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**Decentering whiteness: Rethinking the instruction of undergraduate research methods
within developmental science**

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Abstract

Many social scientists are working to course correct the historical mistakes, abuses, and exclusionary practices of the field. To diversify who participates in developmental science, both as participants and as researchers, we argue that more attention must be paid to how we teach the *science* of developmental science (i.e., research methods). We propose that undergraduate research methods courses offer an opportunity to intervene on the academic pipeline and invite students of color into research through course curriculum. In this essay, we discuss guiding principles instructors should consider to transform their curriculum in the research training of undergraduate developmental scientists.

Keywords: *research methods, teaching, culture, diversity, race*

Decentering whiteness: Calling for change in the instruction of research methods within developmental science

Metascience—the scientific inquiry of science itself—is of growing interest in the social sciences as we attempt to course correct the historical mistakes, abuses, and exclusionary practices within our field. One necessary correction is the greater inclusion of racial-ethnic diversity, both in terms of research samples and scholars. Efforts to increase racial-ethnic diversity tend to focus on the research itself (e.g., recruitment and retention). Less emphasis, it seems, is placed on how we actually teach the science--specifically research methods at the undergraduate level. The manner in which research methods, and science more broadly, is traditionally taught is unlikely to yield favorable results in terms of increasing racial-ethnic diversity of scholars in developmental science and its studies. In short, racial-ethnic inequities in our science will persist if we are not intentional about changing how we teach it.

In this essay, we discuss the importance of undergraduate research methods courses as a space to intentionally invite students of color into developmental science¹ through pedagogy that is equitable, inclusive, culturally-affirming and relevant, anti-racist, and epistemically inclusive. We begin by providing examples of how undergraduate research methods courses are traditionally taught and how such traditions are not conducive to increasing racial-ethnic diversity in developmental science. We then discuss why diversifying research methods curricula at the undergraduate level is necessary and how it might serve as an intervention for increasing racial-ethnic diversity in developmental science. We end with a brief overview of resources educators in developmental science can use to move forward.

¹ We use "developmental science" to be inclusive of scholars who work in developmental science but are not associated with psychology departments, as well as an acknowledgement that undergraduate training of developmental scientists is not exclusive to psychology (e.g., human development, child and adolescent development, child and family studies, family and consumer sciences).

We would like to acknowledge that our vision for how instructors can revise their undergraduate research methods courses to address racial-ethnic inequities reflects our educational and scholarly experiences and expertise within the context of the United States. Thus, our perspective and recommendations may not be wholly applicable outside of the U.S., and may not reflect the perspective and recommendations of those outside this specific context.

Research Methods as a (Typical) Course

White cultural norms pervade all aspects of higher education (Brunsma et al., 2012; Gusa, 2010; Smith, 2014). In classroom contexts, instructors often privilege research agendas, methods, and experiences that treat what is white as “universal” and “normal” (Gusa, 2010; Morton & Nkrumah, 2021). This approach is color-evasive (“the denial of racial differences by emphasizing sameness”), as well as power-evasive (“the denial of racism by emphasizing equal opportunities”; Neville et al., 2013, p. 455), and delegitimizes approaches that do not fit within this narrow framework (Grzanka & Cole, 2021; Settles et al., 2020). When undergraduate research methods courses are taught in this manner, all students acquire a narrow understanding of human behavior and develop a limited set of tools to think about and examine their own questions of interest. Students of color, specifically, are then less likely to see their own experiences represented in the curriculum, and have been found to leave science when courses are taught in the context of white cultural norms and values (Carlone & Johnson, 2007; Thompson & Jensen-Ryan, 2018). This trend is concerning because: 1) college is a time during which students of color can emerge as scientists (Ajayi et al., 2021; Arnett, 2000; 2006), and 2) although the racial-ethnic diversity of college students is on the rise, faculty across the U.S. remain predominantly white (Davis & Fry, 2019; NCES, 2019a, 2019b). Left unaddressed, such racial-ethnic inequities will continue to persist. Moreover, we will fail future generations of developmental scientists (and society, at large) if we don’t intentionally acknowledge the function of race and ethnicity in a racially and ethnically diverse society when examining human development.

In our experience as students and educators, race often becomes relevant in color- and/or power-evasive classrooms in at least one of these three ways. First, students learn about the creation and importance of institutional review boards following ethics violations such as the Tuskegee Syphilis Study. In this way, students come to learn about the relevance of race through the lens of harms committed against communities of color. Second, students are taught to include race as a subject variable (versus a proxy for social stratification) and interpret “effects of race” as attribute differences to processes internal to participants (see Zuberi & Bonilla-Silva, 2008 for important discussion on this topic). Third, many courses allocate one or two sessions to “special,” “vulnerable,” or “hard-to-reach” samples, during which students may or may not learn about the underrepresentation of populations of color in research samples.

