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“They’re just students. There’s no clear distinction”: a critical discourse analysis of color-evasive, gender-neutral faculty discourses in undergraduate calculus instruction

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ABSTRACT

Background: Calculus instruction is underexamined as a source of racialized and gendered inequity in higher education, despite research that documents minoritized students’ marginalizing experiences in undergraduate mathematics classes. This study fills this research gap by investigating mathematics faculty’s perceptions of the significance of race and gender to calculus instruction at a large, public, historically white research university.

Methods: Theories of colorblind racism and unconsciousness guided a critical discourse analysis of seven undergraduate calculus faculty’s perceptions of instructional events.

Findings: Our analysis revealed two dominant discourses: (i) Race and gender are insignificant social markers in undergraduate calculus; and (ii) Instructional events can be objectively deemed race- and gender-neutral. We illustrate how calculus faculty varyingly engaged these colorblind discourses as well as discourses that challenged such conceptions of instruction. We also highlight how faculty unconsciousness in reports of instructional practices reflect potential operationalization of dominant discourses that reinforce colorblind racism.

Contribution: With limited research on faculty perspectives on racial equity in mathematics, our study documents how color-evasive, gender-neutral discourses among mathematics faculty shape orientations to

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instruction that reinforce the gatekeeping role of calculus in STEM higher education. Implications are provided for race- and gender-conscious undergraduate mathematics instruction and faculty development.

Undergraduate STEM is a racialized and gendered space (Carlone & Johnson, 2007; McGee, 2016). Mathematics instruction produces intersectional forms of marginalization (Borum & Walker, 2012; Leyva, 2016; Oppland-Cordell, 2014) shaped by racism (Larnell, 2016; Roberts, 2020), patriarchy (e.g., Rodd & Bartholomew, 2006), and their interplay with other systems of inequality (e.g., classism). To illustrate, racial and gender stereotypes of mathematical ability can create inequitable opportunities to share thinking and ask questions during instruction (Larnell, 2016; Leyva, McNeill et al., 2021; Rodd & Bartholomew, 2006), and that students with multiply-marginalized identities experience such inequities in unique ways (Leyva, 2021; Oppland-Cordell, 2014). For example, Black women may grapple with uncertainty surrounding whether negative judgments of ability can be attributed to being Black, a woman, or both (Borum & Walker, 2012) and whether intersectional tropes (e.g., the angry Black woman) will cause their questions to be received as challenging instructors' authority (Leyva, Quea et al., 2021).

Disrupting inequities in learning opportunities and STEM retention motivate the need to examine calculus instruction—a contributor to STEM attrition (Leyva, 2016; President's Council of Advisors on Science and Technology (PCAST), 2012). An emerging body of work centering historically marginalized students' perceptions of calculus instruction as racialized and/or gendered (Ellis et al., 2014; Leyva, McNeill et al., 2021; Oppland-Cordell, 2014) has yielded valuable insights on how broader forces of representation, stereotypes, and mathematics culture impact students' instructional experiences. However, faculty perspectives on calculus instruction have not been the analytical focus.

The void of faculty perceptions on calculus instruction is important to fill for two reasons. First, mathematics faculty beliefs and values shape instruction that constrains and broadens equitable learning opportunities (Gresalfi, 2009; Louie, 2017). Dominant ideologies of mathematics as an asocial, value-free discipline, which are rooted in whiteness and patriarchy (Battey & Leyva, 2016; Hottinger, 2016; Martin, 2013), impede faculty consciousness of systemic inequities and shape instruction that reproduces inequitable access to content. Such calculus instruction is a mechanism of colorblind racism, a systemic form of racial oppression justified by seemingly neutral ideologies (Bonilla-Silva, 2002). For example, disciplinary values of individualism and rationality undercut social and emotional needs for identity-affirming peer

support among historically marginalized students (e.g., Borum & Walker, 2012); this combined with the lack of diversity in undergraduate mathematics contribute to inequities in student support while maintaining the guise of neutrality. Faculty perspectives can reveal how ideologies of mathematics are resisted or left unchallenged in calculus instruction.

Second, research on faculty perceptions of calculus instruction adds disciplinary specificity to literature on postsecondary faculty's racial and gender consciousness in instruction (e.g., Castillo-Montoya, 2019; Haynes, 2017). Faculty consciousness has largely been explored in social sciences and humanities contexts where courses allowed faculty to draw connections between content and social issues. With dominant ideologies in mathematics framing social issues as irrelevant, mathematics faculty may be less inclined to consider such connections and thus increase opportunities for colorblind racism through instruction. Research on faculty perspectives on calculus instruction is, therefore, important to inform classroom practices that resist dysconsciousness, defined as "an uncritical habit of mind (including perceptions, attitudes, assumptions, and beliefs) that justifies inequities and exploitation by accepting the existing order of things as given" (King, 1991, p. 135). For example, perceptions that mathematical content is disconnected from social contexts may predispose faculty to neglect the influence of racialized access to high-quality mathematics learning opportunities prior to college (Bressoud, 2021), which impacts students' success in introductory courses like calculus. Faculty, as a result, may attribute student struggles to individual deficiencies, such as lack of effort or ability. Discipline-specific research on faculty consciousness in calculus instruction is crucial in addressing inequities of access to positive mathematics identities and STEM majors.

The present study contributes to needed research about faculty perspectives on calculus instruction by exploring discourses in their reasoning about classroom practices and their potential to reinforce or disrupt colorblind racism. Discourses are societally-contextualized manners of using language in talk and text (Gee, 2011), which reveal connections between classroom inequities and ideologies underlying instruction. Our study analyzed interviews with seven precalculus and calculus faculty members centered around stimulus events of potentially racialized and gendered instructional instances from calculus classrooms. Using critical discourse analysis (Fairclough, 2013), we addressed the following two research questions:

- (1) What discourses do calculus faculty invoke in their reasoning about potentially racialized and gendered instructional events that reflect forms of (dys)consciousness?
- (2) In what ways do faculty's descriptions of their classroom instruction suggest the potential operationalization of these discourses?

Findings from our study raise implications for research and practice to support mathematics faculty learning that promotes socially-affirming instruction.

Theoretical perspectives: Colorblind racism and dysconsciousness

The centrality of race and racism in (mathematics) education (Martin, 2013; Parker, 1998) informed our use of colorblind racism and dysconsciousness as theoretical perspectives to guide our analysis, as well as related concepts of whiteness and antiblackness. Whiteness refers to a set of ideologies that uphold white supremacy (the systemic maintenance of white people's social dominance and racial privilege; Leonardo, 2004) and antiblackness (a systemic pattern of behavioral and institutional practices that dehumanize Black people; Dumas & Ross, 2016).

Whiteness, including colorblind racial ideology, maintains antiblack racism. In STEM education, whiteness legitimizes objectivity and asociality in scientific practices, requiring racially minoritized students to assimilate into white norms for recognition in STEM (Battey & Leyva, 2016; Le & Matias, 2019; McGee, 2016). For example, McGee (2016) documented how whiteness in STEM culture leaves racialized norms and beliefs of academic success unchallenged, subjecting Black and Latina/o undergraduates to manage stereotypes through tactical behaviors of assimilation (e.g., playing into beliefs of innate ability by claiming to not have studied after earning high grades). Internalized ideologies of whiteness and antiblackness among STEM faculty shapes dysconsciousness in instruction that perpetuates colorblind racism.

Colorblind racial ideology

Colorblindness is an ideology that resists defining, framing, or pathologizing whiteness, thus perpetuating racism and preserving white supremacy (Bonilla-Silva, 2002, 2006). The four features of colorblind racism include:

- (1) the extension of the principles of liberalism to racial matters in an abstract manner, (2) cultural rather than biological explanation of minorities' inferior standing and performance in labor and educational markets, (3) naturalization of racial phenomena such as residential and school segregation, and (4) the claim that discrimination has all but disappeared (Bonilla-Silva, 2002, p. 42)

To illustrate how the four features of colorblind racism provide an analytical lens for the present study, **Figure 1** presents how the pervasive discourse of a racial hierarchy of mathematical ability (Martin, 2009) preserves colorblind racism.

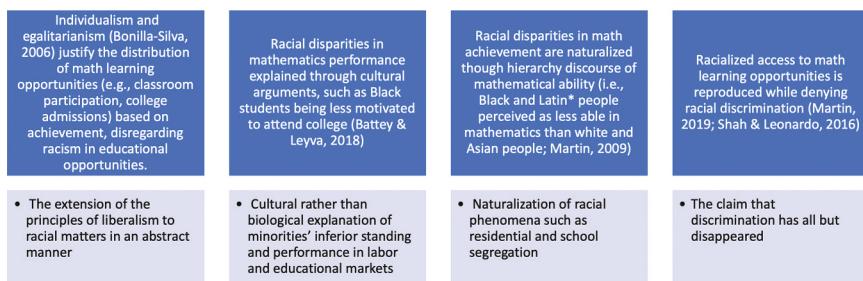


Figure 1. *Racial Hierarchy of mathematical ability as colorblind racial discourse.*

Given the racialized *and* gendered impacts of undergraduate calculus instruction (Ellis et al., 2016; Leyva, McNeill et al., 2021), our analysis also attended to gender-related ideologies analogous to colorblindness, including gender-neutrality and genderblindness (Acker, 1990; Smithson & Stokoe, 2005). These ideologies espouse that dismissing gendered variation in social experiences is necessary to foster equality. Ideologies of mathematics as a gender-neutral space, for example, justify the discourse of a gendered hierarchy of mathematical ability (Leyva, 2017), which fails to recognize broader forces of patriarchy (i.e., the systemic maintenance of men's social dominance) and misogyny (i.e., prejudice against women) that shape inequitable learning opportunities in mathematics education (Esmonde, 2011).

Color-evasiveness and dysconsciousness

Annamma et al. (2017) expanded the theory of colorblind racial ideology (Bonilla-Silva, 2002, 2006) to address its limitations in dismantling racist structures (e.g., ableism, passivity of racism), proposing color-evasiveness¹ as a concept that accounts for how an avoidance of race *actively* reinforces racism. Color-evasive discourse reflects the four features of colorblind racism. For example, Bonilla-Silva (2002) highlighted white people's verbal strategies to avoid appearing racist, such as attempting to offset racially oppressive views with statements like "Some of my best friends are black" (p. 48). Such discourse evades recognition of racism that shapes white belief systems.

