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JLER is focused on providing a multidisciplinary forum to provide a broad range of education professionals an avenue to share scholarly knowledge in the area of Equity and Leadership in K-20 education.

JLER aims to publish peer-reviewed manuscripts that add to the body of knowledge and focus on research and practical applications to practitioners of K-20 education and affiliated institutions. To achieve this goal, the journal seeks to promote research in elementary, secondary, and postsecondary institutions through articles on advocacy, equity, mentoring, cultural proficiency, diversity, community engagement, and the academic, personal, and social experiences of students; professional issues focused on equity for faculty and staff; and the regulatory policies impacting such institutions.

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FOREWORD: THE NEED FOR SHIFTS IN MINDSETS AND LEADERSHIP ROLES IN PK-20 SCHOOLS AND COMMUNITIES: CHALLENGES AND OPPORTUNITIES

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Let us frame the preface to this edition from a few lenses that might help in drawing practical implications for each contribution by the authors. First, the current cycles of ignorance and vicious war against schools and the academy should not be ignored especially by those who have continued to mislead through hypnotizing rhetoric that might lead people to believe that equity and social justice are on the top of their agendas. Second, the contemporary realities around us provide ample testimony that the much-needed change has been hampered by complicity, silence, and often resistance to change by those who enact passive roles in social and educational institutions. Third, narrowing the leadership gap is a fundamental prerequisite for combating racism and achieving equity and social justice in schools and beyond. More importantly, the paradigm shifts should be measured against informed and courageous actions, rather than words, that contribute to the meaningful and desired change of the status quo and its beneficiaries.

Over the past three decades, many pronouncements and reform initiatives occupied the top of agendas to no avail, for the most part—especially, as they pertain to providing equitable and socially just educational opportunities for People of Color and underrepresented groups. Thus, schools continue to flounder and struggle because of the continual mismatch of expectations between schools' input and students' expectations on the one hand, and the existence of the large instructional and leadership gaps that have continued to widen, on the other. This underscores the need for revamping teacher and leader preparation programs across the PK-20 educational spectrum. Recognizing this urgency about 30 years ago, Gupton (1995, pp. 73-74) postulates an approach that should shape instructional and leadership roles in schools and the academy. His timeless scheme can serve as a promising blueprint only if educators and leaders shift in their mindsets and roles:

from	*to*
technician	professional
manager	leader
prescribed	constructed
boss	team player
autocratic	transformational
defensive	responsible
direction-taker	decision-maker
solo player	collaborator
lesson planner	school improvement planner
reactive	reflective
implementor	initiator
risk dodger	risk maker
follower	empowered
research consumer	action researcher

Equally important, mindsets and roles should defy unjust contemporary political climates to promote socially and culturally relevant environments which require educators and leaders to leverage their roles to implement a vision that is empowering to themselves and people around them (Gupton, 1995; Moore & Suleiman, 1997; Suleiman, 2013, 2014; Suleiman, 2001; Suleiman, 1997; Wasley, 1991). The remaining task for socially just and equitable institutions rests heavily on educators and administrators who understand the complex contextual demands of the institutions for which they are drafted to serve (Conchas & Acevedo, 2020; Suleiman & Huber, 2022). These are generally dictated by a wide range of political, social, cultural, and individual needs and aspirations and require a sound understanding of the job and the perils and challenges they face in *doing the right thing* rather than *doing things right*; more importantly, they are keenly aware of the courageous and difficult tasks and risks needed for *doing* their job rather than *keeping* it.

At the Center for Leadership, Equity and Research (CLEAR), through *JLER*, we are keenly aware of these realities and challenges. We also see the resistance and ambivalence around us, both from friends and foes alike. Simultaneously, we are determined to continue working on changing the reactionary mindsets and passive, and often destructive, roles through empirical data dissemination and action research projects. The center will continue to provide a forum for those who "*do* diversity, equity, and social justice" despite the resistance, complicity, and barriers facing them.

The collection of articles in this regular edition focuses on timely and pressing *racial projects* (Rodriguez & Conchas, 2022) that provide an antidote to the venom of racism and bigotry that continues to plague society and its institutions including schools—indicators, both overt and covert abound. By looking around within the confines of their institution and workplace, there is

no shortage of such symptoms that have made many numb to the harsh realities People of Color have to endure daily. The lack of actions and courage on the part of those who are in leadership positions has made the problems worse. Despite the abundance of empty rhetoric, PK-20 school "managers" have resorted to defensive leading styles to protect themselves and maintain the status quo that benefits them. The articles in this important *JLER* edition speak to these challenges and point us to resistant practices that can empower against the status-quo.

Ashley Flynn sheds light on the underlying premise of universal and intellectual capitals that have long been wasted in schools and their programs because of the endemic racism that disenfranchises students of color including Black learners. She illustrates how giftedness has been narrowly defined and limited to the mainstream White populations while discarding the biologically endowed intelligent and gifted human beings regardless of their race, color, gender, ethnicity and the like.

Maria Javiera De Los Rios, Elyzza M. Aparicio, Hyun Ju Park, Leticia Oseguera, and **Gilberto Q. Conchas** provide a quantitative analysis of a STEM intervention and support program among Student of Color. Studying STEM Intervention Program (SIP) retention, particularly what distinguishes those students who remain in the program from those that leave, may be a key to better understand how to keep students on track towards STEM degree completion. This study focuses on the participation of Latinx and other underrepresented racial/ethnic minoritized (URM) groups in a STEM intervention and support program. The authors apply a STEM Engagement Framework on five cohorts of participants in a SIP and found that maintaining higher levels of scientific identity was related to program retention. Interestingly, women-identified participants were also more likely to remain in the SIP relative to their men-identified counterparts. The study reveals that for practitioners and institutions alike, study results indicate the need to create and implement support programs for women in STEM that go beyond the traditional components of academic support. The authors argue that intentionally designing programs that address systemic inequities and celebrate and affirm minoritized groups' experiences can facilitate adjustment, belonging, and success.

Madeleine Mejia and **Julián Jefferies** provide two powerful testimonios that underscore the need to dismantle barriers faculty of color, especially Latinx females, are facing in the academy. Their voices reflect an authentic account of the unpleasant realities perpetuated in the system that yet has not cultivated their voice nor valued their cultural and intellectual assets. Their experiences echo those of many underrepresented faculty of color who face resistance while playing their courageous roles in educating future teachers and instructional leaders. Their work has far reaching implications for combating racism and complicity especially by those who reify whiteness.

James Martinez and **Jeana Partin** provide a nice synopsis and literature review on character education and preparation for school administrators in PK-12 settings. Using an established criteria and focused approach, their analysis outlines recurrent themes and aspects relevant that can have direct implications for character development for aspiring administrators. Their review provides an overarching framework of emergent themes that can serve as

foundational bases for administrator preparation to address challenging workplace issues, including matters that relate to inequity, racism and oppression.

Ardavan Eizadirad and **colleagues** share their efforts in implementing a multidisciplinary Community of Practice (CoP) workable equitable approach at a Canadian post-secondary institution to prepare faculty, staff, and students for remote teaching and learning while navigating pandemic conditions created by COVID-19. The CoP as a case study uses Critical Theory as a theoretical framework to examine the positive experiences of a collective group of faculty and staff from different disciplines leading a multidisciplinary university-wide initiative and the implications of the approach for promoting effective pedagogies for teaching and learning remotely. The authors recommend that although the CoP initiative was originally conceived as a response to the summer of the pivot, it should become an integral approach to promoting dialogue and innovative strategies to advance equitable practices in higher education by cultivating community networks. This requires a long-term commitment by higher education institutions to break away from historically normalized practices and invest in innovative ways to identify and meet the needs of various stakeholders.

Felipe Mercado examines the impact of Difference-Education Intervention (DEI) on first-generation Latinx "students' sense of belonging, mindset, and hope at Hispanic Serving Institutions." Grounded in the Social Learning Theory framework, the author examines the contextual aspects of socially relevant learning which is critical in achieving diverse students' academic goals and ambitions. The study and its findings underscore the need to take into account the psychological, cultural, social, and academic needs of all learners especially students of color and underrepresented groups. Unless educational input is based upon their unique needs, students will continue to feel isolation, frustration and alienation in the very institutions publicly declared to serve them.

Patricia Lane and **Shaylyn Marks** provide a profound review of Kohli's (2021) book titled *Teachers of color: Resisting racism and reclaiming education*. The book focusses on the power of counterstory telling and highlights the voices of teachers of color that have long been suppressed by an educational system designed for them to fall between the cracks. Organized in three sections, the book tackles three major issues: racialization, resistance, and reimagination. Lane and Marks aptly provided a keen synopsis for the main themes and their implications throughout Kohli's work. More importantly, the reviewers intimately identify with these issues since they themselves, as bright young Black female scholars, have been the byproduct of a system whose flawed tissue and structure are apt to fail students of color and marginalize them. Their juxtapositions throughout the review are touching and powerful. Paradoxically, such system has failed in its prophecy since they both eventually have risen out of the ashes of low expectations to become prominent social justice educators and instructional leaders as evident from their actionable implications gleaned from the book being reviewed.

Readers of this regular edition will find yet another intellectually rich and rigorous collection of thought-provoking, action-driven articles on various issues related to educators and leaders alike. In addition, the implications gleaned from these contributions are far-reaching for

every serious educator whose passion and will transcend their egoistic positional authority or role.

