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Abstract

The CS education research community has increasingly embraced researcher positionality as an important aspect influencing our research. However, how CS educators' positionality impacts pedagogical choices is less known. In the U.S., where this study takes place, Black, Latine, Native, and Pacific Islander people are even less represented among CS faculty than among CS students in higher education. Recent work documents the benefits of culturally-relevant pedagogies in CS and strategies for implementation at the higher education level. This study investigates how CS faculty's racial/ethnic identity impacts their use of these pedagogical strategies that leverage students' culture. We interviewed 21 CS faculty at Hispanic-Serving Institutions in the U.S., five of whom identified as Latine, and report findings of a phenomenographic analysis, including benefits of Latine identity alignment, and strategies of non-Latine faculty to achieve cultural competence.

CCS Concepts

- Social and professional topics → Computer science education; Race and ethnicity.

Keywords

Latine, Latinx, Latina, Latino, culturally relevant education, Hispanic Serving Institutions, Minority Serving Institution

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1 Introduction

Racialized hierarchies dictating power and privilege persist in CS education research and practice [29, 30, 45], and are also reflected outside of CS as many higher education institutions continue to re-inforce white supremacy [5]. Efforts to confront these inequities in our field include targeted pedagogical interventions that leverage students' culture drawing on strategies from the broader education literature (e.g., Culturally-Relevant Education [21, 23]), as well as professional development programs for CS educators to develop cultural competence [1, 45]. Several works have also highlighted the importance of researcher positionality in conducting CS education research with and for individuals from marginalized groups [14, 28]. However, to our knowledge, CS education research has yet to uncover how the positionality of CS faculty impacts their willingness and approach to adopting these strategies, especially at the higher education level where documentation of the use of these strategies at all is still lacking.

To address this gap in the literature, we conducted semi-structured interviews with 21 CS faculty at U.S. institutions with high representation of Latine students. We asked about their self-identified race and ethnicity, whether this impacted their ability to leverage students' culture in the classroom and if so, how. In this paper, we report findings of a phenomenographic analysis to answer the following research question: *How does the racial/ethnic identity of CS faculty affect their incorporation of culture in the classroom?*

2 Related Works

2.1 CRC in CS Education

Culturally Relevant Computing (CRC) is grounded in Culturally Relevant Pedagogy, developed by Ladson-Billings to support African American students [19]. This framework emphasizes three key principles: 1) all students should achieve academic success regardless



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of identity factors, 2) students should develop cultural competence by valuing diverse beliefs and practices, and 3) students should cultivate sociopolitical awareness to critique societal inequities. These principles have been widely applied in K-12 CS education.

Literature reviews on CRC in K-12 highlights its implementation and impact [20, 21, 25]. Strategies include incorporating social justice topics, connecting material to students' lived experiences, and linking coursework to their communities. CRC has been shown to enhance computing comprehension, increase engagement, and foster interest in the field. A review of U.S. Latines in computing further highlighted its implementation for this demographic [42].

2.2 U.S. Latine Students in CS

Villegas Molina et al. conducted a literature review to examine the existing body of work on U.S. Latines in computing [42]. As part of their analysis, they explored pedagogies specifically employed for Latine classrooms, finding that CRC is the most commonly studied approach for this population [42]. CRC implementation covered several key themes, including bilingual education [13, 33, 43, 44, 46], culturally-relevant topics [2, 10, 33, 37], social justice [2, 9, 33, 37], family-based approaches [8, 9, 46], and community involvement [9].

It was found that CRC positively impacted Latine students in several ways, including increased interest in computing [10, 13, 46], greater engagement [8, 33, 43], improved confidence [13, 46], enhanced social value placed on computing [2, 13], better comprehension of computing concepts [33], higher motivation [2], and greater awareness of computing opportunities [8]. Given these benefits, our goal is to explore how these techniques are implemented in higher education at Hispanic-serving Institutions—building on past literature [40, 41]. More specifically, we would like to see how the self-identified race/ethnicity of faculty at these institutions may impact their implementation of this pedagogical practice.

3 Theoretical Framework

We apply Bourdieu's sociological framework of **habitus**, **field**, and **capital** [26] to examine if a professor's self-identified race/ethnicity plays an effect in incorporating culture into their CS classrooms.

Habitus refers to the ingrained dispositions and worldviews shaped by an individual's social background and experiences. In our context, professors' teaching philosophies and instructional decisions are influenced by their educational backgrounds, professional training, personal experiences with computing education—and by their race/ethnicity. **Field** represents the structured social space in which individuals operate, which, in this case, is the higher education computing environment at Hispanic-Serving Institutions. Each HSI exists within a broader academic and institutional landscape that shapes faculty decisions, including departmental policies, funding structures, and prevailing pedagogical norms. The computing field has historically advantaged students with prior exposure to computing, access to industry networks, and alignment with dominant cultural norms (known as the "dominant habitus"). We argue that the underrepresentation of U.S. Latines in computing staff and students [47], relative to their overall presence in the U.S. population, demonstrates the field's lack of equity. **Capital** refers to the forms of power an individual holds—whether economic, cultural, social, or symbolic—that influence their ability to implement culturally relevant pedagogies. Professors with cultural and social

capital, such as prior exposure to CRC, institutional support, or peer networks that advocate for inclusive pedagogy, may be more inclined to integrate these practices. Conversely, those lacking such capital—due to limited professional development opportunities or departmental resistance—may hesitate or struggle to adopt CRP, particularly given the shifting political climate of 2025.