Discourses rooted in ideologies of colorblindness and gender neutrality give rise to dysconsciousness. For instance, ideologies of innate mathematical ability shape dysconscious discourses among faculty that attribute Black students' underachievement to individual deficits rather than structural inequalities. Instruction grounded in colorblind, gender-neutral ideologies exemplifies dysconsciousness. Colorblind racism

is, therefore, a promising lens through which to examine color-evasiveness and dysconsciousness in calculus faculty discourses that can influence instruction.

Faculty attitudes on racial equity in STEM higher education

This section adopts colorblind racism and dysconsciousness as lenses to review two sets of literature on faculty attitudes toward racial equity in STEM higher education. One set focused on attitudes related to student support and the other on instruction. We conclude our review by naming research gaps that our study fills by exploring faculty discourse on calculus instruction.

Student support

Issues of color-evasiveness and race-consciousness feature prominently in studies exploring the relationship between student support and faculty attitudes toward race. Comeaux (2013) characterized faculty's colorblind responses to vignettes about the accomplishments of Black and white male collegians, including minimized significance of race and veiled negative racial stereotypes. Other studies found faculty in STEM were less likely to advocate for diversity (Park & Denson, 2009) and more likely to hold racialized perceptions of student ability compared to other disciplines (Gleditsch & Berg, 2017). These findings suggest disciplinary influences on race-consciousness in faculty practices, including mentoring and instruction.

To illustrate, McCoy et al. (2015) study on white STEM faculty mentorship found that faculty sought to treat all students equally, simultaneously using racially-coded language to describe students of color as academically inferior and providing less mentorship to them. Such language exemplifies color-evasive rhetorical moves that actively avoid discussion of race and racism (Annamma et al., 2017; Bonilla-Silva, 2006). Thus, faculty engaged in racially dysconscious mentorship that reinforces racial inequities of access to academic support.

In contrast to color-evasiveness documented in McCoy et al. (2015), Bensimon et al. (2019) investigated Latinx STEM faculty's race-conscious brokering of access and support for Latinx students. Faculty advocated for admission of Latinx students with non-traditional preparation (e.g., transferring from community colleges) and created opportunities for laboratory involvement. These support practices illustrate awareness of racialized structures that impede Latinx students' readiness to demonstrate STEM ability in traditionally recognized ways. While the McCoy et al. (2015) and Bensimon et al. (2019) studies suggest that STEM faculty's color-evasiveness and race-consciousness have material implications for access to support, less detail is provided as to how faculty's racial (dys)consciousness affects instruction.

Instruction

Another set of research explored how faculty (dys)consciousness influenced instruction. Booker et al. (2016) documented how STEM and non-STEM faculty, as participants in a Summer Diversity Training Institute, shifted their thinking about diversity from being an add-on or distraction to it being an integral part of course material. Haynes (2017) found that more race-conscious white faculty across disciplines held expansive views of equity that fostered inclusive teaching. However, many faculty believed that “exploring issues of race/racism—or more broadly, power and privilege—was discipline specific” (Haynes, 2017, p. 96), a position that could allow STEM faculty to recuse themselves of attending to equity in their teaching of “neutral” subjects. These findings convey how ideologies that construct STEM disciplines as neutral or objective can shape racially (dys)conscious instruction.

Research on racial and gender equity issues in undergraduate STEM instruction illustrate faculty dysconsciousness. Blair et al. (2017) argue that gender inequity is tacitly sanctioned in STEM instruction, evidenced by engineering faculty’s engagement of gender blind discourse about instruction and limited awareness of gender inequities (e.g., disparities in classroom participation). In a case study of computer science instruction, Haynes and Patton (2019) followed a professor (white man) whose course material had clear connections to issues of race (e.g., a computer game using a migrant farm worker avatar). The professor’s perception of computer science learning as race-neutral shaped instruction that missed opportunities for racial inclusion. These studies underscore the promise of discipline-specific research in STEM to better understand the influence of disciplinary cultures on faculty (dys)consciousness and instruction.

There is a void of research on relationships between instruction and faculty attitudes toward race in mathematics—a discipline that plays a unique role as gatekeeper to advanced coursework in postsecondary STEM (see, Ellis et al., 2014; President’s Council of Advisors on Science and Technology (PCAST), 2012). The few existing studies specific to mathematics (e.g., Ching, 2018; Felix et al., 2015) largely focused on race-conscious syllabus development with a lack of inquiry on instruction. For example, Felix et al. (2015) undertook action research in collaboration with a community college’s mathematics department chair to revise syllabi in developmental and introductory courses with goals of racial equity in retention and completion. Relational aspects of instruction beyond introducing syllabi during the first class meeting were left unexamined. Thus, while research conveys that faculty in STEM are uniquely susceptible to race- and gender-dysconscious instruction, mathematics has been understudied.

Literature on undergraduate calculus lacks exploration of faculty beliefs on instruction, which Rasmussen et al. (2014) noted in their review of calculus research. Thus, there is limited insight into how STEM faculty dysconsciousness unfolds uniquely in calculus contexts where issues of racial and gender equity abound (Fullilove & Treisman, 1990; Larsen et al., 2016; Leyva, 2016). While there is an emerging body of equity-oriented research that explores students' perspectives of calculus instruction as racialized and gendered (Leyva, Quea et al., 2021; Oppland-Cordell, 2014), faculty perspectives and how they shape (in)equitable instructional experiences have been left implicit in prior analyses.

The present study's analysis of colorblind racism through faculty discourse on calculus instruction addresses two gaps revealed through our literature. First, our study fills the void of discipline-specific research on faculty (dys)consciousness in mathematics instruction. With mathematics uniquely constructed as a neutral and gatekeeping discipline, calculus faculty are vulnerable to separating instruction from broader realities of oppression that leave inequitable access to content and support unchallenged. Second, the present study examines faculty perceptions of instruction that are missing in equity-oriented calculus research. By exploring connections between faculty discourse and instruction, our study adds knowledge about colorblind instructional mechanisms in calculus that preserve long-standing racial and gender inequities.

Methods

The analysis presented here comes from a larger study of faculty and student perceptions of racialized and gendered features of undergraduate calculus instruction (Battey et al., 2022; Leyva, McNeill et al., 2021; Leyva, Quea et al., 2021; Leyva et al., *in press*; McNeill et al., 2021). We focused on precalculus and calculus to understand instructional gatekeeping in these courses that contributes to inequities of STEM persistence. While we recognize that mathematics instruction is a source of intersectional oppression for multiply-minoritized students, our study was not designed to explore issues of intersectionality (Crenshaw, 1991). Our data collection, thus, generally engaged issues of race and gender separately, but any intersectional perspectives volunteered by participants were included in our data analysis. This paper focuses on an analysis of faculty interviews exploring their perceptions of instructional events that students from historically marginalized groups reported as potentially racialized and gendered. Using critical discourse analysis (Fairclough, 2013), along with theoretical perspectives of colorblind racism (Annamma et al., 2017; Bonilla-Silva, 2002, 2006) and dysconsciousness (King, 1991), we examined faculty discourses on instruction that reflect (dys)consciousness and how such discourses were potentially operationalized in instruction.

Context and participants

The study took place at a large, public, and historically white research university in the northeastern United States. During the 2018–2019 academic year, approximately 40,000 undergraduate students were enrolled in the university (40% white, 25% Asian, 10% Latin², 10% Black, 5% multi-racial, and 10% some other race). Precalculus and calculus courses at the university consist of: (i) a lecture that meets in large halls where weekly content is introduced; and (ii) a recitation that meets in smaller classrooms where instructors address questions about content and administer quizzes. Part-time lecturers and full-time, non-tenure track faculty with renewable annual contracts typically teach the lectures. Part-time lecturers, including doctoral students, typically teach the recitations. All faculty teaching lectures or recitations for Precalculus and Calculus 1 courses (nearly 60 in total) were invited to participate via e-mail during fall 2018. Seven faculty members expressed interest. We present profiles for each faculty participant later in the reported findings.

Data collection

The data collection team interviewed the seven faculty participants using protocols adapted from Leyva (2016, 2021), which used stimulus excerpts from published research featuring historically marginalized students' reflections on mathematics experiences. The protocol for the present study used five stimulus prompts of instructional events (Appendix A), developed based on the larger study's collection of instructional events that Black, Latina/o, and white women students reported as discouraging from precalculus and calculus courses. Our protocol builds upon Leyva's (2016, 2021) methodology by using stimulus prompts based on the same university context that address the same phenomenon (namely, the racialized and gendered functions of calculus instruction).

Reported events used to develop stimulus prompts included interactions between students and instructors, interactions between students, and instructor remarks made to the entire class. The five stimulus events included an instructor: (i) cutting off a student who acknowledged a mistake on the board in order to justify it (*instructor mistake*), (ii) accusing a student of not owning a calculator (*calculator accusation*), (iii) not reviewing a student's requested problem (*unreviewed problem*), (iv) advising an entire class to drop down a course level or not take Calculus 2 if they could not complete a problem quickly (*course drop*), and (v) dismissing a student's request for clarification (*dismissed student*). (See, Battey et al., 2022; Leyva, McNeill et al., 2021 for more details about student reporting of events and our development of stimulus events.)

Since reported events were based on classroom experiences from the previous academic year, stimulus events did not necessarily reflect instances from faculty participants' classrooms. This distance between participants and the stimulus events was methodologically beneficial for three reasons. First, faculty could consider how calculus instruction might function in racialized and/or gendered ways while mitigating the need to defend their own classroom practices. Second, participants could more readily explore different interpretations of instructional instances by experimenting with contextual factors (e.g., involved individuals' race and gender, patterns of instructor behavior). Thus, participants' responses reflect their attention to race and gender in instruction rather than assessing the impact of a specific instructional moment. Third, use of the same stimulus events instead of observations specific to faculty members' classrooms reduced variation in instructional contexts to which participants responded. Such consistency allowed for systematic inquiry of faculty perceptions to build a theoretical explanation of colorblind racism in calculus instruction. Relatedly, stimulus prompts based on student-reported events preserved historically marginalized students' perspectives about their classroom experiences, which can be decentered through prompts based on researcher observations.