Finally, on behalf of the JLER team, we are grateful to all partners for preparing this special issue as well as the contributors, reviewers, and everyone who assisted in the production of this rich edition.

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BLACK MINDS MATTER: A LONGITUDINAL ANALYSIS OF THE PERSISTENT UNDERREPRESENTATION OF BLACK STUDENTS IN GIFTED EDUCATION PROGRAMS

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ABSTRACT
Gifted education programs have facilitated educational segregation since their inception and recent research has determined these programs to be *the* most inequitable in the field. Although a substantial body of research has established that racial inequities in gifted placement practices exist, there is an existing gap in the research around how discriminatory placement trends have evolved over time. The present study examines longitudinal gifted program enrollment data from the Civil Rights Data Collection (CRDC) between 2011 and 2018 to compare participation rates between White and Black students over time. The analysis revealed that White students have consistently participated in gifted programs at a significantly higher rate than their Black peers over this timeframe. Moreover, despite a tendency to assume that although equity in gifted education programs has not yet been achieved, it is slowly becoming more equitable over time, the analysis also revealed that Black students have become even less likely to participate than their White peers since 2011. The need to adopt and widely implement effective approaches to diversify gifted education programs has become more dire over time, and this study serves as a call to action to ensure that educational opportunity is equitably distributed to students regardless of race.

Keywords: gifted, academically advanced, equity, underrepresentation

Students of color are severely under-identified as gifted and, as a result, participate in gifted programming at a much lower rate than White students (Grissom et al., 2019; Ricciardi et al.,

2020). Although there remains a consensus that equity has not yet been achieved in the field of gifted education, it is unclear how much progress has actually been made over time (Worrell & Dixson, 2022). To date, the majority of research investigating racial equity in gifted education programs has focused on making comparisons across various racial/ethnic subgroups at a particular point in time (e.g., Carman et al., 2020; Crabtree et al., 2019). An existing gap in this body of research lies in the investigation into the extent to which the under- and over-representation of certain racial subgroups has changed over time. There is a tendency to find solace in the sentiment that although we have not yet attained absolute equity, the field is making progress over time toward that overarching goal. However, research has yet to verify this claim.

The purpose of the present study is to fill this gap in research to better understand if America's gifted education system is moving toward achieving the overarching goal of racial equity. Although it is clear that gifted education continues to exclude students from historically marginalized groups, it is critical to determine whether we are moving closer to achieving equity in the field in order to critically examine where our gifted education system stands and determine the path forward. Specifically, this study investigates the extent to which the United States has made progress in the equitable representation of Black students in advanced academic programs. By analyzing nationally representative data from the 2011-2012 and 2017-2018 school years, this study aims to answer the following research questions:

1. Have gifted program participation rates become more proportional between White and Black students between 2011 and 2018 in the U.S.?
2. Have gaps in the likelihood that Black and White students would participate in gifted programming decreased between 2011 and 2018 in the U.S.?
3. How have differences in the level of underrepresentation in gifted education between Black male and female students evolved between 2011 and 2018 in the U.S.?

Literature Review

Gifted Education as White Property

Gifted education has consistently been found to be *the* most segregated educational branch in the U.S. public school system (Ford, 1995; Ford & King, 2014a). Utilizing critical race theory (CRT) to study inequities in the field of gifted education facilitates an analysis of systemic barriers that preclude certain students from accessing valuable educational opportunities. This paper utilizes critical race theory (CRT) as the theoretical frame through which the review of the literature and analysis of the data are interpreted. Particular emphasis is placed on the Whiteness as property tenet of this theory to understand and interpret exclusionary practices and outcomes in the field of gifted education (Mensah & Jackson, 2018). As Kolivoski et al. (2014) assert, "Whiteness is the ultimate property value, leveraged to perpetuate advantages and privileges among Whites" (p. 270). Property comes with an inherent set of rights including possession, use, disposition, and exclusion (Decuir & Dixson, 2004).

In this way, gifted education is conceptualized as historically being a form of White property. "Racial identity has been legally tied to personal liberties, or lack thereof" (Barlow &

Dunbar, 2010, p. 4) and inherently grants the right to exclude (Barlow & Dunbar, 2010). As a result, gifted education reinforces and heightens existing White privilege. Since its beginning, the U.S. educational system has replicated and perpetuated racial and economic hierarchies that exist in the larger society. The educational system serves as a status maintenance system in many respects, perpetuating hierarchies that exist in our larger society (Vanfossen et al., 1987). The gifted educational system nested within it, on the other hand, actually exacerbates inequities (Ford, 1995).

The Gifted Gap

Just like race and class, giftedness is a social construct. In a sense, gifted children did not exist until the early 1900s because giftedness had not yet been defined (Borland, 2005). "Giftedness emerged in the manner that it did, and has more or less remained, because it served, and continues to serve, the interests of those in control of the schools and the disciplines that informed and guided American education at that time" (Borland, 2005, p. 3). Research in the field of gifted education has increasingly focused on racial inequities over recent years, but segregation in gifted programming is nothing new. Advanced academic programs have been segregated since their inception: "[g]ifted education programs […] have long been a White space – over-enrolled by White students, taught by White teachers, and protected by White middle-class parents" (Wright et al., 2017 p. 48). Research dating back to the 1930's has found that Black students are identified for and participate in gifted programs at a much lower rate than their White peers (Jenkins, 1936).

In 1954, the ruling of *Brown vs. Board of Education* deemed school segregation on the basis of race to be unconstitutional. As a result of this ruling, public schools across the country became integrated. However, simultaneously, gifted programs gained notable traction and appear to have served as a work-around for middle- and upper-class White families. Schools themselves may have needed to be integrated, but gifted programs, over-enrolled by White students, facilitated within-school segregation post-*Brown v. Board of Education* (Ford & King, 2014a). Although there exists disagreement about the reasons for segregation within our educational system, "[d]enied opportunities, regardless of intent and reason, have resulted in segregated gifted education" (Ford & King, 2014a, p. 306).

To date, gifted education is not a federally mandated program, so there is a great deal of discretion in determining how to both identify gifted students and deliver advanced academic programs across the country (Wright et al., 2017). The most recently released federal data revealed that White students comprised 47.3% of the overall student population but 58.4% of the gifted population in comparison to Black students who comprised 15.1% of overall student enrollment but only 8.2% of the gifted enrollment (U.S. Department of Education, 2018). Even when researchers control for variables such as academic performance, age, grade, and family income, Black students are significantly less likely to be identified as gifted and participate in advanced academic programs compared to their White peers (Grissom & Redding, 2015; Hodges & Gentry, 2020). Gifted education has historically served, and continues to serve, as a vehicle for replicating

larger inequities in our society within our educational system, protecting and often heightening the advantages of White privilege.

The Inaccessible Benefits of Gifted Education

The exclusion of historically marginalized groups from gifted education programs is concerning not only because of the vast inequities it reveals within our educational system, but also because these students are denied the well-established benefits of advanced academic programs. Participation in gifted programs is associated with positive future outcomes such as higher academic achievement, improved self-efficacy, and more positive self-concept (Bhatt, 2009; Card & Giuliano, 2014; Marsh et al., 1995; Rogers, 2007). Students who participate in gifted education are also exposed to more challenging curricula, surrounded by bright peers, and are more likely to be successful in their careers than students who do not (Bhatt, 2009; Card & Giuliano, 2014; Marsh et al., 1995; Rogers, 2007). In addition to the clear academic benefits of gifted programs, students who participate in these programs reap additional social and personal benefits including increased interpersonal skills and a heightened sense of belonging, maturity, and independence (Mickenberg & Wood, 2008).

Importantly, research suggests that the benefits of advanced academic programming are even more profound for students from historically underrepresented backgrounds who experience more pronounced benefits in academic acceleration, standardized test scores, and success in higher education when compared to their peers (Card & Giuliano, 2014; Mickenberg & Wood, 2008). Students from underrepresented backgrounds also report greater increases in open-mindedness, goal-setting skills, and college preparation as a result of participation in gifted programming (Mickenberg & Wood, 2008). If students from historically marginalized groups are not being identified as gifted at equitable rates, they are deprived of educational opportunities that directly contribute to personal, academic, and professional success. Moreover, if academically advanced students do not have access to an appropriately rigorous education, they and often underachieve and fail to fulfill their potential (Ford & King, 2014b; Ricciardi et al., 2020).

Alternative Approaches in Identification

Over the past decade, a number of interventions have been incorporated into gifted program identification practices to increase diversity in advanced academic programs, including the development of novel assessments, the implementation of universal screening, and the utilization of local norms. First, alternative identification methods have been developed with the goal of addressing group differences in standardized assessment scores used to determine eligibility for gifted programming. Both the Cognitive Abilities Test (CoGAT) and the Naglieri Nonverbal Ability Test (NNAT) include nonverbal sections which are thought to be inclusive of a more diverse range of students than traditional quantitative and verbal assessments and are increasingly being used to make gifted placement decisions (Kurtz et al., 2019). In fact, as of 2019, over 50% of districts across the country were using the CoGAT in their gifted identification model and this assessment has been found to identify a much more equitable proportion of Black students in

comparison to their White peers (Funk, 2009; Kurtz et al., 2019). Similarly, Naglieri and Ford (2003) investigated the efficacy of the NNAT with a sample of approximately 20,000 students and found that Black and White students achieved similar mean scores on the assessment and that this assessment identified high-scoring White and Black students at equivalent rates.