Our study of HSI faculty members seeks to uncover how these factors interact—specifically how a professor's habitus and cultural/social capital could play a role in implementing culturally-relevant frameworks in their computing classroom. While this framework has been used to examine cultural integration in computing classrooms [15] and inequalities in computer science participation more broadly [17], it has yet to be applied (to our knowledge) to the higher education computing context.

4 Positionality Statement

Recognizing researcher positionality is crucial for making transparent our perspective in data collection and analysis [12, 24, 34], particularly in computing research [14]. Our U.S.-based team represents a diversity of racial and ethnic identities, including Latine, Black, White, and South Asian, as well as a mix of men and women. As the interview conversations in this study dealt directly with racial dynamics, the first two authors sought relevant professional development training on cultural competence in computing. Several members of the research team also have lived experience of identities underrepresented in computing, and/or have engaged in efforts focused on diversity, equity, and inclusion.

5 Study Design

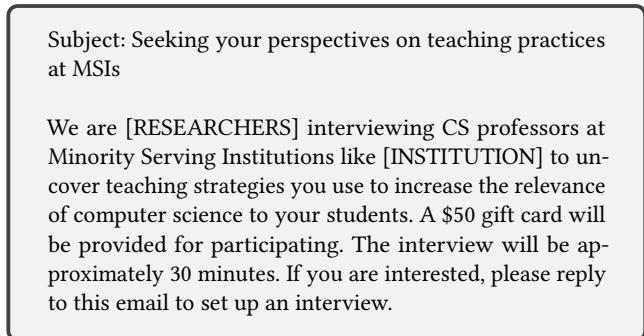
This section describes our research protocol, including our methodology for data collection and analysis. This protocol was approved as Human Subjects research in accordance with our Institutional Review Board (protocol #809198).

5.1 Data Collection

We began this work with the speculation that although there was little documentation of implementing culturally-relevant practices in CS at the higher education level, there were likely still CS faculty who attempted to leverage or incorporate students' culture in the classroom—especially at institutions where a large portion of students are from a racial or ethnic group historically underrepresented in CS (e.g., Black, Latine, Indigenous, and Pacific Islander). In the U.S., universities with one of the racial or ethnic categories above accounting for at least a certain percentage of their student body are classified as *Minority-Serving Institutions (MSIs)*, with specific classifications for each category (e.g., those with at least 25% Hispanic students are classified as *Hispanic-Serving Institutions (HSIs)*).

We recruited HSI faculty via emails sent in Spring 2024 (see Figure 1) to all 113 of the addresses in the publicly available database for the Computing Alliance of Hispanic Serving Institutions (CAHSI). Of these, 32 responded to our email (31% response rate), and 22 opted to schedule an interview. One individual did not attend their scheduled interview, leaving a final sample of 21.

Interviews were conducted remotely in Spring-Summer 2024, and all participants consented to having both audio and video

Figure 1: Recruitment Email**Figure 2: Semi-structured interview protocol**

- Could you confirm you teach at an HSI?
- Without needing an exact statistic, is there a similar representation in the computing courses as it is seen across the HSI?
- Do you incorporate the culture(s) of the students into your CS course materials (slides, assignments, examples, exercises, readings, etc.)?
- (Provide a review of existing CRC techniques) Do you have any thoughts on these techniques, positive or negative? Do you use or refrain from using any of these?
- Since we're focusing on HSIs which focuses on a racial/ethnic culture, do you feel comfortable sharing your self-identified race/ethnicity? And how does this affect your implementation of culture in the classroom?

recorded. They were each led by one of the first two authors, who followed a semi-structured interview protocol shown in Figure 2. Often several of the first four authors were in attendance, all taking individual notes and asking follow-up questions as needed. As race, ethnicity, and culture were the overarching themes in all our interview questions, participants often self-disclosed their own identities for these categories naturally as part of our discussion. However, we additionally asked them explicitly how they self-identified their race or ethnicity, and how they thought this impacted their use of culture in the classroom. Participant demographics including institution type and whether they self-identified as Latine are summarized in Table 1.

5.2 Data Analysis

All 21 interviews were transcribed automatically using Zoom¹, then manually cleaned by the third and fourth authors using the recorded audio as reference. With little prior work on how faculty positionality may impact the use of culture in CS, we employed phenomenography to capture the breadth of experiences [18, 38]. Following Tenenberg, a thorough description of our procedure follows and serves as a measure of reliability [38].