Interviews

Interviews were scheduled to accommodate participants' availability, resulting in five individual interviews and one interview with two faculty (Ester and Stan). Interviews lasted 60–105 minutes and were transcribed verbatim. Doctoral students on the research team conducted the interviews to position faculty as experts. A semi-structured interview format allowed participants to discuss topics related to the stimulus events, including their own instruction.

Faculty participants were asked two sets of questions following each stimulus event that aligned with the protocols used for student interviews discussed elsewhere (Battey et al., 2022; Leyva, McNeill et al., 2021). First, participants were asked how they interpreted each event, including whether they experienced something similar in their taught classes. These questions provided insight into how faculty perceived their instruction as similar or different to pedagogical decisions across the stimulus events. Faculty were also asked whether they would feel uncomfortable enacting the instructional behaviors depicted in the stimulus events.

The second set of questions asked whether participants believed students would be discouraged by the event, and which student populations (if any) would experience it this way. Participants were also asked whether their interpretations of the events would vary based on the race or gender of the actors involved. These questions were crucial in understanding the extent to which faculty perceived race and gender as relevant.



Data analysis

Critical discourse analysis

Critical discourse analysis (CDA) is underpinned by a perspective that discourse is both produced by and reproduces structures of social power (Fairclough, 1989). All language is inherently political in that it is used for social purposes, thus shaping distribution of social goods like respect and sense of belonging (Gee, 2011). Discourses and their underlying ideologies may be dominant (i.e., reinforcing oppressive systems) or marginalized (i.e., challenging oppressive systems; Fairclough, 2013). Dominant and marginalized discourses dynamically shape one another. Individuals vary their engagement with specific discourses across time and context (e.g., invoke a dominant discourse about race in one situation and marginalized discourse in another).

Dominant ideologies are often naturalized (i.e., understood as common sense), which obscures inequitable distributions of social goods and leaves reproduction of unequal power relations invisible (Fairclough, 2013). Through our analysis, we took the position that faculty discourse, even when power is implicit, may have material impacts. For example, calculus faculty's language use in response to mathematical corrections from students may reinforce or disrupt racialized and gendered access to classroom participation (see, Leyva, Quea et al., 2021).

Fairclough (2013) outlined four functions of CDA, including how discourses: (i) emerge; (ii) interact with other discourses through political struggle; (iii) become dominant and re-contextualized, and (iv) are operationalized to change or reproduce social conditions.

For illustrative purposes, Figure 2 presents use of the CDA functions as a lens to deconstruct the meritocratic discourse in mathematics education (i.e., success is based entirely on hard work). As we further elaborate below, these CDA functions, coupled with theories of colorblind racism (Annamma et al., 2017; Bonilla-Silva, 2002) and dysconsciousness (King, 1991), guided our analysis of faculty discourses on calculus instruction.

Coding

We used an open/axial coding scheme (Strauss & Corbin, 1998) in two stages of data analysis. The first and third authors separately and inductively coded the interview transcripts. These codes were then compared and reconciled to achieve consensus, for example, by applying both codes in cases where authors had different interpretations. Both coders met regularly with the second author to ensure consistency and collectively generate analytical interpretations.

Stage 1: Identifying discourses and modes of engagement. For our study's first research question about discourses invoked in faculty reasoning about instructional events, we open coded for dominant and marginalized discourses.

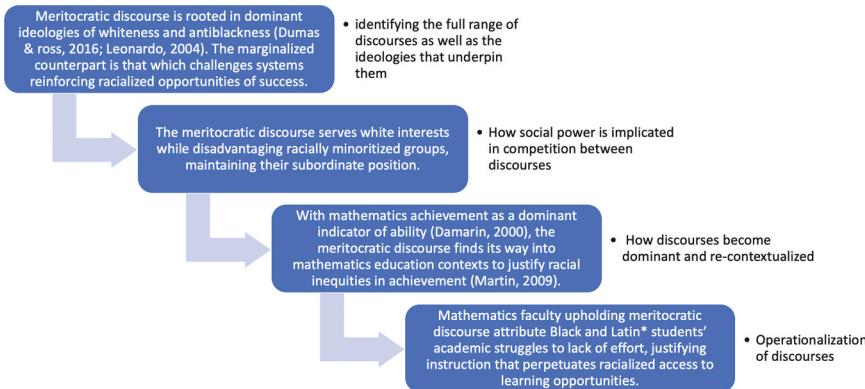


Figure 2. Applying CDA to the Meritocratic discourse in mathematics education. (Damarin, 2000; Shah & Leonardo, 2017)

Interview segments where faculty responses related to the (ir)relevance of race or gender were flagged. These open codes were aligned with CDA functions specific to the emergence of and interactions between discourses (functions i and ii, respectively). Some open codes (e.g., *racial irrelevance*) flagged dominant discourses that race and/or gender was not relevant in instruction. Other open codes (e.g., *racial relevance*) flagged marginalized discourses in faculty claims that instructional events were racialized, gendered, or both.

We also applied open codes to account for variation in how dominant discourses of racial and gender irrelevance were engaged. These codes, anchored in the theoretical perspective of color-evasiveness (Annamma et al., 2017), flagged discursive moves to avoid engagement with stimulus events' potentially racialized and gendered nature, such as "anything but race" rhetorical strategies (Bonilla-Silva, 2006). Examples of such open codes include *objective neutrality* (claiming an event is objectively race- and/or gender-neutral) and *student demeanor* (citing student personality as more significant than race in interpreting events).

Stage 2: Detailing dysconscious instructional practices. We used open and axial codes to document how reported instructional practices suggest potential operationalization of dominant and marginalized discourses, addressing our second research question. This set of codes is aligned with CDA functions specific to how discourses are recontextualized and perpetuate or disrupt social inequality (functions iii and iv). Open codes were applied largely to interview responses about pedagogical interpretations of events, including faculty's level of agreement with or comfort with enacting depicted instructional practices. These responses often invoked connections to participants' instructional practices. Some open codes flagged

justifications for practices faculty deemed neutral or appropriate. Other open codes flagged *critiques* of practices faculty deemed marginalizing or inequitable.

Axial codes connected open codes from the two stages of data analysis. These codes captured how dominant and marginalized discourses (first set of open codes) were potentially operationalized based on faculty descriptions of their instructional practices (second set of open codes). Some axial codes flagged *dysconsciousness*, signifying connections between invoked dominant discourses and justifications of instruction that neglected potentially racialized or gendered impacts. Other axial codes documented *race- and gender-consciousness*, signifying connections between invoked marginalized discourses and faculty critiques of potentially oppressive instruction. Axial codes served to build a theoretical explanation of how faculty discourses in their perceptions of potentially racialized and gendered instructional events can be operationalized through classroom practices to reinforce colorblind racism in calculus. Appendix B presents an illustrative example of our coding process.

To conclude our data analysis, we synthesized open/axial codes to form two broad categories of dominant discourses that faculty engaged in their interviews. Our findings develop each discourse category by highlighting: (i) the underlying racial and gendered ideologies, (ii) instructors' color-evasive and gender-blind rhetorical moves, (iii) the corresponding marginalized discourse, and (iv) potential operationalization through instruction.

Positionality

The research team for the larger study holds a wide range of expertise on racial and gender equity in postsecondary STEM and mathematics education. This team consists of four faculty members and 13 students (six doctoral, six undergraduate, and one graduate). Team members include three Black women, one Latina woman, four Latino men, two Asian women, one white transmasculine person, four white women, and two white men. The data analysis team and coauthors included a Black woman, Latino man, and white transmasculine person. The racial and gender diversity in our team invited different perspectives for data analysis.

The team approached research with a collective positionality that addresses "dangers seen, unseen, and unforeseen" (Milner, 2007, p. 388) in equity-oriented research. A seen danger was avoiding critical examination of calculus instruction as a racialized and gendered experience. We addressed this danger through constant recognition of systemic influences on instruction as well as bias from our respective areas of privilege and oppression.

The team also recognized the unseen danger of neglecting how differences in our experiences as raced and gendered individuals impact our research approaches. To address this danger in data collection, as described earlier, two doctoral students (white women) conducted the interviews to position faculty participants as experts. While interviewing and analyzing data, team members bracketed their lived experiences from faculty reflections to avoid distorting their perspectives through our interpretive lenses, all while engaging the research with a lens of criticality. Team members' engaged in critical reflexivity through constant awareness about the influence of our social identities on the research process.

Finally, the team attended to the unforeseeable danger of generating findings that position discourses of colorblindness and gender-neutrality as engaged solely by faculty who are white and men, respectively. This danger risks essentializing that individuals with racial and gendered privilege reinforce oppressive ideologies and individuals from marginalized backgrounds do otherwise. We addressed this danger by approaching data analysis with openness to how discourses are engaged among faculty across race-gender identities. Such an analytical orientation allowed for capturing variation in the invocation of dominant and marginalized discourses as a complex function of faculty's identities, lived experiences, and social context.

Findings

To contextualize our findings, we first present profiles for each faculty participant (using pseudonyms), including their orientations to teaching calculus and common instructional practices shared during the interviews. Next, we develop two dominant discourses in faculty perceptions of calculus instruction revealed through our analysis: (i) Race and gender are insignificant in undergraduate calculus; and (ii) Instructional events can be objectively deemed race- and gender-neutral. We refer to these discourses throughout the findings as the *insignificance discourse* and *objectivity discourse*, respectively. For each discourse, we identify: (i) color-evasive, gender-blind discursive moves that faculty made to engage them; and (ii) marginalized discourses that exemplify race- and gender-conscious considerations of calculus instruction. These insights address our study's first research question about calculus faculty's discourses on instruction that reflect racial and gender (dys)consciousness. We also present faculty reports of calculus instructional practices that illustrate how dominant and marginalized discourses could potentially be operationalized, addressing our second research question.

Throughout our findings, we highlight illustrative examples from our data, indicating which faculty engaged the identified discourses at least once or throughout their interviews for representativeness. Participants' voices appear more or less frequently given our purposeful selection of excerpts that vividly depict the two discourses.