Universal screening is another approach aimed at increasing equity in gifted education that has gained traction in recent years. The premise behind universal screening is that students are referred for gifted testing in a biased manner, so all students should be tested in order to eliminate this bias (Morgan, 2020). Card and Giuliano (2016) examined the impacts of incorporating this approach and found that the implementation of universal screening resulted in a 74% increase in the chance of Black students being identified as gifted. Matthews and Rhodes (2020) analyzed gifted identification practices across a number of school districts and ultimately recommended that districts utilize universal screening at an early age in order to increase diversity in advanced academic programming. As the authors explain, "universal screening provides the best opportunity to identify the highest number of students with gifted potential" (p. 430).

Finally, the use of local norms has been widely utilized in recent years in order to increase participation in gifted programming for students from historically underrepresented backgrounds. Local norms involve comparing a students' gifted identification assessment scores to other students in the building and/or district instead of comparing them to nationally normed data or to pre-set cutoff scores (Peters et al., 2019). Peters et al. (2021) found that applying local norms to a large district with which they were working would increase the representation of Black students in gifted programming by over 200%. Similarly, Carman et al. (2018) compared the use of national and local norms while utilizing the CoGAT in the Houston Independent School District. The authors found that using local norms instead of national norms doubled the number of Black students identified as gifted in the school district.

Taken together, the review of the literature clearly establishes that gifted education programs continue to facilitate a form of modern-day segregation, reserving the most valuable educational opportunities for students of a particular demographic (Kasten, 2013). Gifted education has historically served, and continues to serve, as a vehicle for replicating larger inequities in our society within our educational system, protecting and often heightening the advantages of White privilege. What is less clear, however, is the extent to which gifted education has become more equitable over time (Worrell & Dixson, 2022). The present study seeks to fill this gap in the literature by investigating trends in gifted education participation over the past decade to determine what, if any, large-scale progress has been made in achieving more equitable representation of Black students in advanced academic programs.

Methods

The present study analyzes publicly available census data collected through the Civil Rights Data Collection (CRDC). The U.S. Department of Education has conducted the CDRC biannually since 1968 in order to report on data surrounding civil rights issues in the country's public school system. Recently, the CDRC has begun to collect data regarding gifted and talented

program enrollments by race/ethnicity, gender, disability status, and English Language Learner status. For the purposes of the present study, overall student enrollment and gifted enrollment rates are analyzed by race/ethnicity for the 2011-2012, 2013-2014, 2015-2016, and 2017-2018 school years. Data from approximately 50,000,000 students attending 96,000 schools in 17,000 districts were included in each school year's dataset (U.S. Department of Education, 2012; 2014; 2016; 2018).

These data are analyzed via descriptive and inferential statistics to better understand how equity in gifted education programs has changed between 2011 and 2018 in the United States. This study operationalizes equity as involving proportional participation both (1) *within* a racial subgroup across overall enrollments and gifted education enrollments and (2) *across* racial subgroups in gifted education enrollments. Here, the author takes the position that talent is equally distributed across racial subgroups, but that opportunity is not. However, it is important to note that this study seeks to identify whether improvements have been made in making gifted education more equitable, not whether the field is equitable in an absolute sense as research has consistently illustrated that vast inequities exist in the field regardless of how equity is conceptualized (e.g., Carman et al., 2020; Crabtree et al., 2019; Ford, 2013).

The present study first measures equity in gifted education programs by comparing the composition of Black and White students across overall and gifted educational enrollments. For instance, if gifted education programs were equitably serving students across racial subgroups, gifted enrollment rates for each subgroup should match overall public-school enrollment rates; if 10% of the student population is Black, then we would expect that 10% of the gifted population would also be Black if the system were serving Black students proportionally through advanced academic programs. First, equity was evaluated in this way by measuring the underrepresentation of Black students in gifted programs using the Relative Difference in Composition Index (RCDI; see equation below) which was calculated based on gifted enrollment and overall enrollment data (e.g., Ford et al., 2020). RCDI values were then compared over time to determine if and how the underrepresentation of Black students in gifted education has changed between 2011 and 2018.

$$RCDI = 100\% - \frac{Black\ Students\ as\ a\ \%\ of\ All\ Gifted\ Program\ Enrollments}{Black\ Students\ as\ a\ \%\ of\ Overall\ Student\ Enrollments}$$

The intersectionality of race and gender was also examined by applying the RCDI to the representation of Black male, White male, Black female, and White female students to gain a more nuanced understanding of how inequities have manifested in advanced academic programs over the timeframe mentioned above.

Equity in gifted programming is also evaluated by comparing participation rates within each racial subgroup in a given educational program. According to this approach, if our country's gifted education programs were equitably serving students across all racial subgroups, we would expect that the same percentage of each racial subgroup is participating in gifted and talented programs (e.g., 10% of Black students, 10% of Hispanic/Latino students, 10% of White students,

etc.). In this study, equity was also evaluated by comparing gifted participation rates over time via a series of binomial tests with a significance level of .05.

Trends in equity in gifted education was further analyzed by comparing the likelihood of participating in advanced academic programs between demographic subgroups. In instances of equitable educational opportunity, students of different subgroups are just as likely as other subgroups to participate in an educational program. Trends in equitable racial representation in gifted education programs was analyzed by calculating odds ratios to examine the probability of Black students participating in gifted programming in comparison to their White peers. Odds ratios were then compared over time to detect changes in equity over time. The present study analyzes national data using each of these three approaches to understand how equity in gifted education programs has changed over time.

Results

To determine the extent to which the underrepresentation of Black students in gifted education programs has changed between 2011 and 2018, gifted program compositions were first compared to overall enrollment compositions by race (see Table 1). During the 2011-2012 school year, Black students made up 15.89% of the overall student population, but only 8.81% of the gifted population, resulting in an underrepresentation of 44.56% according to the RCDI. During the 2017-2018 school year, Black students comprised 15.11% of all student enrollments, but only 8.21% of gifted enrollments, resulting in an underrepresentation of 45.67%. The underrepresentation of Black students increased by 1.11 percentage points between 2011 and 2018.

Table 1

Black Students' Underrepresentation in Gifted Programs (2011-2018)

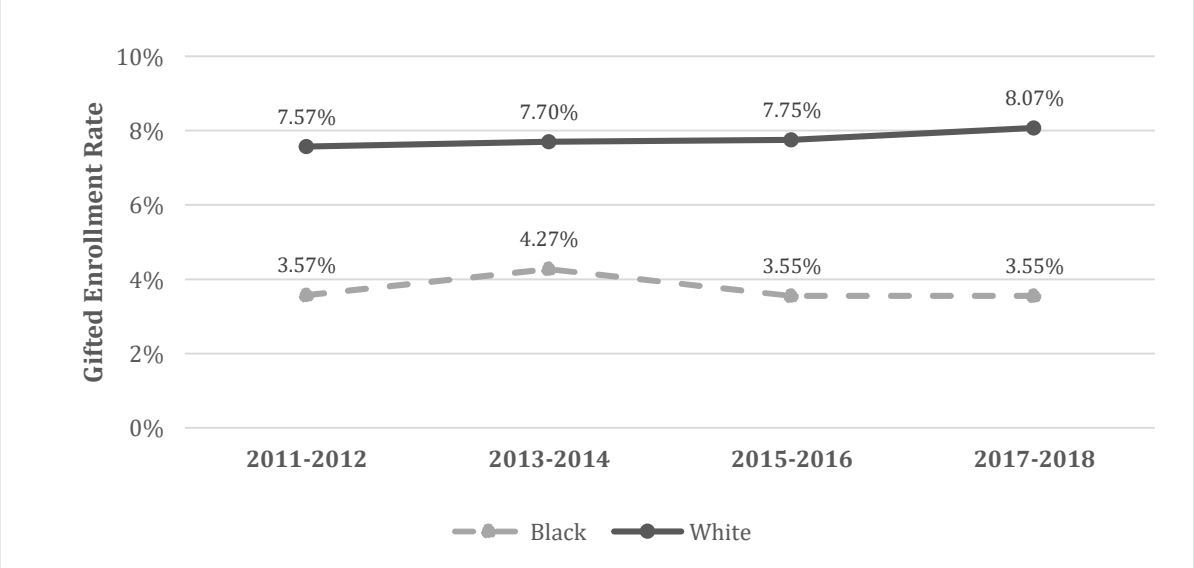
Year	Black Students as a % of Overall Enrollments	Black Students as a % of Gifted Enrollments	Underrepresentation of Black Students
2011-2012	15.89%	8.81%	44.56%
2013-2014	15.50%	9.93%	35.94%
2015-2016	15.44%	8.50%	44.95%
2017-2018	15.11%	8.21%	45.67%

Equity in advanced academic programs over this timeframe was further analyzed by comparing gifted and talented program participation rates between White and Black students. Between 2011 and 2018, gifted participation rates increased from 7.57% to 8.07% for White students and decreased from 3.57% to 3.55% for Black students (see Figure 1). A binomial test revealed that White students participated in gifted programs at a significantly higher rate than Black students in the 2011-2012 (.076 > .036, $p < .001$), 2013-2014 (.077 < .043, $p < .001$), 2015-

2016 (.078 > .036, $p < .001$), and 2017-2018 (.081 > .036, $p < .001$) school years. During the 2011-2012 school year, White students participated in gifted programs at 2.12 times the rate as Black students; their relative participation rates increased to 2.27 times the rate of Black students in the 2017-2018 school year. The participation rates of Black students have remained relatively consistent over time with the exception of the 2013-2014 school year, and participation rates of White students has increased steadily over time, resulting in a slight widening of the gap in participation rates over time.