The first four authors first familiarized themselves with all transcripts and selected a subset of three (approximately 14% of our

Table 1: Participant Demographics

Instructor ID	Latine or Non-Latine	Institution Type
NL1	Non-Latine	Private, 4-year
NL2	Non-Latine	Public, 2-year
NL3	Non-Latine	Public, 4-year
NL4	Non-Latine	Public, 2-year
NL5	Non-Latine	Public, 4-year
L1	Latine	Public, 4-year
NL6	Non-Latine	Public, 4-year
L2	Latine	Public, 4-year
L3	Latine	Public, 4-year
L4	Latine	Public, 4-year
L5	Latine	Public, 4-year
NL7	Non-Latine	Public, 2-year
NL8	Non-Latine	Public, 4-year
NL9	Non-Latine	Public, 4-year
NL10	Non-Latine	Public, 4-year
NL11	Non-Latine	Public, 2-year
NL12	Non-Latine	Public, 4-year
NL13	Non-Latine	Public, 4-year
NL14	Non-Latine	Public, 4-year
NL15	Non-Latine	Private, 4-year
NL16	Non-Latine	Public, 4-year

total dataset) that represented diverse perspectives. The team individually analyzed all three of these transcripts, which included pulling out quotes that were relevant to answering our research question, assigning codes to each quote (or each phrase within longer quotes), and compiling a “codebook” listing all codes along with a description and corresponding example quotes. Once completed, we conducted a synchronous meeting comparing our results, including which quotes were relevant to our research question and corresponding codes. This resulted in one shared codebook encompassing all of the codes encountered so far. We then divided the remaining transcripts (4-5 per researcher) for individual coding, adding new codes as necessary. Finally, we came back together in a synchronous meeting to finalize our codebook. We discussed as a group any individual quotes that we were unsure of, along with all new codes added to the codebook to ensure that the use of all codes was consistently applied by the individual researchers.

For the final phase, we discussed how to further classify these codes into larger categories with thematic analysis [6]. One researcher noted that the codes we identified were used differently to answer our research question depending on whether they were examples of how race did or did not have an effect on pedagogical decisions. For example, quotes that we coded as ‘discomfort’ represented faculty expressing that their self-identified race or ethnicity had a *negative effect* on their use of culture in the classroom *due to* their discomfort. Thus, we decided to apply this categorization to all of our individual codes depending on whether they contributed a *positive effect*, *negative effect*, or *no effect* to faculty’s incorporation of culture in their pedagogy. Finally, the first author grouped individual codes into broader themes, refining them based on feedback from the second, third, and fourth authors.

¹<https://www.zoom.com/>

5.3 Use of “Hispanic” vs. “Latine” Categories

The US government uses the classification of “Hispanic” to designate HSI institutions. However, we chose to categorize our study participants for our data analysis as “Latine” vs. “Non-Latine” identifying. This decision was informed by the social context of Hispanic classifications used to group people based on language (i.e., Spanish), and therefore excludes Brazil, a Portuguese-speaking country in Latin America. The term Hispanic also ends up including Spain, the colonizer of all other Latin American countries (e.g., Mexico, Colombia, Ecuador). Instead, we follow works [16, 31] using the term Latine to refer to people of Latin American descent, and not including people from Spain or Portugal.

6 Results

We present our analysis of how the race/ethnicity of CS educators at HSIs affects the incorporation cultural elements into their curricula.

Table 2 presents the key themes identified through our thematic analysis, along with the corresponding codes within each theme. The table categorizes codes based on their positive, negative, or neutral impact on implementing cultural relevance in CS education. For each theme, we provide a detailed breakdown of the associated codes and their contextual meanings. Where applicable, we include direct quotes to highlight nuanced perspectives. All participant quotes are anonymized using the identifiers listed in Table 1.

6.1 Personal Connection

Build Rapport: Sharing a common cultural background builds trust and connection—a positive effect

Language Alignment: Speaking Spanish with students facilitates connection—a positive effect. “*I’d be [...] attractive to the students that are Latino, just because of the language barrier is lower.*” - L5

Mentorship: Due to their cultural alignment, mentorship becomes a natural avenue for that professional relationship—leading to a positive effect.

Approachability: Students feel more comfortable approaching them for help due to cultural alignment. “*I had the opportunity to spend more time with them outside classroom, and that they are Hispanics as well. It helps them to connect and express their barriers and ask for advice.*” - L4

Same Cultural Upbringing: Having same cultural upbringing as their students has a positive effect on implementation of culture.

6.2 Context Dependent

Less Significant in Majority Contexts: Positionality becomes less noticeable when they belong to the majority group—leading to no effect. “*Unless I am talking like I am talking with you right now we’re making like explicit the topic of teaching in a [HSI], I don’t normally think about it.*” - L5

Students May Not Notice: Students may not notice their cultural alignment, and this might have no effect on the interaction. “*Do you recognize that I’m Hispanic? ... my background is Spanish. So, it’s from my mom’s side. So ... I guess, mixed so with that, it doesn’t necessarily come across.*” - NL9

Diversity Within Latine Cultures: Latine instructors can more easily relate to students who are from the same country as them, not necessarily all Latine students—especially those who have been in the U.S. for several more generations than them. “*So here in [STATE],*

the Hispanic population is bigger for Puerto Ricans and Dominicans and a little bit less for Mexicans different than [STATE].” - L2

6.3 Extra Effort

Uses Informants: Due to relying on knowledgeable insiders from a cultural group helps, this has a negative effect from professor race/ethnicity. “*Very hard for me to come up with exact things that I think are gonna be compelling to the people in the in-group. We need, you need informants.*” - NL8