Participant profiles

Bhavik (Asian man) is a full-time mathematics instructor with 16 years of experience, including six years in calculus and 10 years in precalculus. Bhavik viewed the instructor's role as "provid[ing] support in the learning process," including assisting with content and building students' confidence. Asserting that his "job as an instructor in the classroom is to clarify points of doubts," he adopted support practices like re-explaining, posing another problem, and providing illustrative examples to address students' questions. Bhavik incorporated collaborative work, explaining that "students learn from their peers much faster than from their instructors." Bhavik nurtured students' confidence and sense of mathematical ability by encouraging them to "never give up." He "move[d] around in [his] class very frequently and [he] interact[ed] with [his] students very frequently" to "make [students] feel at home" and encourage participation, "That is why my students are very open. They laugh, they smile, they speak." He prioritized topics instead of specific problems in his lesson planning to allow lengthy responses to students' questions. Bhavik viewed a small number of students in precalculus and calculus classes at a "lower level" than the majority. He fielded "very basic level knowledge" (e.g., algebra) questions from this student population.

Ester (Latina woman) is a full-time college algebra and calculus instructor who holds teaching experience outside of the U.S. Ester's instructional decision-making centers students' emotional experiences. She noted how students may feel uncomfortable correcting instructors early in the semester, lose interest when they "don't feel the ... [instructor] is open enough to answer questions," and experience pressure after being advised to consider dropping down a course level if they are struggling. Ester considered students with varying levels of mathematical ability including students who are "not mature enough to understand" an overarching mathematical idea and get stuck on a "silly arithmetic mistake," students who rise above challenges in mathematics unlike those "struggling with basic math," and "good students [who] are interested in really understanding" and have questions that should be addressed. Instructional practices Ester described engaging include soliciting students' help checking boardwork, extending after-class and office hour support, and encouraging students to discuss course registration with advisors when struggling with content.

Joshua (white man) served as a full-time instructor for two years in the department. At the university and during graduate school, Joshua taught introductory (precalculus and calculus) and intermediate (multivariable calculus and linear algebra) mathematics courses. Describing students in introductory courses, Joshua remarked, “Especially at this level, they need the help. They’re coming in with no skills and they probably don’t know how to self-advocate.” This informed Joshua’s focus on reviewing concepts from prior coursework during the first few weeks of classes, which he characterized as “giv[ing] them that training wheel session.” Afterward, due to pressures of covering content with limited class time, Joshua followed an instructional policy that it was “very unlikely [he] will be able to answer these questions” about algebra, which he perceived as “ridiculous question[s] to ask at that level.” Joshua addressed students’ struggles by advising them to “practice more.” He felt responsible for facilitating students’ comfort by not singling students out and sharing academic support resources. Joshua phrased responses to students’ contributions intentionally to avoid discouragement, such as “You’re struggling; half the class is, too. You’re not alone.”

Lauren (Black woman) is a calculus recitation instructor, her second time teaching this content. Her educational background in engineering and engineering education, as well as her role as a dean, provided her a lens for interpreting calculus instruction in the broader university context. For example, she compared introductory courses in mathematics and chemistry to describe students’ needs around dropping down a course level. Similarly, when considering the effect of making students’ socioeconomic status known through instruction, she raised similar tensions about commencement services that announced graduates’ membership in programs serving students from low-income backgrounds. Lauren’s instructional decisions were also informed by her student experiences. She often cited poor instructional standards in STEM as motivation for changing traditional practices.

Being at a research institution where teaching is secondary in many cases, sometimes teaching can be a burden on instructors and they just . . . want students to leave them alone . . . That was my student experience. I came from a school of engineering. Engineers . . . teach how they were taught without any training, without any research.

Lauren also saw self-efficacy as key to students’ success and persistence in STEM, so she prioritized instructional practices that develop students’ confidence, build relationships, and gave students time to improve their skills. For example, Lauren recognized students may need time early in the semester to refine foundational skills, “Either they failed at the semester before or they haven’t had math since high school . . . They’re rusty.”

Robert (white man) is a part-time lecturer with six years of experience teaching calculus at the university. Seeing calculus courses as “driven by tests and quizzes,” Robert felt responsible for covering topics during the limited class time and “reinforcing the stuff that I know they need to succeed.” He viewed learning as a partnership between instructors and students, “I try to promote this idea that in the classroom: we’re all working on the same set of goals . . . This is a group which exists to help each other get through this and accomplish what we need to accomplish.” Thus, he treated students as colleagues who must “take responsibility for their learning.” At the same time, Robert recognized “the professor is an authority” and “students aren’t always expert” in making mathematical judgments. For this reason, he sometimes found it difficult to engage students as equal partners. He reported feeling “pretty sad with the lack of skills of people that show up in our classes” and perceiving some students as “not really up to snuff . . . [and] not that good.” Robert sometimes experienced frustration from answering “basic question[s] over and over again” that depleted the “presence of mind” he needed to enact his teaching philosophies. With Robert feeling that “20% of these students [in calculus] shouldn’t be here” due to their lack of ability, he explained having been close to “losing it” and being short with students when faced with repeated questions about prerequisite content. To manage students’ unpreparedness for calculus, Robert advocated for clearly delineating course content from prerequisite knowledge in instruction. While Robert reported “always leav[ing] the door open” to students needing support with foundational skills, he also considered it “appropriate to make them feel uncomfortable” about gaps in prerequisite knowledge and motivated students’ responsibility for learning by communicating, “Get control of your pre-calculus skills.”

Stan (white man) serves as a part-time lecturer and holds over 15 years of experience teaching precalculus and calculus. He succinctly described his instructional role as, “We’re the professor, we’re the authority.” In characterizing the students in his classes averaging an enrollment of 80, Stan remarked, “Of the 60 [students who come to class], maybe 20 are paying attention and the other 40 are looking at their phones or doing something else.” He presented profiles of students that informed his instructional decision-making. For example, he described the “student who talks a lot in class [and] asks a lot of questions,” which he perceived as a “quite aggressive” pattern of participation that he met with dismissiveness and defensiveness. Stan also described how most students misplaced in precalculus or calculus will “try and tough it out” as opposed to the minority who “recognize that they’re in the wrong course and drop down.” Departmental structures, including large class sizes and pressures to cover content assessed in departmental final exams, shaped Stan’s instructional practice, seeing “no room for slowing down” and limited opportunities to answer questions. Stan interpreted advising calculus students struggling with precalculus skills to drop the course as “departmental policy [and] not attacking the

students.” Such advice, to him, was well-intended to disrupt “routinely fail[ing] 30 or 40% of the students.” This view shapes Stan’s practices of posing hard problems on the first day to “wake up the students” and saying, “This is hard, this is difficult . . . You should think about what you’re doing in this class.”

Insignificance discourse

When asked if race or gender affect their interpretations of instructional events presented during interviews, participants often minimized or denied the significance of race and gender (*insignificance discourse*). Of the seven faculty members interviewed, six (Bhavik, Ester, Joshua, Robert, Shruti, and Stan) varyingly engaged the insignificance discourse. This was evident in Bhavik’s (Asian man) response to the *instructor mistake* event, in which an instructor whose mathematical error was corrected by a student justifies their mistake rather than thanking the student as done for others. When asked if the student’s gender mattered in his interpretation, Bhavik explained that the event would have the same impact on men and women, “A learner . . . has no gender. That is why I don’t see . . . [a] male and female feeling differently. Unless there is . . . research that suggests that feelings of male students and female students are different under these circumstances.” While Bhavik suggests that “a learner . . . has no gender,” this comment cannot be understood literally as it is unrealistic to assume he believes that students are gender-less. Instead, we understand this as claiming that gender has no significance in students’ mathematics learning experiences. This ideological assumption that gender is insignificant justified Bhavik’s inattention to gendered variation in how this instructional event is experienced. Moreover, while Bhavik holds space for gender possibly affecting a student’s experience if supported by research, his interpretation points to an assumption that gender is insignificant unless proven otherwise.

Responding to the same event, Stan (white man) suggested that the student’s race would not affect his interpretation. He remarked, “I think one thing we have here at [the university] is . . . an extraordinarily diverse student population . . . They’re just students. There’s no clear distinction.” Despite Stan’s appreciation for the university’s racial diversity, he called upon this diversity to interpret the event as racially inconsequential. Thus, Stan engaged the insignificance discourse in asserting that students being on a racially diverse campus mutes any racialized impact of calculus instruction. As a result, racialized constructions of mathematical ability that shape students’ experiences in the university’s calculus classrooms, including feeling welcomed or not to correct instructors, are left unchallenged through Stan’s reasoning. Bhavik’s and Stan’s interpretations of the *instructor mistake* event exemplify dysconsciousness. Their engagement with the insignificance discourse shaped by colorblind and gender-neutral ideologies render race and gender inconsequential to student experiences of calculus instruction.

In engaging the insignificance discourse, Stan rhetorically decentered race and asserted that nonracial factors (e.g., personality) play a larger role. Stan illustrates this color-evasive discursive strategy in response to the *dismissed student* event, wherein an instructor chuckles and disregards a student's question about the process of combining like terms.

Interviewer: Would you interpret this situation differently if a student were . . . white . . . or African American . . . ?

Stan: I think what I have to . . . watch out for is students who then just shut down after the first time. Some students are quite aggressive and keep asking, 'Why isn't [it] right? Why isn't it right?' Other students just shut down after the first time even though they don't understand it. So, I think that's more the issue than, it's more of you want[ing] to identify those students who still don't get it, or the ones who are being aggressive and keep asking, keep asking.

Interviewer: Was it related to race at all, like have you noticed a certain student group might shut down more or be more aggressive towards persisting?

Stan: As I keep saying, I have a lot of students who don't say anything in class. I have a few students that talk a lot and then some students who never come to class. But I am more worried about the students who don't talk. And I've never noticed any particular correlation.

At face value, Stan initially leaves the interviewer's question regarding the race of the student in the event unanswered by providing a response that does not discuss race. We can understand Stan's discussion of students' demeanor as responding to the interviewer's question only if student demeanor is supplied to implicitly assert that the student's race is insignificant. In Stan's second turn, his opening, "as I keep saying," suggests that he believes he already answered the interviewer's question. His clarification in the second turn reasserts that student personality, which he perceives as unrelated to race, is more significant to the event than race. Stan's persistence in raising student demeanor as more important, while disregarding consideration of racial complexities as prompted by the interviewer, exemplifies discursive avoidance of race that renders race insignificant.