Figure 1

U.S. Gifted Program Enrollment Rates by Race/Ethnicity (2011-2018)



Odds ratios were then calculated to measure differences in the likelihood that students would be enrolled in gifted programs by race/ethnicity between 2011 and 2018. This analysis revealed that during the 2011-2012 school year, Black students were 66% less likely to participate in gifted programs than White students [OR = 0.439 (95% CI: 0.473, 0.441), $p < .001$]; during the 2017-2018 school year, Black students were 68% less likely to participate in gifted programs than their White peers [OR = 0.419 (95% CI: 0.418, 0.421), $p < .001$]. Over time, Black students have actually become even less likely than White students to be enrolled in advanced academic programs.

Next, an analysis examining the intersectionality of race and gender was conducted to gain a more nuanced understanding of inequities in gifted program placement practices over time. The underrepresentation of Black male and female students was first calculated using the RCDI (see Table 2). During the 2011-2012 school year, Black males comprised 8.12% of the overall population of public-school students and 3.87% of the gifted population, resulting in an underrepresentation of 52.34% according to the RCDI; during the 2017-2018 school year, Black males made up 7.72% of overall student enrollments, but only 3.67% of gifted program enrollments, resulting in an underrepresentation of 52.46%. Black female students comprised

7.77% of all enrollments during the 2011-2012 school year, but only 4.94% of gifted enrollments, representing an underrepresentation of 36.42%; during the 2017-2018 school year, Black female students represented 7.39% of the overall student population, but only 4.54% of the gifted population, representing a 38.57% underrepresentation. Over time, male students have consistently been more underrepresented in gifted programming than Black female students and the underrepresentation of Black female students has increased over time.

Table 2

Black Students' Underrepresentation in Gifted Programs by Gender (2011-2018)

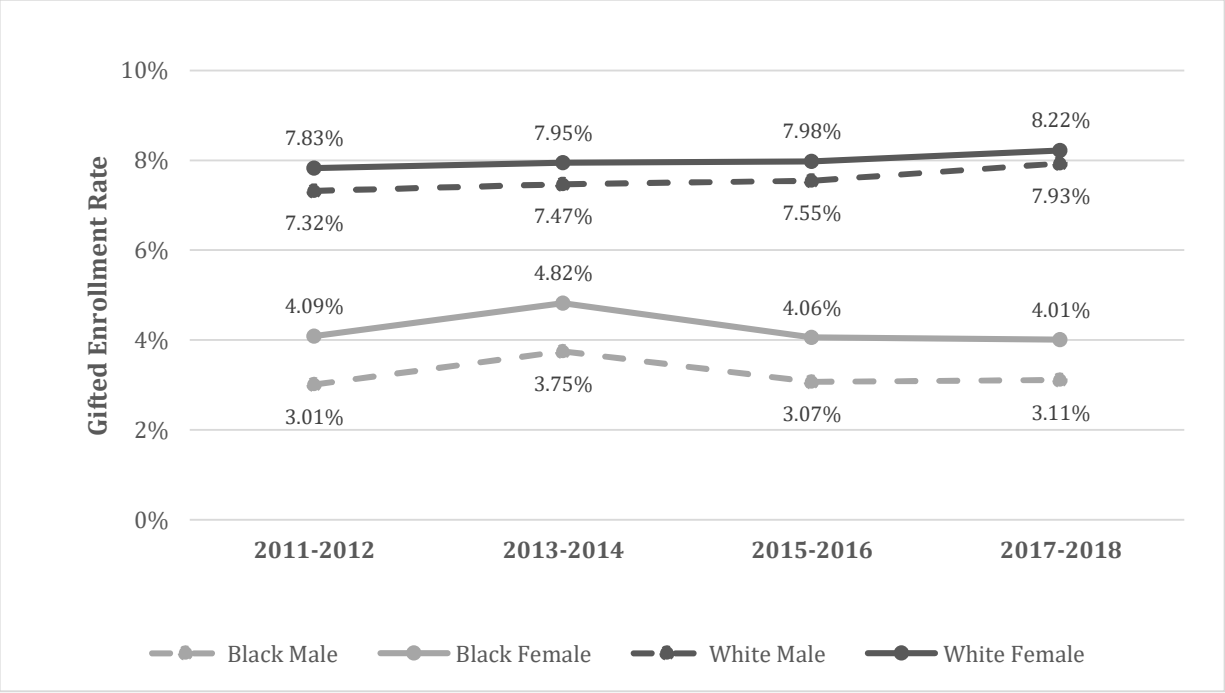
Year	Black Students as a % of Overall Enrollments	Black Students as a % of Gifted Enrollments	Underrepresentation of Black Students
2011-2012	M 8.12% F 7.77%	M 3.87% F 4.94%	M 52.34% F 36.42%
2013-2014	M 7.93% F 7.58%	M 4.46% F 5.48%	M 43.76% F 27.70%
2015-2016	M 7.89% F 7.55%	M 3.76% F 4.75%	M 52.34% F 37.09%
2017-2018	M 7.72% F 7.39%	M 3.67% F 4.54%	M 52.46% F 38.57%

Next, equity in advanced academic programs by gender was analyzed by comparing gifted and talented program participation rates between White and Black students. A series of binomial tests were conducted to compare the gifted participation rates of Black male students to White male students and Black female students to White female students (see Figure 2). This analysis revealed that the proportion of White male students who participated in gifted programs was significantly higher than the proportion of Black male students who participated in the 2011-2012 ($0.073 > .030$, $p < .001$), 2013-2014 ($0.075 > 0.038$, $p < .001$), 2015-2016 ($0.076 > .031$, $p < .001$), and 2017-2018 ($.079 > .031$, $p < .001$) school years. Similarly, the proportion of White female students who participated in gifted programs was significantly higher than the proportion of Black female students who participated in the 2011-2012 ($0.078 > .041$ $p < .001$), 2013-2014 ($0.080 > 0.048$, $p < .001$), 2015-2016 ($0.080 > .041$, $p < .001$), and 2017-2018 ($.082 > .040$, $p < .001$) school years. During the 2011-2012 school year, White male students participated in gifted programs at 2.43 times the rate as Black male students; their relative participation rates increased to 2.54 times the rate of Black male students in the 2017-2018 school year. A similar relationship was found when examining trends amongst female students: during the 2011-2012 school year, White female

students participated in gifted programs at 1.90 times the rate as Black female students with relative participation rates increasing to 2.05 times the rate of Black female students in the 2017-2018 school year.

Figure 2

U.S. Gifted Program Enrollment Rates by Race/Ethnicity and Gender (2011-2018)



Odds ratios were then calculated to measure differences in the likelihood that students would be enrolled in gifted programs by race/ethnicity and gender between 2011 and 2018. During the 2011-2012 school year, Black male students were 60% less likely to participate in gifted programs than White male students [OR = 0.401 (95% CI: 0.398, 0.403), $p < .001$]; during the 2017-2018 school year, Black male students were 63% less likely to participate in gifted programs than White male students [OR = 0.373 (95% CI: 0370, 0.375), $p < .001$]. Similarly, Black female students were 50% less likely to participate in gifted programs than White female students [OR = 0.502 (95% CI: 0.499, 0.504), $p < .001$]; during the 2017-2018 school year, Black female students were 53% less likely to participate in gifted programs than White female students [OR = 0.467 (95% CI: 0.464, 0.470), $p < .001$].

Discussion

Despite substantial efforts to increase racial diversity in gifted education over the past decade, Black students continue to be strikingly underrepresented in advanced academic programs and significantly less likely than their White peers to participate in gifted programming (Carman et al., 2020; Hodges et al., 2018; Peters et al., 2019). As this study reveals, between 2011 and 2018 the underrepresentation of Black students increased from 44.56% to 45.67% and White students

have consistently participated in gifted programs at significantly higher rates that Black students. Moreover, this analysis reveals that Black students have actually become even less likely than White students to be enrolled in advanced academic programs over time: whereas Black students were 66% less likely to participate than White students in the 2011-2012 school year, they were 68% less likely to participate in the 2017-2018 school year. The simultaneous decrease in the representation of Black students in gifted programming over time combined with the increase in the representation of White students has resulted in a widening of the gifted gap across these subgroups.

The second series of analyses aimed to understand how gender differentially affected gifted program participation rates over time. Between 2011 and 2018, the underrepresentation of Black male students increased slightly from 52.34% to 52.46% and the underrepresentation of Black female students increased from 36.42% to 38.57%. A comparison of participation rates by gender across racial subgroups revealed that White male students were enrolled in gifted programs at significantly higher rates than Black male students; the same was true when the participation rates of White and Black female students were considered. This analysis also demonstrated that Black male students have become less likely to participate in gifted programs than White male students and Black female students have become less likely to participate than White female students since 2011.

Although research has consistently established that racial equity has not been achieved in gifted education programs, there is a sentiment across the field that we are moving in the right direction in making the field of gifted education more accessible (e.g., Peters et al., 2019; Worrell, 2017). In addition, considerable resources have been directed toward increasing the diversity of students participating in these programs over the past decade and research has supported the efficacy of these efforts (Card & Giuliano, 2016; Matthews & Rhodes, 2020; Naglieri & Ford, 2003). However, aside from a short-lived increase in the representation of Black students in gifted education during the 2013-2014 school year, not only has equity in the representation of Black students in advanced academic programs not improved since 2011, but it has also gotten worse. Identification practices continue to place students in gifted programs at differential rates based on race/ethnicity, setting up “separate academic paths that are explicitly unequal and that lead to unequal life chances” (Kasten, 2013, p. 238). When considering the intersectionality of race and gender, the negative impacts of inequities in identification and placement become even more profound for Black male students.