Learning Curve: Because they’re not part of that culture, there is a learning curve in knowing more about that culture to implement in the classroom—a negative effect from professor race/ethnicity. “*Yeah, because there’s definitely a learning curve, right? Like, I’m coming from a very different background and perspective. So there is some effort that is involved in identifying and addressing the needs of students who are from a different cultural background.*” - NL10

6.4 Out-Group Barriers

Discomfort: Because they’re in the out-group, they feel uncomfortable using culture in their materials. “*You know, I don’t feel super comfortable when I take something that I think is -. Because I feel like it’s like cultural tourism. So I’m just going to stop.*” - NL12

Missed Point of Connection: Professors feel like they cannot relate to students based on their cultural background—leading to a negative effect. “*If I was Hispanic, I’d be like a represented, you know, I could relate to them in that way you know, their culture. But yeah, I’m not of that culture, so I do realize that.*” - NL7

Language Barrier: Not speaking Spanish is a barrier—leading to a negative effect. “*I don’t speak Spanish. I do have colleagues and staff that speak Spanish. At times, if there is a student who is extremely new and transferring into the university, I will call upon a colleague to translate Spanish.*” NL14

Out-group Difficulty Making Connections: Being part of the out-group makes it hard to implement culture in the classroom, to the point of giving up/being too overwhelmed to try. “*So it’s as someone who’s from the out-group or not part of the in-group. Let’s put it that way. Very hard for me to come up with exact things*” - NL8

Positionality of Authors: Professor from the out-group would hypothetically feel more comfortable using materials created by someone in the in-group—therefore making their race/ethnicity misalignment a negative effect. “*Also, I myself am not Hispanic, and so forth. It would be kind of presumptuous of me to try to do something like that, if I had developed the slides, or something with a student of a Hispanic background [...] I would work on that.*” - NL14

6.5 Race Not a Factor

Not a Huge Part of Me: Professor mentions their race/ethnicity is not a huge part of their identity—thereby citing no effect. “[...] I thought, that that’s a not huge part of me so that’s why I wasn’t I. I tried it, but I wasn’t super excited about culturally responsive [...] I didn’t utilize much of it, but when I started working on socially responsible computing, it clicked me a lot better [...] - NL5

Common Interests: Professors state common interests could be even more salient than racial alignment—meaning race/ethnicity plays no effect. “*For example, I like music, some of them like music, they can approach me about that.*” - L5

Table 2: Counts and percentages of interviewees on how their self-identified race/ethnicity played a role in implementing culturally relevant pedagogies for each code within themes. Across Non-Latine identifying instructors (NL), Latine identifying instructors (L), and total.

Theme	Code	Effect	NL # (%)	L # (%)	Total Count (%)
Personal Connection	Build Rapport	Positive	1 (6.25%)	3 (60.0%)	4 (19.05%)
	Approachability	Positive	0 (0.0%)	2 (40.0%)	2 (9.52%)
	Same Cultural Upbringing	Positive	0 (0.0%)	2 (40.0%)	2 (9.52%)
	Language Alignment	Positive	0 (0.0%)	1 (20.0%)	1 (4.76%)
	Mentorship	Positive	0 (0.0%)	1 (20.0%)	1 (4.76%)
Context Dependent	Less Significant In Majority Contexts	None	0 (0.0%)	2 (40.0%)	2 (9.52%)
	Students May Not Notice	None	1 (6.25%)	0 (0.0%)	1 (4.76%)
	Diversity Within Latine Cultures	None	0 (0.0%)	1 (20.0%)	1 (4.76%)
Extra Effort	Learning Curve	Negative	4 (25.0%)	0 (0.0%)	4 (19.05%)
	Uses Informants	Negative	1 (6.25%)	0 (0.0%)	1 (4.76%)
Out-Group Barriers	Out-Group Difficulty Making Connections	Negative	4 (25.0%)	0 (0.0%)	4 (19.05%)
	Language Barrier	Negative	3 (18.75%)	0 (0.0%)	3 (14.29%)
	Positionality Of Authors	Negative	2 (12.5%)	0 (0.0%)	2 (9.52%)
	Discomfort	Negative	1 (6.25%)	0 (0.0%)	1 (4.76%)
	Missed Point Of Connection	Negative	1 (6.25%)	0 (0.0%)	1 (4.76%)
Race Not A Factor	Common Interests	None	1 (6.25%)	1 (20.0%)	2 (9.52%)
	No Alignment No Implementation Impact	None	2 (12.5%)	0 (0.0%)	2 (9.52%)
	Not A Huge Part Of Me	None	1 (6.25%)	0 (0.0%)	1 (4.76%)
	Showing Students They Care	None	1 (6.25%)	0 (0.0%)	1 (4.76%)
Broader Definition Of Culture	Minority In Different Way	None	4 (25.0%)	0 (0.0%)	4 (19.05%)
	Gender Is As Significant Or More Than Race	None	1 (6.25%)	1 (20.0%)	2 (9.52%)
Environmental Factors	Common Life Experiences	None	4 (25.0%)	1 (20.0%)	5 (23.81%)
	Experience With Living Around Latine Culture	None	3 (18.75%)	0 (0.0%)	3 (14.29%)
	Easier Through Immersion	None	1 (6.25%)	0 (0.0%)	1 (4.76%)
	Other Professors Participate Too	None	0 (0.0%)	1 (20.0%)	1 (4.76%)

No Alignment, No Implementation Impact: Though they do not culturally align, it does not impact their implementation of culture in the classroom.