Counter to the insignificance discourse, three faculty participants (Bhavik, Joshua, and Lauren) varyingly engaged the marginalized discourse of race having significant implications on students' mathematics learning experiences. This is exemplified in Joshua's (white man) response to the *calculator accusation* event, wherein an instructor picked up a calculator labeled with initials of a program for students from low-income backgrounds

(pseudonym XYZ) and asserted that the calculator did not belong to the student. His interpretation raised structural implications of race on students' financial opportunities and sense of belonging in mathematics.

Interviewer: Would you interpret this situation differently if the student whose calculator was chosen was a woman or a man?

Joshua: I don't think that gender matters to me in this case. I think the race probably would, though. Only because XYZ is low-income, so I think it's more likely that the student was probably Latino or Black, just knowing the XYZ program, and I think that does affect it. Because if other students know the XYZ program and they see the initials XYZ and they overhear the teacher say, 'This isn't yours.' Then they think, 'That student, he's poor because he's Black' or who knows. I definitely do see it going differently.

Interviewer: Maybe it means something different to the other kids in the class.

Joshua: Especially because you asked me, how did you interpret 'This calculator is not yours?' I said it's as if the student doesn't deserve to be there. I think that adds to it. You don't deserve to be here, you're Black, you're Latino.

Joshua engages a marginalized discourse that positions race as significant in how students experience the *calculator accusation* event. Specifically, his explanation, "because XYZ is low-income ... the student was probably Latino or Black," acknowledges the role of race in students' access to financial resources. This racial significance shaped Joshua's interpretation of the instructor's accusation, "You don't deserve to be here, you're Black, you're Latino," as exacerbating racially minoritized students' feelings of not belonging in calculus or at the university. Thus, Joshua's response relies on an ideological assumption that race functions through structures reinforcing historical exclusion in higher education and mathematics, which contributes to racialized ideas of who belongs in undergraduate calculus. This engagement of a marginalized discourse captures Joshua's racial consciousness that guided his reasoning about the distinct marginalization that Black and Latin* students may experience from the *calculator accusation* event. Joshua's consciousness departs from Bhavik's and Stan's dysconsciousness, which obstructed recognition of racial and gendered influences on instructional experiences.

Potential operationalization of the discourse

Conforming to ideologies of mathematical success as meritocratic, the insignificance discourse neglects the impact of structural racism and sexism on students' experiences of calculus instruction. In this way, the discourse shaped faculty interpretations of students' success and struggles as individual and merit-based rather than functions of systemic inequities. Faculty engaged the insignificance discourse in justifying instruction that denies access to learning opportunities based on perceived merit, which they reported to similarly adopt in the classroom.

Bhavik's (Asian man) response to the *unreviewed problem* event (an instructor not going over a type of problem that a student asked to be reviewed) suggests how the insignificance discourse can be operationalized through instruction. He explained that the instructor may have dismissed the student's question because the student may "frequently ask questions to go over similar problems a second time, third time." When asked to elaborate on this, Bhavik continued:

Some students may be falling behind, and therefore we can go up to a certain extent, deeper and broader in the concept and spend the whole class[time] for those groups of students. But for other students, and this kind of students are, to me, about 20% in the class. The reasons are many: they don't practice, they don't take the algebra strongly in their practice. The other students, those who are taking that into consideration, they will start feeling bored in the class, that's the majority of the class. That's one reason why the professor may say that, 'Can you see me during my office hours? I will go over similar questions.'

Bhavik's assertion that 20% of students struggle with the course material because "they don't practice" attributes student struggles to lack of effort. While Bhavik planned his lessons to allow flexibility for questions, his admission that such support can only "go up to a certain extent" signaled a perception that questions indicative of student struggle with algebra should not disrupt instruction and should be engaged during office hours. When asked if race or gender was relevant, Bhavik asserted, "I don't think so. Again, from my previous comments on race and gender, as long as the person is a learner ... It's not going to affect the interpretation of this event." Thus, Bhavik deemed social identities irrelevant to his perception of who may fall behind with content and have questions redirected to office hours.

Bhavik's response to the *dismissed student* event (an instructor chuckles and disregards a student's question about combining like terms) alludes to the inquiring student as lacking "very basic level knowledge" in algebra. He shared how "students from African-American origin, African origin or Latin origin ... may feel bad about that event ... Some other group of students, for example, white or Caucasian or any other group of students will not feel as bad because they knew the concept." Bhavik described "situations where those group of students [with] the lower-level skill" were advised to visit his

office hours for additional support. Despite this race-specific observation, Bhavik perceived “math skill rather than race or gender” being more significant in interpreting the instructional situation of students’ dismissed contributions. Bhavik’s reported practices, such as prioritizing questions from 80% of his class perceived as putting in adequate practice as well as inviting Black and Latin* to seek support in office hours, suggest the potential operationalization of the insignificance discourse in his instruction. His responses uphold a meritocratic view of whose questions get to be engaged in instruction, obscuring racialized educational inequalities that contribute to Black and Latin* students disproportionately having questions deemed basic and disruptive. With racial disparities in high school preparation for introductory STEM courses, systemic forces play a large role in racially minoritized students’ academic challenges in calculus (Bressoud, 2021). Bhavik’s exhibited dysconsciousness of how racism shapes student support needs illustrates how the insignificance discourse can be operationalized to reinforce racial inequities.

Joshua (white man) interpreted the *course drop* event as potentially discouraging to students based on their ability rather than race or gender. In the event, an instructor announces the following to an entire class, “If you don’t know how to do these steps quickly, you might want to consider dropping down to a lower class or consider not taking Calculus 2.” Joshua’s event interpretation did not depend on race, claiming it is a “universal thing across the board that students … still struggle with some concepts from Calc I.” He perceived students, regardless of race, who struggle with content despite substantial effort being more discouraged than high-achieving students who would likely agree with the instructor’s behavior.

The students who would probably feel most uncomfortable, I imagine a student who is struggling with some of the topics, is maybe like a C or D student, feels like they can’t drop, and also feels that they’re already putting in so much work into the class and you’re telling me that’s still not enough … Students at the top of the class probably don’t feel bothered by it [the event] at all. They probably hear this and be like, ‘Yeah, you should drop down.’ They probably almost agree with the professor.

Joshua’s event response invokes a hierarchy of mathematical ability or performance to explain variation in students’ experience of something like the *course drop* event. Without seeing race or gender being relevant, Joshua engages the insignificance discourse rooted in a colorblind, gender-neutral ideology of mathematical ability as innate (Leyva, 2017; Martin, 2009). His hierarchical categorization of students depicts a static view of ability that, as described in his participant profile, informs his instruction (e.g., not addressing a “ridiculous question” about algebra). The insignificance discourse,

thus, may get operationalized through Joshua's instruction that disconsiders racialized and gendered impacts of messages to drop down a course level on historically marginalized groups, who have limited access to preparation for college calculus (Bressoud, 2021) and are disproportionately weeded out of STEM majors.

To illustrate the potential operationalization of the insignificance discourse, Joshua reported relaying similar messages to the *course drop* event in his Calculus I class "at least once per lecture" during his review of precalculus content early in the semester. His assumptions that "students who really do have very poor skills" are misplaced into his class informed his practice of delivering these messages that he felt were uncomfortable yet necessary.

Joshua: I feel like I've said this or something similar to it, I mean I know I have. It's very common for me when students ask questions in class [about algebra and precalculus] ... A big issue with Calculus I is that students get misplaced into it. They should clearly be in Precalculus ... I definitely do always feel maybe I'm being too harsh like that. I'm almost saying, 'You're stupid, you don't know precalculus.' My intent really is to say, 'This is pre-calculus, if you don't know it, you're gonna have to know it. If you're still struggling, maybe dropping down might be a good idea.'

[...]

Interviewer: Having done it in the past, does it make you uncomfortable to say these things?

Joshua: Yes, it does, but I almost think of it as a necessary evil. I am aware that I can probably come off nicer about it, but the reality is, I'm gonna sound like a dick.

Joshua invokes inaccurate course placements and a lack of foundational skills to justify advising students with precalculus-related questions to drop calculus. Joshua's dysconscious interpretation of the *course drop* event, represented by his invoking the insignificance discourse, suggests a lack of racial and gender consciousness in his practice of encouraging students to drop down a course level. Such messages in Joshua's instruction can overlook historically marginalized groups' inequitable access to foundational mathematical content and, relatedly, low rates of retention in calculus.

Objectivity discourse

Another dominant discourse engaged among faculty was that calculus instructional events can be objectively deemed race- and gender-neutral (*objectivity discourse*). Five of the seven faculty (Bhavik, Ester, Robert, Shruti, and Stan) engaged the objectivity discourse in their responses to one or more events. This discourse is rooted in ideologies that mathematics teaching and learning are objective or socially neutral activities that render emotion and subjectivity irrelevant. The objectivity discourse, thus, upholds structural racism and patriarchy through individuals' assertions that strong objectivity is necessary to claim that everyday incidents are racist or sexist (Bonilla-Silva, 2002, 2006). Given that one cannot objectively determine whether another's experience is racialized or gendered, this discourse signals dysconsciousness through faculty participants' calls for strong objectivity to consider oppressive experiences of calculus instructional practices among students.

In Ester's (Latina woman) response to the *unreviewed problem* event, she privileged her subjectivity over a student's to assert that the event was objectively race- and gender-neutral. This event featured an instructor not going over a problem that a student asked to be reviewed.

Interviewer: Would you interpret it differently if the student were male or female?

[...]

Ester: So just from reading I don't interpret ... it's more like the interpretation that people may have or the student may feel. So I can definitely see something happening that if there's a girl and it's a male professor, maybe the other people are going to say, 'Oh he's telling her to go.' But it's just like, you know it's in their heads most likely. I can see that happening or people making comments like this. But I don't see from, just from the situation. I've said that, 'Come to me in my office.' Other people have said that, so I don't see it being different. It really depends on the person, on the student, on the class and everything. But ... the situation in itself should not be different from whoever is teaching or whoever is the student.