Although one of the major strengths of this study is the large-scale dataset and the associated generalizability of the results, this also serves as an important limitation. Because this analysis considers national data that is not disaggregated by state, district, school, etc., it is unable to highlight examples of relative success that likely exist at a smaller scale. In addition, because the first publicly available national data capturing gifted enrollments was from the 2011-2012 school year, the present study was only able to complete a comparison over a seven-year period. Although this study would be strengthened by examining a longer time frame, the data show

striking realities about our educational system and the lack of sustained progress that has been made since 2011.

Conclusion

As Ford and King (2014b) emphasize, "[d]enying access to gifted education based on race is a violation of civil rights in education" (p. 3). The present study revealed that White students continue to be overenrolled in gifted education, further heightening the privilege they already experience in comparison to students of other racial backgrounds. Black students, on the other hand, continue to be strikingly underrepresented in gifted programs and are precluded from experiencing the profound benefits of these programs as a result. "Although brilliance and talent are evenly distributed, opportunity is not" (Crabtree et al., 2019, p. 218). Conceptualizing gifted education as White property facilitates our understanding of how advanced academic programs have historically excluded students of color and underscore systemic inequities in the educational system that must be addressed in order to address this persistent injustice.

The present study aims to serve as a call to action for the field of gifted education, and our educational system as a whole, to critically evaluate if and how progress has been made to achieve equity in representation across academic programs and make necessary adjustments in order to achieve this goal. Although substantial effort has been directed toward increasing equitable identification of students in gifted programming over the past ten years and there is a general consensus in the field that racial representation is improving in these programs, this analysis revealed that the situation is worse for Black students than it was in 2011; Black students have become even more severely underrepresented since then and even less likely than their White peers to be identified as gifted. Large-scale, systemic change takes time, but this study reveals that the representation of Black students in gifted education is going in the wrong direction; what Ford (1995) deemed *the* most segregated branch of our education system has actually become even further segregated over the past decade. There is a clear and urgent need to address discriminatory practices in the field of gifted education to begin to move the needle in the right direction and work toward meeting the academic needs of all students, regardless of race.

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APPLYING A STEM ENGAGEMENT FRAMEWORK TO EXAMINE SHORT-TERM RETENTION OF LATINX AND OTHER UNDERREPRESENTED GROUPS IN AN UNDERGRADUATE STEM SCHOLAR PROGRAM

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ABSTRACT

Studying STEM Intervention Program (SIP) retention, particularly what distinguishes those students who remain in the program from those that leave, may be a key to better understand how to keep students on track towards STEM degree completion. This study focuses on the

participation of Latinx and other underrepresented racial/ethnic minoritized (URM) groups in a STEM intervention and support program. Applying London, Rosenthal, Levy, and Lobel's (2011) STEM Engagement Framework on five cohorts of participants in a SIP, this study found that maintaining higher levels of scientific identity was related to program retention. Therefore, intentionally designing programs that address systemic inequities and celebrate and affirm minoritized groups' experiences can facilitate adjustment and success. Moreover, women-identified participants were also more likely to remain in the SIP relative to their men-identified counterparts. For practitioners and institutions alike, these results indicate the need to create and implement support programs for women in STEM that go beyond the traditional components of academic support.

Keywords: STEM, Intervention Program, Latinx, women, retention, higher education, scientific identity, familismo

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The need for a larger and more diverse science, technology, engineering, and mathematics (STEM) workforce has become a pressing issue for the United States (U.S.) (National Academies of Sciences, Engineering, and Medicine, 2017; Noonan, 2017). Only 22% of the bachelor's degrees awarded during 2015 and 2016 were in STEM fields (National Center for Education Statistics, 2023). When studying the academic progress of college students who declared interest in STEM majors as they enrolled in college, researchers have found that approximately half of them persisted in STEM majors through their second year of college, with roughly 40% of those who first showed interest in these fields finally persisting to graduation (Chen, 2009; Chen & Soldner, 2013; Griffith, 2010, Snyder & Dillow, 2015).

Regarding the diversification of STEM graduates, researchers have shown that disparities in STEM student graduation rates vary considerably by race and ethnicity. While underrepresented racial/ethnic minoritized (URM) college students enter college with comparable levels of interest in STEM degrees as their counterparts, they do not graduate at the same rate as their White peers (Chen, 2009; Riegle-Crumb & King, 2010; Xie et al., 2015). Relative to their White peers, URM college students have significantly higher odds of switching out of a STEM major. Likewise, URMs majoring in STEM are significantly more likely to drop out of college compared to their White peers (Riegle-Crumb et al., 2019). These racial disparities in STEM college persistence and graduation rates are also reflected at the graduate school level and persist into the STEM workforce.

Regarding the gender diversification of the STEM fields, researchers have pointed out that the underrepresentation of women in STEM is an ongoing problem. Women comprise only 35% of the STEM workforce in the U.S. (National Science Foundation, 2023), but they make up 51% of the U.S. population. Women's underrepresentation in STEM can initially be observed in high school. Compared to females, higher percentages of males earned credits in physics, engineering, engineering/science technologies, and computer/information science during high school (Astorne-Figari & Speer, 2019; Cunningham et al., 2015). Once in college, gender gaps in college math-

intensive STEM majors are substantial (Dickson, 2010), and women are far more likely to leave math-intensive STEM majors than men are (Astorne-Figari & Speer, 2019). Additionally, while, overall, female students received higher percentages of bachelor's degrees than male students in STEM fields, a lower percentage of bachelor's degrees were awarded to women than to men (34% vs. 66%) (National Science Foundation, 2023).

Along with the interest in increasing student retention and diversity in STEM majors to maintain global economic competitiveness, there is a strong social pressure to achieve STEM equity (Gomez et al., 2021). Since certain degrees in the STEM fields have the highest wage premium among all bachelor's degree fields (Carnevale et al., 2015; Funk & Parker, 2018; Hershbein & Kearney, 2014; Melguizo & Wolniak, 2012), achieving STEM equity is strongly related to reducing the economic disadvantages that URM and female populations face. A major difficulty in achieving equity for these populations is the inability of colleges and universities to retain those URM and women who start but do not complete their STEM degrees.

To significantly increase the number of URMs and women in the STEM workforce, colleges and univerisities will need to begin addressing and dismantling systemic barriers that students experience both at the enrollment stage and during their participation in the STEM programs. Among the strategies that a growing number of institutions have adopted to increase recruitment, retention, and completion of URMs and women in STEM are STEM intervention and support programs (SIPs). These programs offer a series of academic and social support services targeted especially to students interested in, or currently enrolled in STEM degree programs (Chang et al., 2014; Maton et al., 2009; Sto Domingo et al., 2019). The employment of SIPs in universities and colleges has been accompanied by strong financial investments. Estimates indicate that there are around 150 federally funded STEM initiatives in the U.S, and that the federal government's investments in STEM education programs have remained stable from 2010 to date: around 3 billion dollars per year (Government Accountability Office, 2018).

For these reasons, there is a growing interest among scholars to better understand how these programs work. Traditionally, researchers have focused on the effects of participating in SIP programs. For instance, scholars have shown that URM students who participate in these types of undergraduate programs are more likely than students with similar academic backgrounds to maintain an interest in STEM, earn better grades in STEM classes, complete STEM degrees, and attend graduate school in STEM fields (Barlow & Villarejo, 2004; Maton & Hrabowski III, 2004; Maton et al., 2000). Despite our knowledge that these programs work for URM student populations, less work has focused on the programs themselves.

Scholars (Clewell & Campbell, 2002; Tsui, 2007), and recently the National Academies of Sciences, Engineering, and Medicine (2017), have called for additional studies addressing SIPs. Accordingly, researchers began to focus on a deeper understanding of these kinds of programs. For instance, scholars have paid attention to the role of STEM program directors (Gomez et al., 2021), STEM interventions funding practices (Rincon & George-Jackson, 2016), and the theoretical discourses driving the design of SIPs (Walker, 2018). However, little is known about program effectiveness indicators, such as program retention. Studying SIP program retention,

particularly what distinguishes those students who remain in the program from those that leave, could be a key to better understanding how to keep students on track toward STEM degree completion.

Specifically, and considering the well-documented necessity to increase Latinx participation in STEM, this study focuses on the participation of Latinx and other URM in a STEM intervention and support program. Despite Latinx being the largest and fastest growing URM group in the United States (Colby & Ortman, 2015), and despite the unprecedented advances of this population in postsecondary education participation, Latinxs' representation in STEM remains at proportions that do not correlate with the proportion of Latinxs in the U.S. population (National Science Foundation, 2023). In this sense, Latinx workers were 16% of the total employed population in 2016, but they made up only 6.8% of professionals in STEM occupations (U.S. Bureau of Labor Statistics, 2016).

The first two years of college are pivotal to the retention and recruitment of students in STEM majors (President's Council of Advisors on Science and Technology, 2012), so a better understanding of how STEM interventions and programs work during the first two years of college represent a significant research endeavor and will be the focus of this study. Specifically, we addressed the following research questions: What are the academic, social, or psychosocial dispositions and identities of Latinx, other URM, and non-URM students enrolled in a SIP? How do these factors predict early retention (i.e., within the first two years of study) in a SIP?