In addition to these common practices, research methods courses in the social sciences tend to emphasize quantitative research inquiries. The field of psychology attempts to mirror natural sciences by emphasizing the investigation of causal mechanisms through experimental designs (House, 1977; Rozen 2011, as cited in Syed, 2021). Such norms are then passed down, implicitly or explicitly, through research mentorship and classroom education. Syed (2021) notes that 2 x 2 experiments limit the types of research questions that can be asked and precludes examining important nuance, especially as it relates to issues around racial-ethnic diversity, which ultimately limits how students of color can see themselves in our science. Relatedly, Harnois (2010) writes, “By suggesting that the statistical significance and sign of a few dichotomous variables accurately reflect the significance of race, gender, and ethnicity, the normative practices of quantitative social science obfuscate systems of racial, ethnic, and sexual domination.” (p. 170). Thus, privileging experimental and quantitative designs to the exclusion of other methods limits the questions we can ask and the phenomena we can study, ultimately limiting our understanding and teaching of human development.

Taken together, these classroom practices in research methods courses frame the experiences of people of color as “special topics”—those to be explored in small seminar rooms

and not centered in large lecture halls. This ultimately treats these topics as specialized and atypical, and irrelevant to our science. How inviting can such a course—a course that is often a precursor to students learning about research as a career—feel to students of color? In a society where identities, particularly racial-ethnic identities, shape interactions with others, we do a disservice to our students and our field by failing to create courses centering only a portion of human experiences. In short, if instructors are not being intentional about the experiences of students of color being relevant, then instructors are being intentional about the experiences of students of color being irrelevant (adapted from Harris III & Wood, 2020).

Research Methods as an Intervention

How can we make a more concerted effort to bring more students of color into developmental science? Longstanding initiatives (e.g., McNair Scholars Program, a U.S. Department of Education initiative providing a funded undergraduate research experience to increase attainment of doctoral degrees among “students from underrepresented segments of society”; U.S. Department of Education, 2021) have made strides toward diversifying the academy by providing undergraduate students of marginalized backgrounds with opportunities to have a closely-mentored research experience in preparation for graduate-level science training. However, undergraduate students who participate in these types of programs often know they want to pursue or are open to pursuing scientific research during and after college. How do we reach undergraduate students who do not necessarily see—or know of—science as a fulfilling and promising career path? How can we build in opportunities within course curricula to invite undergraduate students of color into developmental science? We cannot rely solely on special programs to redress persistent racial-ethnic education inequities. We believe that research methods courses offer one opportune time to disrupt the status quo and introduce, as well as include, undergraduate students of color in the field of developmental science.

If we view research methods as an opportunity to intervene on the pipeline, we shift away from a model that places the onus on students and chance opportunities (e.g., visiting a

professor during office hours who then invites a student to join their lab) to a model that purposely and intentionally is meant to include students of color. To do so, we encourage research methods instructors to develop a curriculum that is equity-minded (Bensimon et al., 2007), inclusive (Nind & Lewthwaite, 2018), culturally-affirming and relevant (Harris III & Wood, 2020; Ladson-Billings, 1995), anti-racist (Lynch et al., 2017), and does not participate in epistemic exclusion (Settles et al., 2020). Table 1 provides a definition for each of these concepts, and examples for how to translate each concept into pedagogical practices within a research methods course.

So what does a research methods course that aims to intervene on the “leaky pipeline” and transform students of color into developmental scientists of color look like? Such a course begins with instructors recognizing the need to address the topics that might make them uncomfortable for the sake of their students’ holistic learning. As Neblett (2019) writes with regard to teaching diversity science, “Let us relieve students of the burden to initiate tough conversations, make links to current events and students lived experiences, delve beneath the surface, and become master instructors in inclusive teaching, uncomfortable as it may be” (p. 1236). Below, we highlight several guiding principles (though not exhaustive) that instructors should consider for developing a research methods course:

- A class that *intentionally* teaches research concepts through the scholarship of marginalized scholars (Ajayi et al., 2021; Bensimon et al., 2007; Harris III & Wood, 2020; Neblett, 2019).
- A class that *intentionally* teaches research concepts through scholarship that is relevant to the lives of the students in the classroom (e.g., Black, undocumented, LGBTQ), in a manner that not does frame experiences from a deficit-perspective and does not further marginalize any student (Buchanan et al., 2021; Harris III & Wood, 2020; Ladson-Billings, 1995).

- A class that teaches research concepts through scholarship that is relevant to creating a more just society (e.g., anti-racism, homelessness, differently-abled). That is, a class in which all students read, discuss, and learn about the range of human experiences through the lens of research methods to create empathetic, compassionate, and knowledgeable citizens of the world.
- A class that values diversity with regard to epistemology: different ways of knowing, different sources of knowledge, and different ways of communicating knowledge.