[...]

Interviewer: And what about the student's race? Would you interpret the event ... differently if the student were say white or Latino, Latina?

Ester: I don't think it's different because like again ... people may say, 'Okay, yeah, he [the instructor] did that because of this or that,' but I don't see this situation any different from how I would take it.

Interviewer: So when you say they might think, 'they' meaning the students experiencing the event?

Ester: Yes. Maybe it's just like if the student already, whatever the situation is, if you have been through a situation where you feel you're being treated different and the professor tells you this and you say like, 'Hey again, because it's me.' But sometimes it's not. It's like if you're so used to being in a situation that you feel different, you may feel again it's repeating, but I don't see the situation being different in any way.

Ester acknowledges that the event could be experienced as gendered or racialized depending on a student's prior experiences. However, Ester's response distinguishes between the "interpretation that people may have or the student may feel" and "the situation in itself," which she claims is objectively not "different in any way" when experienced by students of varying racial or gender identities. Ester's engagement of the objectivity discourse is evident in her claims that "sometimes it's not [racial]," reflecting dysconsciousness through her rendering the event neutral to oppose students' interpretations of the faculty behavior as marginalizing.

Robert's (white man) response to the *dismissed student* event also exemplifies the objectivity discourse. In this event, an instructor chuckles and disregards a student's question.

Interviewer: If it was a white student, what they might think, versus an African-American student?

Robert: There's too many variables. I don't think one way or another. [I would need to] be a little more aware of the situation, the context.

Interviewer: It seems like you'd have to know more information, you'd have to be there, you have to see it.

Robert: Because of all the non-verbal communication. There's what happened before and what happened after, and there's a lot of things that would go into the perception. I can't read into this. Like I said, it's like an inkblot. You start to read into it ... I'm not that interested in making up a story around this.

Robert's reluctance to comment on the potentially gendered and racialized nature of this and other events, especially in light of his inkblot test analogy, suggests he believes subjective interpretations of the event, or "stories," to be invalid or unimportant. This is corroborated by his assertions that there are "too many variables" and that he would need to see the event to objectively assess the event. In seeking additional contextual factors, Robert suggests that details like nonverbal communication, if available, could be used to determine objectively whether the event is race-neutral. While

Robert and Ester both suggested that individuals may interpret the instructional events differently, they exhibited dysconsciousness by asserting that sufficient context allows for objective determinations about the potentially racialized and gendered nature of the event, independent of structural forces that may differently impact students' experiences.

Where faculty engaged the objectivity discourse a color-evasive, gender-blind rhetorical strategy emerged that labeled students as sensitive or emotional if they experienced objectively neutral events in racialized or gendered ways. This was evident in Stan's (white man) response to the *calculator accusation* event. When asked if the race of the student involved in the event influenced his perception, Stan suggested instructors should not acknowledge financial status as a potentially racialized factor to avoid making Black or Latin* students angry.

Interviewer: Would you interpret the situation differently if the student were white or African American?

Stan: No. I think as a teacher, you have to be very careful not to stereotype a student because of their particular ethnic group that they must be economically disadvantaged. That's why you have to be very careful with things like that. Students get very upset very quickly ... The implication is they were given this calculator because ... they didn't have the money to buy the calculator. So if you imply, 'Because you're Latino or whatever, you must be economically disadvantaged,' then that student will get angry.

Stan neglects that structural racism shapes financial opportunities among communities of color, which could cause students to experience the event as racialized, and instead explains an instructor associating race with class as a form of stereotyping. His response suggests that he has only two options: perceiving the event as objectively neutral or engaging in racial stereotyping. While it may be true that students could be upset or angry when confronted with racial stereotypes, Stan presented students' emotionality as the sole reason for not acknowledging race in his interpretation of the event. Through this, Stan implicitly suggests that students' reactivity to racial stereotypes is a hypersensitive rather than reasonable response to systemic racism, which reflects how constructions of mathematics instruction as objectively neutral limit opportunities for Black and Latin* students to express emotions tied to managing racial oppression (Battey & Leyva, 2016; McGee & Martin, 2011). Thus, while Stan appeals to a perception of the event as objectively race-neutral to avoid stereotyping, in so doing he reinforces race-neutrality as normative and ideal for calculus instruction.

This dysconscious framing of instruction positions racially minoritized students as responsible for construing their experiences as racialized and places restrictions on acceptable emotions in calculus classrooms.

Bhavik (Asian man) similarly engaged this discursive strategy in a gender-blind way when interpreting the *instructor mistake* event. Although Bhavik interpreted the event as objectively race- and gender-neutral, claiming “If there is a gender issue or race issue between the student and the professor, I don’t see any difference,” he suggested that men and women would likely respond to the event differently due to women’s tendency to “brood.”

Many times what I think, male students will . . . move on but the female students will probably brood in and think a little more and probably go to search their own inner things. Or, ‘Really, did I make a mistake?’ or ‘I should not have corrected the professor.’ That kind of inner thinking may occur in female students, but it may also occur in male students, those who are very sensitive.

Bhavik’s response could be interpreted as a gendered stereotype of women as emotional. However, his acknowledgment that “it may also occur in male students . . . who are very sensitive” indicates student emotionality, more than gender, shapes the event as discouraging. Bhavik’s assertion that the event is race- and gender-neutral positions students who experience the event in racialized or gendered ways as “very sensitive,” thus faulting individuals despite race and gender related barriers to correcting instructors in the calculus classroom (Leyva, McNeill et al., 2021; Leyva, Quea et al., 2021). This dysconscious reasoning presented through discursive constructions of calculus classroom events as objectively neutral further illustrates racialized and gendered restrictions on historically marginalized students’ expression of emotion in response to oppressive instructional moments.

Opposing the dominant discourse positing that calculus classroom events can be objectively race- and gender-neutral, two faculty participants (Ester and Lauren) varyingly engaged a marginalized discourse that positioned students’ subjective interpretations of instructional events as central to their learning and performance. Lauren’s (Black woman) response to the *dismissed student* event presupposed that “-isms” would need to be managed by the student unless the student and instructor shared similar racial-gender identities.

[If it was a white student] then you know all of those -isms disappear. So then it’s just a rude professor . . . So those are the differences that when the races [of the instructor and the student] are the same and the genders are the same, all of those extra things that need to be managed by the student or by the professor disappear and you’re just either talking about that person’s personality or the actual situation or the student’s personality.

While the dominant discourse attributed students' experiences of events as racialized and gendered to students' sensitivity, Lauren claims that instructional events can only be attributed to personality when structural factors, such as racism and sexism, are mitigated through sharing a common identity. Lauren understood students' racialized or gendered experiences of calculus instructional events as subjective. However, she argued this subjectivity does not weaken the importance of attending to race and gender, as students' subjective experiences may deeply impact their learning.

Lauren: When you add in race and gender and all of those things, it adds into the cognitive load, particularly of the student to have to manage all of that and still try it to learn. And so it makes learning even harder when there's all those other things involved and if they're perceived to be involved. Right? Because maybe they're not involved but it's perceived that it is that. So it's still part of the cognitive load.

Interviewer: Do you think that that matters at all? Whether it's perception or reality for the student?

Lauren: For the student, it's not going to matter because they still have this increased burden on cognitive load. Their self-efficacy is still at stake and all that stuff. If they somehow realize at some point that their perception was wrong, then that could help moving forward to not make situations worse, but there could already be some damage done.

Contrasting the objectivity discourse, Lauren's response suggests that regardless of whether marginalization is real or perceived, the impact of such an event affects student learning and performance. Additionally, she suggests racialized and gendered instructional experiences may affect a student's self-efficacy, potentially contributing to negative effects beyond the current instructional moment. Lauren's response to the *dismissed student* event counters the dominant discourse of objectivity that shapes unconscious instruction in two ways: (i) undergraduate calculus instruction is assumed to be racialized and gendered unless mitigating factors are present, and (ii) students' subjective experiences of events as racialized and gendered are recognized as an important factor in mathematics learning and performance.

Potential operationalization of the discourse

Calculus faculty reflections on their instruction illustrate the potential operationalization of the objectivity discourse. The objectivity discourse, and its attribution of racial and gendered marginalization to sensitivity, was visible in faculty's reported practices of creating a seemingly neutral

learning environment. Ester's (Latina woman) response to the *course drop* event exemplifies how the objectivity discourse can be operationalized. She interpreted this event as objectively race- and gender-neutral because "it's a general comment to the whole class" and not specifically aimed at students of a specific race or gender. She supported delivering similar messages to her calculus I students to ensure their enrollment in "appropriate" courses where they can succeed.

I have done this exactly . . . it's a good thing you're doing for this student. The student is really having trouble, sometimes I wish I could say, 'You should not be here.' But I feel like I can't say that . . . [But also if] the student, he comes and tells me, 'I'm having so much trouble I don't understand,' I can't say, 'Oh it's going to be okay, you're going to pass.' It's not true.

Ester perceived her neutral practice of advising to consider a drop in course level as a benevolent act that protected struggling students who "should not be" enrolled in calculus from failing.

Considering racialized and gendered inequities of preparation for calculus (Bressoud, 2021), Ester's practice may have an impact of reinforcing exclusionary access to advanced mathematics despite any tensions she may feel about delivering a message like in the *course drop* event. Ester acknowledged that "we [instructors] say the same thing, [but] people can hear slightly different versions of it," allowing for the event to be experienced in racialized or gendered ways. She, for example, recognized that women may be more inclined than men to question their ability and continuation with calculus upon hearing such a whole-class message, "[From the] female perspective . . . we guess ourselves more than men do in general. So it's kind of like, 'Okay, am I good enough?' And the guy is like, 'Yeah, I'm fine.'" Despite Ester's awareness that the instructor's remark could be discourage students for race- and gender-related reasons, she perceived it and similar messages conveyed in her classroom "especially in the beginning of the semester [as] good advice." Thus, Ester's reported classroom practices similar to the *course drop* event suggest how the objectivity discourse is potentially operationalized through dysconscious advising about course enrollment, which can have racialized or gendered impacts on students.