Showing Students They Care: Professors are able to show students they care about their culture despite not aligning with their identity—leading to no effect from professor race/ethnicity. “*I didn’t get to even understand the world of cultures until I went to college. Okay? And over the years I’ve developed an appreciation for all those different cultures. And so I think my students know that I care about that right? I care about their culture, their background*” - NL6

6.6 Broader Definition of Culture

Minority in a Different Way: They can relate to Latine students because they are a minorities in different aspects of their identity. “*I don’t think so, because I’m you know, just minority in a different way. I think that so I don’t think my ethnicity impacts that.*” - NL11

Gender is as or more Significant Than Race: Representation/alignment of gender identity is as significant or more than racial alignment—meaning race/ethnicity plays no effect. “*But I think more about the gender issue than the race issue, because it’s so homogenous.*” - L5

6.7 Environmental Factors

Easier than Immersion: Because they’re immersed in that culture, it is easier for them to learn and implement it in the classroom—meaning their race/ethnicity has no effect. “*I do have to work a lot more towards like understanding the needs, but I’m in an institution where I’m basically immersed in that. So it really helps.*” - NL10

Experience With Living Around Latine Culture: Living within the culture (e.g., marrying into a Latine family) is a source of cultural knowledge that helps them connect with students—meaning their own race/ethnicity does not effect. “*I don’t feel like, to be honest, you know a lot of my family is Hispanic. I feel very comfortable, for you know personally around Hispanics.*” - NL7

Other Professors Participate Too: Being Latine themselves does have some impact, but other non-Latine professors also participate in efforts to leverage culture in the department—leading to believing that race/ethnicity is not effecting. “*There are a lot of people here at the college who care about that. [...] We have a HSI committee where I co-founded [...] Most of them are Hispanics. But now in the committee, we have not Hispanics. They care about this. They are, they are, participating and doing activities and initiatives to help both students and faculty in the college, you know.*” - L8

Common Life Experiences: Professors draw on common life experiences outside of racial/ethnic identity to connect with students. “*I’m not really tied up on that. I am educated by heart [...] if anything, their hardship, and you know the stuff that I had to go through. I tried to make that at a smooth road for my students*” - NL4

7 Discussion

Latine faculty reported clear benefits when incorporating culturally relevant practices—an expected outcome given their shared habitus with Latine students—as we discuss below in Section 7.1. However, the focus the majority of our discussion in Section 7.2 is

on non-Latine faculty. Despite the advantages of racial and ethnic alignment, Latine faculty remain a small minority in computing [47]. Their success in leveraging culture is valuable but does not currently provide a scalable solution. Since non-Latine faculty make up the majority at HSIs [39], their active participation in culturally relevant pedagogies is essential—especially considering the positive effects found in the K-12 space with sustained, long-term cultural implementation [7, 11, 22, 27, 32]. If culturally relevant pedagogy is left solely to Latine faculty under the assumption that “I’m not Latine, so it’s not my place,” (“Also, I myself am not Hispanic, and so forth. It would be kind of presumptuous of me to try to do something like that” - NL14) this disproportionately burdens an already minoritized group. Instead, it is necessary to explore how non-Latine faculty navigate cultural incorporation and what strategies can support their engagement with Latine students.

7.1 Benefits of Aligned Latine/Hispanic Identity

Latine faculty accounted for all the data reporting positive effects, except for one non-Latine professor who also reported their identity helped build rapport with students. Importantly, this interviewee identified as Hispanic, but not Latine. This suggests cultural alignment, rather than strict racial/ethnic categorization, plays a role in fostering rapport with students. The concept of habitus explains this effect—Latine faculty naturally share cultural capital with Latine students, making it easier to build rapport, foster approachability, and create a culturally resonant learning environment.

Interestingly, while Latine and Hispanic faculty recognized the advantages of their identity, they also articulated its limitations. For example, all responses coded as “Context Dependent” came from Hispanic or Latine faculty, including one Hispanic non-Latine professor who noted that students may not always recognize their shared identity. However, no Latine faculty reported that their race or ethnicity negatively impacted their ability to incorporate culture into their teaching.

7.2 Implications for CS Educators

Given the underrepresentation of Latine faculty in CS [47], understanding how non-Latine faculty perceive their ability to incorporate culture is critical. All instances where race/ethnicity was cited as a barrier came from non-Latine faculty. These responses fell into two themes: 1) “Out-Group Barriers,” where faculty felt their identity prevented cultural integration, and 2) “Extra Effort,” where faculty recognized the need for additional work to incorporate culture effectively. One example of this effort was seeking guidance from cultural informants—individuals with Latine habitus—who could provide insights on integrating culture into computing education. However, concerns about placing excessive labor on Latine students and staff highlight the need for proper compensation and institutional support for these contributions.