We believe that a course developed and executed with these guiding principles is one that allows students of colors to see themselves in developmental science. Further, providing connections from their lives to the content provides an opening for further examination of what is possible and needed within the science itself.

Although these principles should guide course development broadly, research methods courses offer a unique opportunity to capture the attention of students wary of or unsure about research. More specifically, undergraduate students report negative experiences in introductory research methods courses, such as fears surrounding its difficulty and failing to see the relevance of the course to their lives (Earley, 2014). However, when college courses are broadly taught in manners reflected in the aforementioned guiding principles, undergraduate students of color can report more belonging (Pak, 2018; Pappamihel & Moreno, 2011). A sense of belonging is well-known to be a critical and consistent predictor of important student outcomes among students of color in higher education, such as retention, graduation, and psychological well-being (Hausmann et al., 2007; Strayhorn, 2018). Moreover, institutional and pedagogical efforts addressing race, ethnicity, and culture have benefits for all students' academic and psychosocial success (Gurin et al., 2004).

On an anecdotal level, Tissyana observed the power of culturally-affirming curricula in her own developmental research methods classroom. When discussing dyadic research designs—using a study which recruited immigrant families from Oklahoma participating in an

English as a Second Language program through Head Start (Sommer et al., 2021)—many students in her largely Latinx classroom shared that they identified with the experience of living in a bilingual household with immigrant parents. Many of these students shared that they often translated for their parents. Although the students understood the practice of language brokering to be customary in their own lives, they did not recognize how widespread it was, nor that it was a research topic scientists explored and investigated. Students remained after class to discuss their experiences, how they related to the research, and asked more about this topic. This experience was notable not just because it created an opportunity for bilingual, immigrant, and Latinx students to see themselves in developmental science, it also signaled to students not carrying these identities that the experiences of bilingual, immigrant, and Latinx communities are relevant to the science and central to the human experience.

Recommendations for Moving Forward

Through this essay, we join numerous others in the call for faculty to reconsider classroom practices in order to address educational inequities faced by students of color in the United States (e.g., Ajayi et al., 2021; Neblett, 2019; Johnson & Elliott, 2020). In particular, we argue that the curricula offered in undergraduate research methods courses can be a transformative space to invite students of color into developmental science when taught in a manner that is equity-minded, inclusive, culturally-affirming and relevant, anti-racist, and epistemically inclusive. In addition to addressing pervasive racial-ethnic inequities in our science, such changes also meet Dupree and Boykin's (2021) call toward "modify[ing] curricula to educate racially sensitive citizens and signal the importance of race" (p. 15).

An essential first step for educators interested in transforming their curricula is self-reflection. We'd be remiss to not acknowledge that our own thinking on this topic has evolved in response to developing as instructors (and people) and learning more about how inequities are realized in higher education. Just as development takes place across the lifespan, so too does learning. Thus, educators should expect to regularly reflect on their practices and positionality.

In a science that privileges white experiences (Grzanka & Cole, 2021; Roberts et al., 2020), it is important for instructors to acknowledge their relationship with developmental science with regard to race, ethnicity, culture, and other identities (e.g., gender, sexuality, religion). That is, current methods, practices, and findings may reflect their own developmental experiences in ways that they do not reflect the experiences of all of their students. Knowing how to appropriately and sensitively discuss experiences that diverge from “white cultural norms” is critical toward facilitating such classroom experiences. One concrete, actionable avenue for such self-reflection is the “Strategies for Centering Instructor Identity in STEM Education” webinar offered by the National Center for Faculty Development and Diversity (for more information, see Daniels, 2021).

Second, we encourage instructors to interrogate their existing syllabi. Who is represented in the research discussed? Where and for what purposes? Revise course syllabi to center the work of scholars of color and meet explicit calls to cite scholars often excluded from course materials (Buchanan et al., 2021; Settles et al., 2020). To do so, consider collaborative efforts via workgroups. The thought of overhauling an entire research methods syllabus is overwhelming. Thus, as a starting point, educators can review a collection of ideas and resources generated during the 2021 Society for the Improvement of Psychological Science hackathon “Decentering Whiteness within Research Methods Courses” we organized [<https://osf.io/an6y9/>] (note that the ideas and resources reflect the contributions of all hackathon attendees). Additionally, there are publicly available resources for syllabi development, such as the syllabus challenge: infusing inclusive practices (see Case, 2017), decolonizing your syllabus (see Sadat Ahadi & Guerrero, 2020), and creating an equity-centered syllabus (see Center for Urban Education, 2017).