Robert's (white man) interpretation of the *calculator accusation* event also illustrates the potential operationalization of the *objectivity* discourse. He critiqued the instructor's behavior and advocated for instructors to refrain from non-mathematical comments.

I understand how tempting it is to comment on things that are irrelevant, but it illustrates why you should keep your mouth shut if it's not relevant to the topic at hand. I don't know what led the student to write this log entry . . . It sounds like this person felt singled out or, again, just picked on for no good reason, or even an accidental reason. Who knows? I don't know, why would anyone say,

‘By the way, this is not yours.’ What was the point of that? My reaction is, keep it simple, stick to what you need to communicate, because you have no idea what your side comments, how they’re going to be taken by other people.

Robert’s suggestion that instructors “stick to what they need to communicate” reflects his view that mathematics instruction should be neutral, focused on content, and absent of “side comments” that could be interpreted as gendered or racialized. This perspective connects to Robert’s view of his instructional responsibility as covering content under limited time. Robert’s perspective potentially shapes calculus instruction as having strict boundaries between what is “relevant” or “irrelevant” to foreground content, limiting space for social and emotional dimensions of instructional experiences. Robert’s recommendations for calculus faculty illustrate how the dominant discourse of objectivity could be operationalized in sterilized forms of instruction that reinscribe mathematics as a social (Levya et al., 2022). Like Stan’s claim that instructors should not raise issues of race because it may make students angry, Robert’s dysconscious perspective separates mathematical relevance from social relevance which may serve to mitigate liability for racism and sexism, rather than alleviate the impact of oppression through instructional practices.

Discussion

We provide two conclusions based on our findings that contribute to understanding colorblind racism and dysconscious instruction in undergraduate mathematics. First, we illustrate how color-evasive, gender-neutral discourses have unique opportunities to endure in mathematics where ideologies of objectivity preserve faculty dysconsciousness in calculus instruction. Second, we demonstrate how colorblind racial discourse in our study’s findings can support instruction that preserves racial and gender inequities in undergraduate calculus while maintaining a guise of neutrality. In presenting these conclusions, we draw connections between findings from our analysis and extant research to capture the intellectual contribution we make in the field.

We then offer implications to instructors, department chairs, and administrators to develop practices that resist the insignificance and objectivity discourses to promote race- and gender-conscious mathematics learning opportunities. Finally, we offer limitations of the present study and opportunities for future research to advance knowledge of race- and gender-conscious instructional practice in undergraduate mathematics.



Interpretations of the findings

Faculty discourses illustrate how mathematics preserves colorblind racial ideologies, which may be reinforced or disrupted through calculus instruction

Our findings exemplified how the asociality of mathematics supports color-evasive discourse that can shape dysconscious instructional practices. The insignificance discourse, which rendered race and gender meaningless in undergraduate calculus, was rooted in ideologies that mathematics is asocial (Hottinger, 2016) and achievement is meritocratic (Battey & Leyva, 2016; Martin, 2013). For example, in Stan's engagement with the insignificance discourse, he evaded acknowledgment of race in response to race-specific questions and asserted nonracial factors like student demeanor (e.g., easily shutting down) are more important when interpreting instructional moments. This example demonstrates how such asociality in mathematics can support faculty engagement in the "anything but race" rhetorical strategy (Bonilla-Silva, 2002, p. 52), which minimizes the significance of race by holding nonracial social forces responsible and reinforces dysconscious instruction. The marginalized discourse acknowledging racial significance engaged by faculty like Joshua disrupted the influence of colorblind ideology in mathematics and allowed for faculty consciousness of racial and gender inequities in mathematics learning opportunities.

These insights from our analysis complement those from P-12 research that depict how the exclusionary culture of mathematics organizes inequitable learning opportunities through instruction (Louie, 2017). Louie's (2017) study of high school teachers' instructional practices found exclusionary frames of mathematical ability promoted instructional disregard for social aspects of learning, reinforcing deficit positioning of racially minoritized students despite teachers' expressed commitments to equity. Our characterization of the insignificance discourse complements Louie's findings by capturing how the asociality of mathematics shapes how undergraduate faculty talk about instruction and potentially supports dysconscious practices.

The objectivity discourse was supported by disciplinary ideologies surrounding the objective neutrality of mathematics, and by proxy, instructional events in calculus. Ideologies of objectivity and neutrality reinforce constructions of undergraduate mathematics as an emotionally sterile space (Battey & Leyva, 2016; McGee & Martin, 2011), withholding opportunities for minoritized students to process marginalizing experiences. Engagement of the objectivity discourse, as exemplified in Ester's and Robert's event responses, conveyed universalism (Bonilla-Silva, 2006), positioning individual perspectives as neutral and universal. This discourse may shape faculty dysconsciousness as evident in participants' reflections that position students

experiencing instruction in marginalizing ways as oversensitive, contributing to racialized and gendered patterns of gaslighting (e.g., Eisen, 2020). The marginalized discourse resisted neutrality, appealing to ideologies that undergraduate mathematics is a racialized and gendered space, which expands opportunities for race- and gender-conscious calculus instruction that accounts for how social forces affect student experiences.

The objectivity discourse finding extends prior research by capturing how faculty dysconsciousness may support emotional sterility in undergraduate mathematics, which has largely been characterized through students' classroom experiences. McGee discussed how constructions of mathematics as a space of neutrality and objectivity leave mathematically successful Black and Latina/o students' students on their own to cope with racial and gender stereotyping experienced through instruction (McGee, 2016; McGee & Martin, 2011). Another analysis from our larger study on calculus instruction similarly found how Black students, Latina/o students, and white women adopt coping strategies (e.g., withdrawing classroom participation, teaching themselves content) to manage emotional and cognitive labor from racialized and/or gendered classroom experiences. The present analysis builds on this work by depicting how objectivity in mathematics obstructs faculty's awareness of students' affective experience of instruction as racialized and gendered, which can guide faculty learning to increase consciousness in their instruction.

Dysconscious instructional practices that reflect the potential operationalization of dominant discourses are mechanisms reinforcing colorblind racism in calculus

Our findings illustrate faculty's varying levels of consciousness of the potentially racialized and gendered impacts of seemingly neutral calculus instruction, as well as how faculty dysconsciousness may support marginalizing or inequitable instructional practices. The potential operationalization of the insignificance discourse is reflected in faculty descriptions of dysconscious practices that leave racialized and gendered experiences of instruction unchallenged. For example, faculty engaging the insignificance discourse in response to the *unreviewed problem* event neglected how racialized-gendered access to mathematical content in K-12 settings influences calculus performance. Practices such as limiting support to students perceived as making insufficient effort, thus, is a mechanism of colorblind racism in calculus.

Resting on the ideology that mathematics is a neutral space, the objectivity discourse underpins faculty's discussed creation of race- and gender-neutral learning environments that exempt them from responsibility for attending to structural inequities, such as racism and sexism. Faculty dismissal of students' subjective experiences justifies dysconscious instructional practices, such as discouraging calculus persistence as in Ester's response to the *course*

drop event, despite the potential for underrepresented students to disproportionately experience discouragement. Reports of faculty practices in our findings, such as sticking to mathematical content in instruction, suggest mechanisms in calculus instruction wherein the objectivity discourse is operationalized to reinforce colorblind racism through the guise of neutrality.

Our study's findings contribute a theoretical explanation of how well documented mechanisms of inequality in undergraduate mathematics instruction are manifestations of dysconscious practices entrenched in colorblind racism. These instructional mechanisms include limiting opportunities to share thinking (Ellis et al., 2014; Oppland-Cordell, 2014), activating exclusionary ideas of who belongs in mathematics (Borum & Walker, 2012; Leyva, McNeill et al., 2021), and withholding student support (Roberts, 2020; Rodd & Bartholomew, 2006). To illustrate, our other analyses focusing on student perceptions of instruction depict how racialized and gendered forces in mathematics (e.g., stereotypes of ability, lack of diverse representation) collide with frequently-heard advice from calculus faculty about dropping down a course level to prompt historically marginalized students' reconsidered persistence in mathematics (Leyva, McNeill et al., 2021; Leyva, Quea et al., 2021). The present analysis builds on prior work by showing how ideologies of colorblindness and gender-neutrality in mathematics education shape faculty dysconsciousness that preserves the racialized and gendered impacts of instruction in calculus and undergraduate mathematics more broadly.

Implications for practice

Faculty engaging the insignificance discourse rendered irrelevant the impact of race and gender on students' mathematics learning experiences. Holding race and gender as insignificant obstructed faculty recognition of systemic effects in the calculus classroom, supporting faculty attribution of mathematical success to merit and ability rather than structural advantages. The effects of rendering race and gender insignificant can be exacerbated by gatekeeping practices, common to introductory mathematics courses, wherein students are "weeded out" due to a perceived lack of effort or ability. In addition to cultivating race- and gender-conscious teaching practices, instructors, department chairs, and administrators can mitigate the racialized-gendered impact of calculus instruction by reducing barriers to accessing mathematics. This may include ensuring that historically marginalized students have access to high-quality instructional support outside of lectures, recitations, and office hours. For example, building group tutoring into calculus courses may alleviate pre-college inequities while fostering supportive student-faculty and peer relationships. In addition, instructors and

administrators can examine departmental structures, such as course prerequisites and pathways to mathematics and STEM majors, to reduce barriers to upper-level courses and facilitate STEM persistence among students who do not meet traditionally recognized benchmarks.

Faculty engaging the objectivity discourse considered instructional events to be objectively race- and gender-neutral, positioning students as hypersensitive if they experienced these instructional moments as racialized or gendered. The discourse justified faculty disconsidering student affect in instruction. In attempting to cultivate a race- and gender-neutral environments for mathematics learning, faculty constrain students' ability to develop simultaneously racial, gendered, and mathematical identities. In addition, faculty used the neutrality of instructional events to justify their neglect of student affect, such as student discouragement or cognitive labor, in learning. Instructors must develop responsibility for affective dimensions of learning, recognizing that emotional and cognitive labor can influence student success in calculus. Faculty can devote more attention to historically marginalized students' experiences, including how instruction may be experienced as racialized or gendered as well as what instructional practices can affirm their identities. Department chairs and administrators can facilitate this process by creating opportunities for faculty engagement in race- and gender-conscious dialogue regarding affirming students' humanities in mathematics.