Despite these challenges, many non-Latine faculty identified strategies that helped them engage with Latine culture. The theme “Easier Through Immersion” captured cases where faculty mitigated identity barriers by engaging directly with Latine communities. The most frequently mentioned theme overall, “Common Upbringing,” showed that both Latine and non-Latine faculty drew on shared life experiences (e.g., first-generation status, immigration status)

to connect with students. This aligns with social science research on racial identity, which suggests that those from dominant racial groups can find alternative ways to empathize with marginalized communities [36].

Therefore, we emphasize that this study should not be interpreted as evidence that only professors who are the same race/ethnicity can effectively leverage students’ culture: on the contrary, we intend for these results to reflect the variety of experiences of non-Latine professors—including strategies they reported to help mitigate the barriers associated with lacking lived experience of being Latine. This is supported by decades of research on multicultural education and pedagogical strategies for leveraging cultural knowledge from diverse students, which tells us that while shared identities are an asset that can be drawn upon, these pedagogies can and should be learned and effectively executed regardless of race [3, 19, 23]. As will be the case with the large cultural shifts necessary to achieve racial equity outside of CS education, the adoption of strategies in CS classrooms that leverage the cultures of students from marginalized racial and ethnic groups will *require* those in the privileged position (e.g., white faculty) who currently benefit from the status quo to intentionally change their behavior: to reflect on how race impacts their own experience and that of their students in CS (e.g. confronting prior beliefs in Section 6.5 including color-blindness [4, 45]), expend the additional effort necessary to become culturally competent [45] (e.g., Section 6.3), move through difficulties and discomfort (e.g., Section 6.4), support colleagues whose lived experience can be a resource to students with aligned identities (e.g., Section 6.1), and stand strong in the face of pushback that will inevitably arise [5, 35].

8 Conclusion

In this study, we interviewed 21 CS faculty at Hispanic-serving Institutions about how their own self-identified race or ethnicity impacts their incorporation of students’ culture in the classroom. Major contributions include the following: 1) 25 unique codes capturing how CS faculty described their race or ethnicity impacting their ability to leverage culture in the classroom, organized into seven larger themes, 2) Five ways that Hispanic and Latine professors reported that their aligned race or ethnicity had a positive impact on leveraging students’ culture (e.g., mentorship, approachability), and 3) Five ways that non-Latine faculty described their race or ethnicity as a barrier to leveraging students’ culture, and two additional ways that non-Latine faculty described expending extra effort in order to mitigate these barriers. As current best practices for broadening participation in computing, drawing on decades of education literature, include leveraging students’ cultural knowledge in diverse classrooms, these findings have profound implications in our field where lack of racial and ethnic diversity among both students and faculty continue.