This study contributes to the field by examining the process of remaining engaged in a SIP among Latinx students and their peers participating in the SIP, which requires high investment in terms of time, willingness to actively engage in research experiences early in one's career, and willingness to expose oneself to intrusive advising. Also, this research paper presents a distinctive examination of a SIP that is modeled after the success of the University of Maryland, Baltimore County (UMBC) Meyerhoff Scholars Program (MYSP). The MYSP has been one of the leading producers of URM STEM graduates for over thirty years (Maton et al., 2000).

We organize this paper by first providing a description of the SIP under study, and then reviewing relevant literature on STEM-focused SIPs, the participation of Latinx, other URM, and women in SIPs, and variables that are related to STEM engagement, such as interest, self-efficacy, sense of belonging, fewer experiences with discrimination, and STEM identity in relation to gender and racial/ethnic identities. We then introduce the theoretical framework that was used to guide variable selection and the analytic procedures. Finally, the results are presented, along with a discussion of the limitations and significance of this particular study.

The STEM Scholar Program

We incorporated the description of the program using our previous work on SIP retention (see Oseguera et al., 2019; Oseguera et al., 2022). The particular SIP under study in this paper, the STEM scholar program (SSP) [1], is a multi-component program at a large, research-intensive PWI in the mid-Atlantic region of the U.S., aimed at increasing the representation and academic achievement of minoritized students in STEM fields. The program is rooted in three asset-based

areas: HBCU culture (i.e., family-like community), Black Greek-lettered organizations (i.e., brotherhood/sisterhood atmosphere), and Black churches (i.e., uplift and inner strength). While the current make-up of students in the SSP are not all Black-identified students, the program utilizes this framing given its success with diverse groups at the institution where the program originated (Maton et al., 2000).

Through participation in the SSP, students are provided with four years of financial, personal, and academic support. To qualify for the SSP, prospective students applying to one of the participating colleges within the university must also complete a program application. The initial pool of finalists are selected among applicants offered admission to the university and are based on a range of criteria including academic success (e.g., high school transcript, math performance on the SAT and ACT), the strength of letters of recommendation, and assessment of required written essays (related to the importance of diversity in STEM). As part of the last step in the selection process, finalists are then invited to participate in an interview weekend on campus where they interact with other SSP cohorts, faculty, and program staff. Following the interview weekend, admission to SSP is extended to a final group of students (usually about 40).

The students who accept admission to SSP are awarded an annual scholarship and are required to participate in a summer bridge program in preparation for their matriculation to the university in the fall. Summer bridge is an intensive, six-week program that takes place during the summer before the first year of college. Students participate in teambuilding activities and attend rigorous math and science foundational courses and seminars, along with introduction to research, study habits, time management, and professional communication skills workshops.

The SSP employs a cohort-based model and is designed to nurture and facilitate community and accountability among students in the program. For instance, previous cohort members are responsible for serving as peer mentors to incoming students in the program. Many of the scholars also offer informal academic tutoring to one another. This is reflective of the SSP's commitment to nurturing authentic relationships among participants. Indeed, all students are encouraged to work collaboratively, study together, and are expected to engage in community service. Also, as part of the program, students are required to live together on campus for the first three years of college.

Scholars in the program have regular access to academic advisors and faculty mentors. Faculty mentors provide scholars with opportunities to participate in undergraduate research and to work in their laboratories. The advising team provides scholars with contacts to help them obtain summer internships as well as study-abroad opportunities. In their final year, SSP scholars complete a research thesis and are encouraged to share their results at scientific conferences. SSP scholars also participate in GRE/MCAT prep classes and are supported in their graduate school application process. To remain in the program, scholars must participate in program activities and maintain a 3.0-grade point average (Oseguera et al., 2019; Oseguera et al., 2022).

Review of Related Literature

Given the research questions of this study, we reviewed the literature in three important areas. We focus first on the relevant research about SIPs, paying special attention to intervention programs that are STEM-focused. Since one of the foci of this research paper is to better understand SIP retention of Latinx and other URM students and women, we also provide a review of literature that highlights the experience of these populations on SIPs. Then, in the STEM Intervention Program Engagement Factors section, we highlight variables that are related to STEM engagement: interest, self-efficacy, sense of belonging, fewer experiences of discrimination, and STEM identity in relation to gender and race identities. STEM major retention is not equal to SIP retention but given the program's primary purpose of retaining students in STEM majors, including literature around STEM engagement and major retention was justified. We also adapted portions of this literature review given its relevance to our previous work on minoritized student populations (see Oseguera et al., 2019; Oseguera et al., 2022).

STEM-focused Academic and Social Support Programs

The foundational goal of support programs was to facilitate the retention of the new populations and to offer support in leveling the playing field for the ones that were historically excluded from higher education opportunities, by increasing students' preparation for success in college (Kezar, 2004; Perna & Swail, 2001). Originally, support programs focused on increasing access to postsecondary education for White males from less wealthy backgrounds and geographically diverse places (Rudy & Brubacher, 1976), while women (and other underrepresented genders) and URM groups were excluded from these support programs (Arendale, 2011) through discriminatory informal practices and formal discriminatory policies. It was not until the Civil Rights legislation of the 1960s that federally financed programs to provide appropriate services for URM groups and women were created.

During the last forty years, support programs' goals have expanded in response to the growth in the enrollment of historically underserved populations (e.g., women, first-generation, low-income, Black, and Latinx), and the new challenges that have arisen in the diverse fields within the higher education system (Kezar, 2010; Tierney et al., 2005). In this context, in the 1980s, SIPs began to appear in the higher education landscape with diverse goals like increasing the enrollment and/or retention rates of women and historically marginalized racial/ethnic groups, supporting students in their transition to college, and improving undergraduates' experiences and retention within their STEM majors (DePass & Chubin, 2008; George et al. 2019).

Due to the research evidence that continuously shows the prevalence of subtle, indirect, and covert discrimination practices against women and members of other historically marginalized groups within STEM departments (McGee, 2016; Rosenthal et al., 2011a; Rosenthal et al., 2011b; Settles et al., 2009), multiple SIPs aimed at curbing the negative effects of the discriminatory STEM climate that affects these student populations have flourished within the education system.

Based on the needs and characteristics of the diverse college populations, SIPs provide various services, including summer bridge initiatives, undergraduate research opportunities, peer

tutoring and mentoring, faculty mentoring, living-learning communities, leadership training, professional development opportunities, and scholarships, to name some of them (George et al., 2019; Oseguera et al., 2019; Rincon & George-Jackson, 2016; Tsui, 2007).

The research around SIPs has been relevant in highlighting the benefits of these interventions, emphasizing how they facilitate retention and academic success in the STEM field, foster graduate degree aspiration, and reduce the attainment gap for URMs and underrepresented genders (UGs). Along with this, researchers have also provided important critiques regarding the deficit ideology used in the design of some of these programs (Bowman in DePass & Chubin, 2015; Linley & George-Jackson, 2013). However, the literature that assesses the effectiveness of SIPs has not provided nor discussed estimates regarding SIP student retention, which is also a relevant effectiveness indicator (Tsui, 2007). Furthermore, Clewell and Campbell (2002) claim that more research is needed not only to understand what works but what works for whom. Thus, to advance STEM support, there is a need to understand what distinguishes those students who stay committed to a SIP from those who depart (Oseguera et al., 2019; Oseguera et al., 2022).

Latinx, Other URM, and Women Participation in SIPs

Research has shown that STEM students who participate in summer bridge programs are significantly more to likely to report higher levels of comfort with faculty (Cooper et al., 2018), increased social integration, and sense of belonging (Tomasko et al., 2016), and higher STEM career aspirations (Kitchen et al, 2018). Also, for URM students, participation in summer bridge programs has been associated with a higher probability of graduation (Murphy et al., 2010).

Research on Latinx college students in SIPs suggests that community-based experiences are critical for the retention of Latinx students in STEM (Herrera & Kovats-Sánchez, 2022). The relevance of community-based experiences for Latinx is related to "*familismo*", which is a deeply rooted cultural value for Latinx populations. *Familismo* refers to a "strong identification to the nuclear and extended 'family' through values that emphasize loyalty, responsibility, solidarity, and reciprocity" (López et al., 2019, p. 88). Hence, the concept of "family" is not restricted to the immediate family, and it might be extended to include far broader networks. In college, then, *familismo* or the lack of it can affect Latinx students' general academic engagement and success (López et al., 2019).

According to the findings of López et al. (2019), Latinx students keenly looked for *familismo* in STEM fields, but unfortunately, students rarely experienced such interactions within their programs of study. According to Hurtado et al.'s (2007) study, in STEM majors, there was often no institutional support for fostering efforts that promote *familismo*, which limited and discouraged Latinx students from engaging in their communities (Hurtado et al., 2007). While it is difficult for Latinxs to find *familismo* in STEM majors, SIPs are the formal spaces in which students can share and enact this cultural value. *Familismo* values might be incorporated in SIPs, for example, through service learning, volunteer opportunities, outreach activities, or community-engaged experiences (Herrera & Kovats-Sánchez, 2022). Research suggests that when Latinx students do not develop *familismo* within their programs' disciplinary boundaries, they actively

engage in building informal "family-like" communities outside these disciplinary limits to advance their shared goals (Herrera & Kovats-Sánchez, 2022). Affinity groups, ethnic-based organizations, and student organizations have shown to be relevant for Latinx students' development of an on-campus *familia* (Revelo, 2015; Revelo & Baber, 2018).