Professional development can be designed to center faculty engagement with instructional instances tied to different learning opportunities (e.g., sharing mathematical thinking, seeking support with content) and historically marginalized students' experiences of these classroom instances. Such professional development can promote faculty consciousness of how dominant discourses like those in our findings justify instructional practices that have inadvertently racialized and gendered impacts on calculus students. Use of events and student reflections in professional development provide mathematics faculty with concrete examples of (in)equitable instructional practices to motivate instruction shaped by marginalized discourses.

Limitations and future research

Our study explored faculty discourse by inquiring about race and gender as fixed and separate social markers limiting our ability to explain variation in how faculty construe these dimensions of inequality, including to what degree instructors understand race and gender as intersecting social constructions performed differently across contexts. Variation in faculty identities and lived experiences may contribute to different perceptions of race and gender, as well as their relevance to undergraduate calculus instruction. Previous work has shown that women and Black faculty demonstrate more

advocacy for racial diversity (Park & Denson, 2009) and Black instructors of introductory STEM courses predict higher retention among Black STEM students (Price, 2010). However, further work is needed to develop qualitative understandings of how faculty identity and lived experiences may inform race- and gender-conscious instruction, or otherwise support retention among underrepresented students. Such inquiry is critical in mathematics, which has limited faculty racial and gender diversity and where improved knowledge of race- and gender-consciousness as supporting instructional efficacy could motivate changes in hiring, promotion, and tenure processes.

While our study captured faculty perceptions of instruction at a fixed moment in time, faculty engagement of colorblind and gender-neutral discourses or classroom practices can vary across time and contexts. For example, our findings showed that Joshua both engaged and countered the insignificance discourse across his responses to different events. Instructors' readiness to change their engagement of color-evasive and gender-neutral discourses holds promise for the efficacy of professional development which may help faculty to see the undergraduate mathematics classroom as a racialized and gendered space. Indeed, Lauren's use of educational terms such as "self-efficacy" and "cognitive load" in her responses indicate that her advanced degree in education likely influenced her race- and gender-conscious perceptions of instructional events. Limited research has explored the efficacy of equity-oriented professional development for mathematics faculty, much of which has centered equity-oriented syllabi redesign (Ching, 2018; Felix et al., 2015). Our findings raise questions about the efficacy of using instructional events, such as those in this study, to initiate dialogue around the influence of race and gender on mathematics teaching and learning. While our study design did not prompt faculty's critical self-reflection through interviews, these dialogs could be used to demonstrate incongruities between faculty's color-evasive and gender-neutral orientations to mathematics instruction, and the ways these instructional moments are experienced as racialized and gendered among historically marginalized students. Further research should explore possibilities for mathematics faculty development that leverages instructional moments to cultivate race- and gender-consciousness.

Our findings extend previous research on how mathematics teaching in P-12 settings can perpetuate a culture of exclusion (Louie, 2017) which marginalizes race- and gender-minoritized mathematics learners (e.g., Esmonde et al., 2009; Nasir & Hand, 2008). While research has documented how K-12 mathematics teachers often lack readiness to critically examine issues of race in mathematics teaching (cf., Gutiérrez, 2013), limited research has investigated how such issues arise in undergraduate teaching. Investigating how asociality and objectivity inform undergraduate

mathematics teaching uniquely is important given that undergraduate STEM instructors experience different teaching preparation, departmental constraints (e.g., adherence to syllabi), and pedagogical traditions (e.g., lectures). Calling attention to faculty discourse and instructional sense-making, our findings highlight the importance of cultivating faculty readiness to notice and respond to racialized-gendered dimensions of instruction to disrupt colorblind racism (Louie et al., 2021).

Notes

1. We use both descriptors, *colorblind* and *color-evasive*, throughout the paper to honor the genealogy of theorizing racial ideologies while recognizing the distinction between them. Namely, we use *colorblind* when referring to the type of racism and broad ideology, and we use *color-evasive* for describing discourses that avoid recognizing race.
2. The asterisk in Latin* considers fluidity in gender identities among Latin American people. Latin* responds to (mis)use of Latinx, a term reserved for Latin American gender-nonconforming peoples (Salinas & Lozano, 2019).

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Appendix A

Stimulus Events for Interviews

Instructor Mistake

Our professor was finishing a problem, but when recopying the step in the problem, the professor wrote a number incorrectly. A classmate and I raised our hands to bring it up but it took almost a minute or so before being acknowledged. As I was explaining what was wrong, the professor cut me off saying "Yeah, I know" and gave a number of excuses to avoid seeming incorrect. The professor has been corrected before and would admit being wrong and thanked the students for catching the mistake, but did not do so when corrected by me.

Calculator Accusation

During a lecture, Professor [X] was making a demonstration of how students should mark their calculators for identification for the exams. She collected mine and used it as an example. My calculator had an XYZ tag on it because the XYZ program gave me the calculator. As the professor was doing the demonstration she said "this calculator is not yours." I told her that those were not initials and that XYZ was a program that gave me the calculator. As a result, I was not able to concentrate on what she was saying anymore.

Unreviewed Problem

After the professor finished responding to another student's question and asked if anyone else had a question, I raised my hand and asked the professor to go over a question related to the domain of a function. The professor said, "Sorry, I don't

have time to go over another domain question right now. But if you come to my office hours, I can go over another problem with you." The professor then moved onto a different problem.

Course Drop

During class the professor said something along the lines of, "If you do not know how to do these steps quickly you might want to consider dropping down to a lower class or consider not taking Calculus 2." As a student who wants to major in a STEM field it made me feel a bit uncomfortable because I did take a bit longer to do the steps. At the time of the event I thought to myself if I was good enough to go on to Calculus 2.

Dismissed Student

The professor was writing the solution to a problem involving radicals. A student asked whether or not a number without a radical and one with a radical could be added to simplify the answer. Instead of explaining why this was not possible, the professor chuckled and repeatedly told the student "no." The student repeatedly asked why and did not receive an answer. Eventually, the student apologized for asking the question in the first place and the professor moved on.

Appendix B

Figure 3 features Ester's (Latina woman) responses to interview questions specific to the course drop event, in which an instructor advises an entire class about dropping down a course level or not continuing with Calculus 2 if they cannot complete a problem quickly.

First, in responding to the question about the influence of the instructor's race and gender, Ester interpreted the instructor's whole-class comment as free of oppressive intent or impact, rendering race and gender irrelevant. We applied the open code *racial and gender irrelevance* to flag the dominant discourse in this segment. Ester's appeal to a contextual factor (the comment made to the whole class) in rationalizing her perception of the event as objectively neutral prompted our application of another open code, *objective neutrality*, to document Ester's color-evasive engagement of the dominant discourse. Addressing our first research question, this coding identified Ester's engagement with the dominant discourse of objective neutrality through color-evasive reasoning of instruction that dismissed race and gender.

The open code *justifying instructional practice* was applied to the second segment where Ester addressed her comfort with enacting the described instructional practice. Ester made a connection to her instructional experience of working with struggling students to rationalize the stimulus event as beneficial. Her justification neglects the potentially racialized or gendered impact of advising students to drop the course, much like how she dismissed race and gender in interpreting the event as objectively neutral. The axial code of *dysconsciousness* linked open codes applied to Ester's interview excerpt. Addressing the second research question, this code captures how the dominant discourse of irrelevance, which shaped Ester's perception of the course drop event as objectively neutral, is potentially operationalized through dysconscious instruction in her described interactions with struggling calculus students.

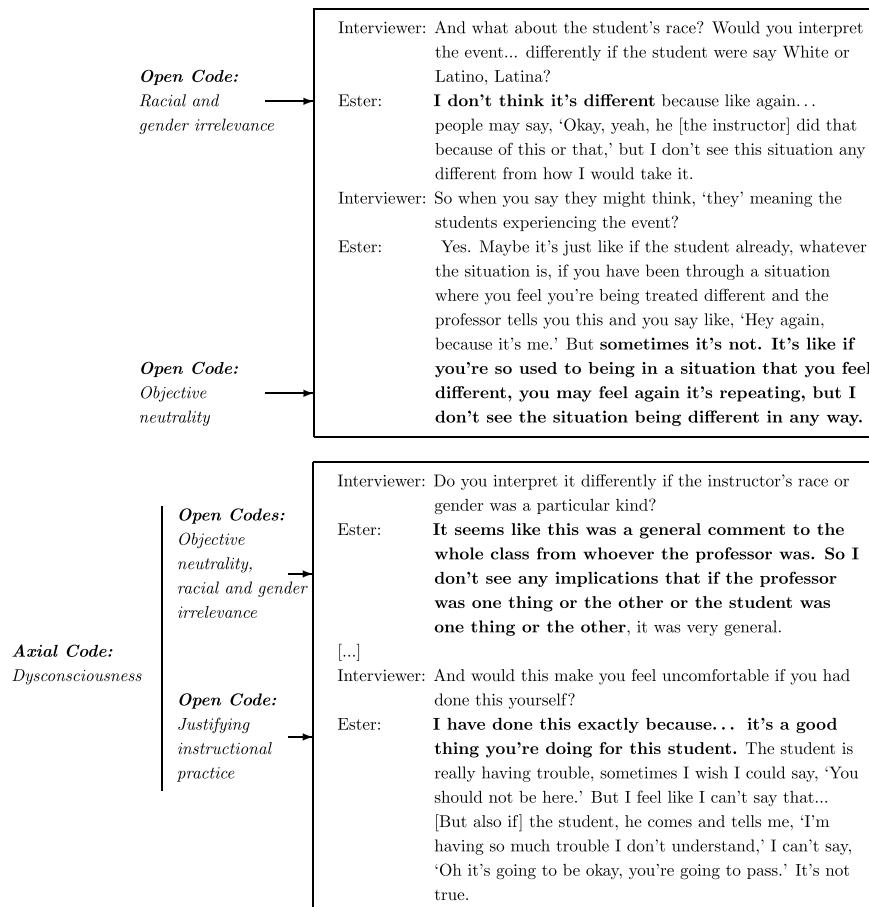


Figure 3. Example of open and axial codes used to identify discourses.