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References

- [1] [n. d.]. Cultural Competence in Computing (3C) Fellows. <https://identity.cs.duke.edu/fellows.html>
- [2] Monika Akbar et al. 2019. Sol y Agua: A Game-based Learning Platform to Engage Middle-school Students in STEM. *Proceedings - Frontiers in Education Conference, FIE* (2019). <https://doi.org/10.1109/FIE.2018.8659071>
- [3] James A. Banks and Cherry A. McGee Banks. 2019. *Multicultural Education: Issues and Perspectives*. John Wiley & Sons. Google-Books-ID: ceGyDwAAQBAJ.
- [4] Eduardo Bonilla-Silva. 2021. *Racism without Racists: Color-Blind Racism and the Persistence of Racial Inequality in America*. Rowman & Littlefield. Google-Books-ID: KcFFEAAQBAJ.
- [5] Eduardo Bonilla-Silva and Crystal E. Peoples. 2022. Historically White Colleges and Universities: The Unbearable Whiteness of (Most) Colleges and Universities in America. *American Behavioral Scientist* 66, 11 (Oct. 2022), 1490–1504. <https://doi.org/10.1177/00027642211066047> Publisher: SAGE Publications Inc.
- [6] Virginia Braun and Victoria Clarke. 2012. *Thematic analysis*. APA.
- [7] James Davis, Michael Lachney, Zoe Zatz, William Babbitt, and Ron Egash. 2019. A cultural computing curriculum. In *Proceedings of the 50th ACM Technical Symposium on Computer Science Education*. 1171–1175.
- [8] Maureen Doyle, Kevin G. Kirby, and Gary Newell. 2008. Engaging constructions: Family-based computing experiences for immigrant middle school students. *SIGCSE'08 - Proceedings of the 39th ACM Technical Symposium on Computer Science Education* (2008), 58–62. <https://doi.org/10.1145/1352135.1352158>
- [9] Sheena Erete, Karla Thomas, Denise Nacu, Jessa Dickinson, Naomi Thompson, and Nichole Pinkard. 2021. Applying a Transformative Justice Approach to Encourage the Participation of Black and Latina Girls in Computing. *ACM Transactions on Computing Education* 21 (2021). <https://doi.org/10.1145/3451345>
- [10] Diana Franklin, Phillip Conrad, Gerardo Aldana, and Sarah Hough. 2011. Animal tlatoque: Attracting middle school students to computing through culturally-relevant themes. *SIGCSE'11 - Proceedings of the 42nd ACM Technical Symposium on Computer Science Education* (2011). <https://doi.org/10.1145/1953163.1953295>
- [11] Diana Franklin, David Weintrop, Jennifer Palmer, et al. 2020. Scratch Encore: The design and pilot of a culturally-relevant intermediate Scratch curriculum. In *Proceedings of the 51st ACM technical symposium on computer science education*.
- [12] Hana Frluckaj, Laura Dabbish, David Gray Widder, Huilian Sophie Qiu, and James D Herbsleb. 2022. Gender and participation in open source software development. *Proceedings of the ACM on Human-Computer Interaction* 6 (2022).
- [13] Leiny Y. Garcia, Miranda C. Parker, Santiago Ojeda-Ramirez, and Mark Warschauer. 2023. Confidence is the Key: Unlocking Predictive Factors of Latinx Elementary Students on a Computational Thinking Measure. *SIGCSE 2023 - Proceedings of the 54th ACM Technical Symposium on Computer Science Education* 1 (3 2023), 326–332. Issue 7. <https://doi.org/10.1145/3545945.3569856>
- [14] Aleata Hubbard Cheououa. 2021. Confronting inequities in computer science education: A case for critical theory. In *Proceedings of the 52nd ACM Technical Symposium on Computer Science Education*. 425–430.
- [15] Yujeong Hwang, Anjali Das, Jane Waite, and Sue Sentance. 2023. Using a sociological lens to investigate computing teachers' culturally responsive classroom practices. In *Proceedings of the 2023 ACM Conference on International Computing Education Research-Volume 1*. 206–221.
- [16] Natalia Jaimes, Virginia Londono, and Allan C Halpern. 2013. The term Hispanic/Latino: A note of caution. *JAMA dermatology* 149, 3 (2013), 274–275.
- [17] Maria Kallia and Quintin Cutts. 2021. Re-examining inequalities in computer science participation from a Bourdieusian sociological perspective. In *Proceedings of the 17th ACM Conference on International Computing Education Research*.
- [18] Paivi Kinnunen and Beth Simon. 2012. Phenomenography and grounded theory as research methods in computing education research field. *Computer Science Education* 22, 2 (2012), 199–218.
- [19] Gloria Ladson-Billings. 1995. But that's just good teaching!: The case for culturally relevant pedagogy. *Theory into Practice* 34, 3 (1995), 159–165.
- [20] Hayley C Leonard and Sue Sentance. 2021. Culturally-relevant and responsive pedagogy in computing: A Quick Scoping Review. *International Journal of Computer Science Education in Schools* 5, 2 (2021), 3–13.
- [21] Tia C Madkins, Alexis Martin, Jean Ryoo, Kimberly A Scott, Joanna Goode, Allison Scott, and Frieda McAlear. 2019. Culturally relevant computer science pedagogy: From theory to practice. In *2019 research on equity and sustained participation in engineering, computing, and technology (RESPECT)*. IEEE, 1–4.
- [22] Steven McGee, Randi McGee-Tekula, Jennifer Duck, et al. 2018. Equal outcomes 4 all: A study of student learning in ECS. In *Proceedings of the 49th ACM technical symposium on computer science education*.
- [23] Marlon Mejias, Ketly Jean-Pierre, Legand Burge, and Gloria Washington. 2018. Culturally relevant cs pedagogy-theory & practice. In *2018 Research on Equity and Sustained Participation in Engineering, Computing, and Technology (RESPECT)*.
- [24] H Richard Milner IV. 2007. Race, culture, and researcher positivity: Working through dangers seen, unseen, and unforeseen. *Educational researcher* (2007).