Research regarding the participation of women in SIPs suggests that these formal opportunities serve as a significant source of social support and enhance female students' sense of belonging to the STEM fields (Rincon & George-Jackson, 2016; Strayhorn, 2018; Tate & Linn, 2005). Moreover, according to Ong et al.'s (2018) study, women participated in academic and social support programs to seek support to "counter personal attacks, to get emotional support and strategies to counteract isolation" (p. 233).

In this sense, it has been suggested that SIPs work as counterspaces against the gender biases in the STEM academic culture (Ong et al., 2018). As Keels (2019) explains, counterspaces are formal or informal "exclusionary" spaces where those of a similar social identity gather to validate and critique their experiences with the larger institution. As such, SIPs are fundamental for underrepresented students to build a cohesive STEM identity in a culture that does not always reflect or value people who look like them, and to pursue ways to progress academically and professionally that recognize their racial/ethnic and gendered identities (Ong et al., 2018).

STEM Intervention Program Engagement Factors

Engagement is defined as invested time and energy spent on academically purposeful activities that are linked to positive social and academic outcomes such as retention (Kuh, 2001). Considering SIPs usually require participants to devote extra time and effort to activities related to the program, we use an asset-based engagement framing to guide this section of the literature review, and we organize this section according to our guiding theoretical framework (see London et al., 2011).

STEM Interest and Self-Efficacy

Research on students has highlighted the role that cognitive and emotional interests play in facilitating student academic engagement (Mazer, 2013). Given the socioeconomic pressures put on the growth of the number of STEM graduates, there has been a strong development in research that studies the relationship between high school students' STEM interest and engagement in the field. However, as Shin et al. (2016) asserted, such research has focused primarily on school-aged children (e.g., Hong & Lin-Siegler, 2012; Robinson & Kenny, 2003; Wyss et al., 2012). Regarding college students, it has been suggested that students' lack of interest in STEM is a strong predictor of a student's decision to switch from a STEM major to a non-STEM one (Seymour & Hewitt, 1997). Similarly, a large body of literature has also highlighted that student participation in SIPs, such as summer bridge programs (Bruno et al., 2016; Kitchen et al., 2018; Lenaburg et al., 2012; Pritchard et al., 2016; Russomanno et al., 2010; Thompson & Consi, 2007) or undergraduate research programs (Doerschuk et al., 2016; Estrada et al., 2016; Russell et al., 2007), has a positive effect on STEM students, increasing their interest in STEM and their retention in the field.

As interest can influence STEM students' engagement and retention, self-efficacy also affects their academic behaviors, including the effort they put into their academic activities (Elliot et al., 2017). Academic self-efficacy refers to the conviction students have in their own competence to successfully complete academic responsibilities (Bandura, 1986; MacPhee et al., 2013), and it stands to reason that students with higher self-efficacy will be more prone to stay in a SIP.

Scholarly evidence indicates that men in STEM have higher academic self-efficacy than women (Hardin & Longhurst, 2016; Lent et al., 2016; MacPhee et al., 2013; Vogt et al., 2007; Wilson et al., 2015), and that non-URMs from upper SES backgrounds have higher self-efficacy than their peers from other social groups (MacPhee et al., 2013). Since our appraisal of one's own competency in a field is affected by social context cues (MacPhee et al., 2013), men and non-URMs from upper SES backgrounds have higher self-efficacy than their counterparts. Due to the residual effects of racism and gender bias on issues related to educational access and equity, UGs and URMs have fewer role models of successful STEM graduates with the same gender or race/ethnicity, a cue suggesting that people like them do not succeed in the field. Still today, many college-level STEM environments continue to be spaces where White males are the dominant population (Beasley & Fischer, 2012; Bodzin & Gehringer, 2001; Corbett & Hill, 2015). Furthermore, inequities that affect STEM students' chances of self-efficacy development can be also found in the access to research opportunities. According to Robnett et al. (2015), student participation in research opportunities is fundamental for acquiring science self-efficacy, yet, unfortunately, these experiences have been particularly elusive for URM and UG students attending predominantly White institutions (PWIs).

Sense of Belonging, Experiences of Discrimination

In addition to the role that interest and self-efficacy play in relation to STEM engagement, research has shown that students' social experiences, such as their sense of belonging and the experiences of discrimination they have encountered, are fundamental for their engagement and further retention in STEM majors (Estrada et al., 2018; Freeman et al., 2007; Good et al., 2012; Hurtado et al., 2010; Inzlicht & Good, 2006; Strayhorn, 2018; Walton & Cohen, 2011).

Sense of belonging is the experience of integration within a system that a person feels, in which she or he feels that they have a special function in that system (McLaren et al., 2008) and, equally, that the system is important for them (Strayhorn, 2018). Evidence suggests that sense of belonging is especially relevant to those who "perceive themselves as marginal to the mainstream life of college" (Hurtado & Carter, 1997, p. 324). The numerical underrepresentation of URM, women and lesbian, gay, bisexual, transgender, and queer (LGBTQ) students and faculty in STEM works as a cue signaling to these populations that they might not belong in the STEM field (Murphy et al., 2007; Strayhorn, 2009; 2018).

Also, perceiving the campus or academic discipline as hostile or unwelcoming (Estrada et al., 2018), experiencing LGBTQ-biases (Stout & Wright, 2016), racial tension, a hostile racial climate (Hurtado et al., 2010; Locks et al., 2008), or suffering interpersonal discrimination (Dortch & Patel, 2017; Hurtado et al., 1996; Syed, 2010) reduces students' engagement and increases their

odds of dropping out from their majors. The racial climate in STEM departments has changed over time, but discrimination has not vanished. While overt discrimination has tended to disappear, more subtle, indirect, and covert discrimination practices are still present in STEM departments (McGee, 2016).

Similarly, despite overt practices of gender discrimination being less prevalent than they were decades ago, covert forms of gender bias and discrimination still exist and occur within the STEM field (Cooper & Brownell, 2016; Wang & Degol, 2017). Research has found that women in STEM math-intensive departments are particularly prone to experience gender bias (Robnett, 2016) and that women experience unequal treatment based on their gender within STEM (Steele et al., 2002). For instance, the same piece of scientific work gets a higher score from undergraduate students when it has a male name attached to it than when it has a female author (Knobloch-Westerwick et al., 2013), and similarly, a curriculum vitae of an undergraduate receives better scoring from faculty when it has a male name attached to it (Moss-Racusin et al., 2012). Likewise, research about LGBTQ students in STEM suggests that, while overt anti-LGBTQ bias is not socially acceptable in the field, subtle anti-LGBTQ bias is still prevalent in STEM classrooms and other academic spaces, such as group project meetings (Cooper & Brownell, 2016), usually in the form of derogatory remarks or jokes and isolation (Cech & Waidzunas, 2011; Patridge et al., 2014).

Gender and Racial/Ethnic Identities in STEM and STEM Identity

Just as the literature has shown that self-efficacy, interest, and sense of belonging are related to student engagement, it has been suggested that the strength and quality of students' academic identification are related to their level of engagement and willingness to be active participants in their learning opportunities, such as participating in SIPs (Estrada et al., 2018, White et al., 2019).

Research about students' identities in STEM has posited that women and URMs are more inclined than other groups to question their STEM identity (Rosenthal et al., 2011a; Rosenthal at al., 2011b; Settles et al., 2009) or experience fragmented academic, science, and personal identities (Beals, 2016; Mahfood, 2014; Tran et al., 2011) because of the perceived stereotypes that STEM is a field for European or American males (Beasley & Fischer, 2012; Bodzin & Gehringer, 2001; Corbett & Hill, 2015), and because of gender and racial imbalance in the field (Settles et al., 2016).

Perceiving that both STEM and other salient psychosocial identities (gender or race identities) are compatible is fundamental for motivation in STEM (London et al., 2011; Rosenthal et al., 2011a). For this reason, the idea that it is important to promote the development of a healthy science identity has become relevant in research (Carlone & Johnson, 2007; Lane, 2016; Ong et al., 2018). UGs and URMs who have successfully navigated the STEM environment frequently develop an identity that is a combination of their STEM and other salient and central identities, such as gender and racial/ethnic identity (McGee, 2016). In this identity development process, URM students redefine what it means to be a scientist and a person of color for them (Herrera et al., 2012; Tran et al., 2011), and UGs develop compatibility between their STEM and gender identities (Cech & Waidzunas, 2011; Rosenthal et al., 2011a). Regarding the role of SIPs during

the identity development process, researchers have posited that SIPs offer spaces where URMs and women fulfill their academic selves without being questioned in relation to their other identities (Lane, 2016; Ong et al., 2018).

In this literature review, we have shown how researchers have found a significant relationship between students' engagement in STEM and their interest, self-efficacy, sense of belonging, experiences of discrimination, STEM identity, and well-being. However, what remains constant across this wide array of topics in STEM research is that there is no work that analyzes how these variables influence student retention at the SIP level.

Theoretical Framework

Full investment in the SIP under study requires participants to dedicate time and effort in activities associated with the program. As such, we utilize an engagement framework. Specifically, we drew on London, Rosenthal, Levy, and Lobel's (2011) STEM Engagement Framework, developed using racial and ethnic diverse students and their first-year experiences in college . London et al. (2011) define STEM engagement as "the academic and social variables that are essential not only for retention but also for sustained investment and satisfaction in STEM fields" (London et al., 2011, p. 305). Accoding to London et al. (2011), academic variables include motivation, confidence in STEM abilities, and one's expectation to remain in a STEM major, and they define social variables as the sense of belonging to the major and the educational environment.