Third, educators need to examine their teaching practices. Outside of curriculum content, do classroom policies and practices contribute to inequities? There are a host of practices designed to reduce educational inequity that educators can consider (see Table 1),

and such inclusive pedagogical practices are seen by faculty as another method for addressing issues of diversity (Laird, 2011; Neblett, 2019). For example, using transparent assignments to provide clearly written instructions reduces educational equity gaps (Winkelmes et al., 2016). Early alerts—the process of communicating early, consistently, and compassionately with students who may be falling behind—can also be an effective tool for reducing equity gaps (Smith, 2018). An additional and related idea: work with your Office of Institutional Research to review your teaching data. For example, request descriptive information on how many students do not pass the class—perhaps split by demographics of interest (e.g., students of color, first-generation college students, Pell grant eligible)—in relation to the department (if possible). Consider which teaching practices may or may not contribute to possible inequity in the classroom.

Another important consideration to help transform curricula in an effective and intentional manner is for educators to advocate for the revision of this course at their institution. Although educators must take personal responsibility for what is taught in our classrooms, we acknowledge that this effort cannot be an individual endeavor. Educators must hold their institutions accountable for equitable student outcomes as well (Bensimon et al., 2007; Harris III & Wood, 2020) and insist on top-down commitments to diversity, equity, and inclusion from our institutions (for further discussion of this topic, see: Ajayi et al., 2021; Neblett, 2019). Thus, educators should review their department's, college's, and university's mission regarding diversity, equity, and inclusion and explicitly link course content to such missions, and share with decision-makers (e.g., department chairs, college deans, etc.). Advocating for course buyouts so that faculty can revise their courses to be equity-minded, inclusive, culturally-affirming and relevant, anti-racist, and epistemically inclusive is a concrete, evidence-based action that makes progress toward diversity, equity, and inclusion missions.

Conclusion

Upholding the status quo when teaching research methods counteracts efforts to create a more diverse, equitable, and inclusive science. To address the lack of racial-ethnic diversity in developmental science (i.e., who does the science and who is in the science), we argue that the curricula in undergraduate research methods courses—and graduate research methods courses for that matter—must be transformed to be equity-minded, inclusive, culturally-affirming and relevant, anti-racist, and epistemically inclusive. We hope this essay provides instructors who are aiming to grow in their pedagogy, particularly those in the United States, with the rationale for interrogating their practices and serves as a stepping stone for transforming such practices.

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Table 1

Concepts, definitions, and pedagogical examples

Concept	Definition	Example Practice in a Research Methods Course
Equity-mindedness	"...achieving equal educational outcomes for college students from racial and ethnic groups that have a history of enslavement, colonization, or oppression in or by the United States, relative to groups that have not experienced such conditions." (Bensimon et al., 2007, p.5)	<ul style="list-style-type: none"> • Creating and using transparent assignments • Using grading rubrics and grading blindly • Allowing student choice in assessment • Providing early alerts • Using free, open educational resources
Inclusive	"...opening up – and involving everyone in – learning." (Nind & Lewthwaite, 2018, p.75)	<ul style="list-style-type: none"> • Integrating principles of Universal Design for Learning • Allowing student choice in assessment • Non-traditional hours and modalities for hour offices
Culturally-affirming and relevant	<p>"A culturally-affirming learning experience centers diverse students in every aspect of teaching and learning (Ladson Billings, 1995)," as cited by Harris III & Wood (2020).</p> <p>"Culturally relevant pedagogy rests on three criteria or propositions: (a) Students must experience academic success; (b) students must develop and/or maintain cultural competence; and (c) students must develop a critical consciousness through which they challenge the status quo of the current social order." (Ladson-Billings, 1995, p.160)</p>	<ul style="list-style-type: none"> • Use of images that reflect diverse groups (racial, ethnic, culture) • Inclusion of minoritized research samples that reflect normative developmental processes (as opposed to deficit-approach research) • Exclusion of comparative research designs (e.g., research with white control groups) • Instruction of epistemology and positionality, and how the lack thereof in mainstream quantitative research affects data interpretation

Anti-racist education	"...(1) identifying or making visible systemic oppression; (2) challenging denial of complicity in such oppression; and (3) ultimately transforming structural inequalities." (Lynch et al., 2017, p. 135)	<ul style="list-style-type: none">• Centering issues of race and social justice throughout the curriculum• Reflection of anti-racist knowledge and beliefs through anonymous student survey to teach research concepts (e.g., open-ended questions to teach measurement, coding, and content analysis)
Epistemic exclusion	"We broadly define epistemic exclusion as the combined impact of formal institutional systems, or established systems for the evaluation of scholarship, and individual biases in determining what knowledge is valuable and who is deemed a credible contributor to knowledge production." (Settles et al., 2020, p. 2)	<ul style="list-style-type: none">• Treating qualitative and quantitative methods as equally valid, including discussing their relative strengths• Highlighting lesser-used techniques (e.g., photovoice)• Including minoritized scholars and samples in syllabi (e.g., people of color, LGBTQ, non-American, non-Western)