- [25] Jessica Morales-Chicas, Mauricio Castillo, Ireri Bernal, Paloma Ramos, and Bianca L Guzman. 2019. Computing with relevance and purpose: A review of culturally relevant education in computing. *International Journal of Multicultural Education* 21, 1 (2019), 125–155.
- [26] Roy Nash. 1990. Bourdieu on education and social and cultural reproduction. *British journal of sociology of education* 11, 4 (1990), 431–447.
- [27] Mohammed A Qazi, Jeff Gray, David M Shannon, et al. 2020. A state-wide effort to provide access to authentic computer science education to underrepresented populations. In *Proceedings of the 51st ACM Technical Symposium on Computer Science Education*. 241–246.
- [28] Yolanda A. Rankin and Nyshia Baker. 2025. Sister Circles: An Intersectional Method in Computing Education. In *Proceedings of the 56th ACM Technical Symposium on Computer Science Education* V. 1. ACM, Pittsburgh PA USA, 966–972. <https://doi.org/10.1145/3641554.3701944>
- [29] Yolanda A. Rankin, Jakita O. Thomas, and Sheena Erete. 2021. Black Women Speak: Examining Power, Privilege, and Identity in CS Education. *ACM Transactions on Computing Education* 21, 4 (Dec. 2021), 1–31. <https://doi.org/10.1145/3451344>
- [30] Yolanda A. Rankin, Jakita O. Thomas, and Sheena Erete. 2021. Real Talk: Saturated Sites of Violence in CS Education. In *Proceedings of the 52nd ACM Technical Symposium on Computer Science Education*. ACM, Virtual Event USA, 802–808. <https://doi.org/10.1145/3408877.3432432>
- [31] Ruben G Rumbaut. 2006. *The making of a people*. Vol. 2006. National Academies Press Washington, DC.
- [32] Jean J Ryoo. 2019. Pedagogy that supports computer science for all. *ACM Transactions on Computing Education (TOCE)* 19, 4 (2019), 1–23.
- [33] Jean J. Ryoo, Alicia Morris, and Jane Margolis. 2021. "What Happens to the Raspado man in a Cash-free Society?": Teaching and Learning Socially Responsible Computing. *ACM Transactions on Computing Education* 21 (12 2021). Issue 4. <https://doi.org/10.1145/3453653>
- [34] Ali Akbar Septiandri, Marios Constantinides, Mohammad Tahaei, and Daniele Quercia. 2023. WEIRD FAccTs: How Western, Educated, Industrialized, Rich, and Democratic is FAccT? In *Proceedings of the 2023 ACM Conference on Fairness, Accountability, and Transparency*. 160–171.
- [35] Christine E. Sleeter. 2012. Confronting the Marginalization of Culturally Responsive Pedagogy. *Urban Education* 47, 3 (May 2012), 562–584. <https://doi.org/10.1177/0042085911431472> Publisher: SAGE Publications Inc.
- [36] Beverly Daniel Tatum. 2017. *Why Are All the Black Kids Sitting Together in the Cafeteria?: And Other Conversations About Race* (revised edition ed.). Basic Books, New York.
- [37] Stephanie Tena-Meza, Miroslav Suzara, and Aj Alvero. 2022. Coding with Purpose: Learning AI in Rural California. *ACM Transactions on Computing Education* 22 (9 2022), 1–18. Issue 3. <https://doi.org/10.1145/3513137>
- [38] Josh Tenenberg. 2019. Qualitative Methods for Computing Education. In *The Cambridge Handbook of Computing Education Research*, Anthony V. Robins and Sally A. Fincher (Eds.). Cambridge University Press, Cambridge, 173–207. <https://doi.org/10.1017/9781108654555.008>
- [39] Nicholas Vargas, Julio Villa-Palomino, and Erika Davis. 2020. Latinx faculty representation and resource allocation at Hispanic serving institutions. *Race Ethnicity and Education* 23, 1 (2020), 39–54.
- [40] Ismael Villegas Molina, Emma Hogan, Josue Martinez, Nawab Mulla, et al. 2025. Faculty Reasons For Using or Refraining From Culturally Relevant Pedagogies at Hispanic-Serving Institutions. In *Proceedings of the 2025 Conference for Research on Equitable and Sustained Participation in Engineering, Computing, and Technology* (Newark, NJ, USA) (RESPECT 2025). ACM, NY, USA. <https://doi.org/10.1145/3704637.3734760>
- [41] Ismael Villegas Molina, Emma Hogan, Nawab Mulla, Josue Martinez, et al. 2025. Faculty Implementation of Culturally Relevant Pedagogies at Hispanic-Serving Institutions. In *Proceedings of the 30th ACM Conference on Innovation and Technology in Computer Science Education* V. 1. ACM, NY, USA. <https://doi.org/10.1145/3724363.3729061>
- [42] Ismael Villegas Molina, Audria Montalvo, and Adalbert Gerald Soosai Raj. 2024. U.S. Latinx in Computing: A Review of the Literature. *Proceedings of the 55th ACM Technical Symposium on Computer Science Education* V. 1 (2024).
- [43] Ismael Villegas Molina, Adrian Salguero, Shera Zhong, and Adalbert Gerald Soosai Raj. 2023. The Effects of Spanish-English Bilingual Instruction in a CS0 Course for High School Students. *Proceedings of the Conference on Innovation and Technology in Computer Science Education* (2023). <https://doi.org/10.1145/3587102>
- [44] Sara Vogel, Laura Ascenzi-Moreno, Christopher Hoadley, and Kate Menken. 2019. The role of translanguaging in computational literacies documenting middle school bilinguals' practices in computer science integrated units. *SIGCSE 2019 - Proceedings of the 50th ACM Technical Symposium on Computer Science Education* (2 2019), 1164–1170. <https://doi.org/10.1145/3287324.3287368>
- [45] Alicia Nicki Washington. 2020. When Twice as Good Isn't Enough: The Case for Cultural Competence in Computing. In *Proceedings of the 51st ACM Technical Symposium on Computer Science Education (SIGCSE '20)*. Association for Computing Machinery, New York, NY, USA, 213–219. <https://doi.org/10.1145/3328778.3366792>
- [46] Margaret Yau. 2013. ENGAGING HISPANIC/LATINO(A) YOUTH IN COMPUTER SCIENCE: AN OUTREACH PROJECT EXPERIENCE REPORT *. *Journal of Computing Sciences in Colleges* (2013). <https://doi.org/10.5555/2458539.2458559>
- [47] Stuart Zweben and Betsy Bizot. 2024. 2023 CRA Taulbee Survey. *Computing Research News* (2024).