke University Press.
- [40] Kim Parker and Cary Funk. 2017. How bad is gender discrimination in tech? Men, women disagree. *Pew Research Center*. Retrieved August 24, 2021 from <https://www.pewresearch.org/fact-tank/2017/10/10/women-are-more-concerned-than-men-about-gender-discrimination-in-tech-industry/>
- [41] Julie R Posselt. 2016. *Inside graduate admissions*. Harvard University Press.
- [42] Kate Power. 2020. The COVID-19 pandemic has increased the care burden of women and families. *Sustainability: Science, Practice and Policy* 16, 1 (2020), 67–73.
- [43] Shamus Rahman Khan. 2012. The sociology of elites. *Annual Review of Sociology* 38, (2012), 361–377.
- [44] Victor Ray. 2019. A Theory of Racialized Organizations. *Am Sociol Rev* 84, 1 (February 2019), 26–53. DOI:<https://doi.org/10.1177/0003122418822335>
- [45] Lauren A. Rivera. 2012. Diversity within Reach: Recruitment versus Hiring in Elite Firms. *The ANNALS of the American Academy of Political and Social Science* 639, 1 (January 2012), 71–90. DOI:<https://doi.org/10.1177/0002716211421112>
- [46] Lauren A. Rivera. 2016. *Pedigree: How Elite Students Get Elite Jobs*. Princeton University Press.
- [47] Nicole M. Stephens, Hazel Rose Markus, and L. Taylor Phillips. 2014. Social Class Culture Cycles: How Three Gateway Contexts Shape Selves and Fuel Inequality. *Annual Review of Psychology* 65, 1 (2014), 611–634. DOI:<https://doi.org/10.1146/annurev-psych-010213-115143>
- [48] Natasha K Warikoo. 2016. *The diversity bargain*. University of Chicago press.
- [49] Ernest Wheeler and Tawanna R. Dillahunt. 2018. Navigating the Job Search As a Low-Resourced Job Seeker. In *Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems* (CHI '18), ACM, New York, NY, USA, 48:1–48:10. DOI:<https://doi.org/10.1145/3173574.3173622>
- [50] Ernest Wheeler and Tawanna R. Dillahunt. 2018. Navigating the Job Search As a Low-Resourced Job Seeker. In *Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems* (CHI '18), ACM, New York, NY, USA, 48:1–48:10. DOI:<https://doi.org/10.1145/3173574.3173622>
- [51] Paul Willis. 1978. *Learning to labour: How working class kids get working class jobs*. Routledge.
- [52] Jill Palzkill Woelfer and David G Hendry. 2010. Homeless young people's experiences with information systems: life and work in a community technology center. ACM, 1291–1300.
- [53] Jill Palzkill Woelfer and David G. Hendry. 2012. Homeless Young People on Social Network Sites. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems* (CHI '12), ACM, New York, NY, USA, 2825–2834. DOI:<https://doi.org/10.1145/2207676.2208686>
- [54] Sarita Yardi and Amy Bruckman. 2012. Income, race, and class: exploring socioeconomic differences in family technology use. ACM, 3041–3050.

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