The London et al. (2011) framework also incorporates a psychosocial variable that operates as a facilitator of STEM engagement: perceived identity compatibility. They also include identity variables given previous research that demonstrates that embedded stereotypes of STEM academic cultures communicate to certain populations the incompatibility between who they are and who belongs in the STEM field (Carlone & Johnson, 2007; Cheryan et al., 2009; Eccles, 2005; Merolla & Serpe, 2013; Settles, 2004; Steele et al., 2002). According to this framework, if students perceive that their identity is incompatible with the STEM field, they may question their ability to succeed in it, and this may ultimately decrease their engagement within STEM. We included gender and race identity within the framework as the authors recommended that both be included as aspects of identity relevant to STEM engagement. Other research supports this assertion, since having a strong race identity for URMs is related to their positive STEM academic outcomes (Oseguera et al., 2019; White et al., 2019).

Methods[2]

Data Source

Data for this study were collected using confidential web-based surveys administered during the summer of each cohort of the SSP summer bridge program. The surveys elicit information from participants about the academic, social, and psychosocial aspects of their experiences within and outside the SSP. The first three surveys are administered early in the program and primarily collect information about students' prior experiences in high school and expectations for college. The fourth survey, which is administered at the end of the summer bridge

program, collects information about participants' experiences during the SSP and includes selected measures asked in earlier surveys.

Sample

The analytic sample (N = 128) for this study was constructed by drawing on data from the first five cohorts (years 2013-2017) of the SSP. Generally, cohort sizes range from 20-40 scholars per year across each cohort. Of these 128 scholars, 72% were identified as a member of a URM group with Latinx students comprising nearly one-third of the overall sample and 59% of the sample identified as women. The race and ethnicity categories were recoded to produce a variable with three mutually exclusive categories. Given the paper's focus on URM students, particularly Latinx students in STEM, we present, whenever possible, separated analyses focusing on Latinx students, other URMs (i.e., Black, Native American, Alaskan Native, Pacific Islander, and multi-racial), and non-URM's. Asian, Asian American, and White identified students are not considered as URMs due to university and program criteria.

Measures

Outcome variable. The main outcome of interest, short-term retention in the first two years of the SSP program, is measured by a binary variable that distinguishes students who do (SSP Retainer = 1) and do not (SSP [non] Retainer = 0) remain in the program during this period.

Independent variables. The selection of independent variables was guided by the STEM Engagement Framework of London et al. (2011), and they were operationalized using SSP summer bridge experience measures (see Table 1 and the Appendix for items, scaling, and alphas). We opted to use measures from the summer bridge surveys as there is a 100% response rate for all SSP participants. Moreover, the SSP leadership described the summer bridge experience as a foundational aspect of the SSP, hence our decision to utilize variables collected during summer bridge.

Academic variables. Two academic scales were included. Scientific Research Excitement is a 5-item scale that captured a respondent's level of excitement about scientific research work and career. Respondents rated the extent to which they agreed with items such as: "I am excited about the idea of scientific research" and "I am firmly committed to pursuing a career in research." This scale has face validity (Slaughter et al., 2015). The second academic scale used was Chemers' (2006) Scientific Self-Efficacy scale, which includes 14 items. Respondents were asked to rate their level of confidence on items such as, "Use technical science skills" and "Figure out what data I should collect." We did not include a measure of academic performance in the model as there was no significant difference between SSP retainers and SSP leavers.

Social variables. Three social variables were used in the analysis. As one of the major focuses of the SSP is to build a strong sense of program community among scholars, we used a 12-item Sense of Community scale. This scale asked respondents to rate their level of agreement with a series of statements about their experiences in the program. Sample items include: "I can trust people in the program," "Being a member of the SSP is a part of my identity," and "When I

have a problem, I can talk about it with members of the program." The second social dimension variable used in the analysis was Chemers' (2006) 5-item Scientific Identity Scale, which asks students to rate their level of agreement with statements such as: "I derive great personal satisfaction from working on a team that is doing important research." The third construct among the social variables was Seaton et al.'s (2008) Everyday Discrimination scale, which includes 10 items that ask participants to rate their level of agreement with statements such as "People treat you as if you are not smart" and "You are treated with less respect than other people."

Psychosocial variables. Two psychosocial variables were used in this study. The first construct was a gender-adapted identity scale from MIBI-Teen (Sellers et al., 1998). This is a 6-item construct that includes items such as "Being [my gender] is an important part of my self-image." The second construct was a 3-item MIBI-Teen race centrality scale, it is used to determine whether students view their race as central to their identity, and it includes items such as "I have a strong sense of belonging to others in [my race]."

Controls. We included gender and racial/ethnic group status as controls, given our interest in minoritized groups in STEM. We use Latinx-identified students as the reference and include other URM and non-URM as dichotomous variables in the model.

Table 1

Descriptive Statistics of Variables in the Model

	N	Minimum	Maximum	Mean	Std. Deviation
Retention in the SSP Program	128	0: non-SSP retainer after two academic years	1: SSP retainer	0.9	0.3
Gender	128	1: Man	2: Woman	1.6	0.5
Academic Dimension					
Scientific Research Excitement: SB1	128	2.0	5.0	3.9	0.7
Scientific Research Excitement: SB4	128	1.8	5.0	4.0	0.7
Scientific Self-Efficacy: SB1	128	1.8	5.0	3.9	0.6
Scientific Self-Efficacy: SB4	128	2.5	5.0	4.0	0.6
Social Dimension					
Scientific Identity: SB1	128	2.4	5.0	4.1	0.5
Scientific Identity: SB4	128	2.4	5.0	4.1	0.6
Sense of Program Community: SB4	128	1.7	4.0	3.1	0.5
Less Discrimination Experiences: SB3	128	1.9	6.0	4.7	0.9
Psychosocial Dimension					
Race Centrality: SB2	128	1.0	5.0	3.6	1.0
Gender Salience: SB2	128	1.0	4.7	3.2	0.8

Note. The numbers after summer bridge (SB) represent which survey the particular construct was measured. SB1, 2, and 3 were administered early in the SB and SB4 was administered at the end of the SB experience. See Table 2 for construct scaling.

Table 2

Descriptive Statistics of Variables by Racially Minoritized (URM) Group Status

Variable		Scale	Mean (SD) (N=128)		
			Latinx/Multiracial Latinx (N=41)	*Other URM (N=51)*	*Non-URM (N=36)*
Outcome variable					
Retention in the SSP Program		0: non-SSP retainer after two academic years 1: SSP retainer	0.85 (.4)	0.94 (.2)	0.94 (.2)
Independent variables					
Academic Dimension	Scientific Research Excitement:SB1	From strongly disagree (1) to strongly agree (5)	3.92 (.6)	3.7 (.7)	4.27 (.6)
	Scientific Research Excitement:SB4		3.89 (.7)	3.92 (.7)	4.31 (.5)
	Scientific Self-Efficacy: SB1	From not at all confident (1) to absolutely confident (5)	3.78 (.6)	3.85 (.6)	4.00 (.5)
	Scientific Self-Efficacy: SB4		3.97 (.7)	4.03 (.5)	4.12 (.5)
Social Dimension	Sense of Program Community: SB4	From not at all (1) to completely (4)	3.20 (. 5)	3.08 (.5)	3.16 (.5)
	Scientific Identity: SB1	From strongly disagree (1) to strongly agree (5)	4.16 (.5)	3.91 (.6)	4.21 (.5)
	Scientific Identity: SB4		4.20 (.6)	4.02 (.6)	4.24 (.6)
	Less Discrimination Experiences: SB3	From almost every day (1) to never (6)	4.91 (.7)	4.39 (1.0)	4.82 (.8)
Psychosocial Dimension	Gender Salience: SB2	From strongly disagree (1) to strongly agree (5)	3.13 (.8)	3.31 (. 9)	3.13 (.6)
	Race Centrality: SB2	From strongly disagree (1) to strongly agree (5)	3.63 (1.0)	3.87 (.9)	3.20 (1.0)
Control Variables					
Gender		1: Man, 2: Woman	1.54 (.5)	1.61 (.5)	1.61 (.5)

Note. The numbers after summer bridge (SB) represent which survey the particular construct was measured. SB1, 2, and 3 were administered early in the SB and SB4 was administered at the end of the SB experience.

Analyses

We provided overall means and standard deviations (see Table 1) and means and standard deviations by the three specified racial/ethnic groups (See Table 2). We also employed a one-way ANOVA and Scheffé post-hoc tests for comparing the means of the three racial/ethnic group categorizations to offer a description of the scholars in this sample prior to any higher-order analyses (See Table 3). Since we hypothesized that our STEM engagement model would predict the SSP scholars' decision to remain in the program until the second year, we entered predictors into the analysis based on our theoretical framework as hierarchical multiple regression does (Aron et al., 2013; Cohen, 2013). To better understand the factors that were related to retention in the SSP program, we conducted blocked, logistic regressions. By including independent variables in the regression models from controlling traits to the three dimensions of the conceptual frame in an additive way, we could see the net effect of each set of predictors on program retention. Missing data (less than 5%) were replaced individually with means of the non-missing construct items, as suggested by Shrive et al. (2006).

Limitations

While this work is a relevant contribution to understanding retention in SIPs, it is important to acknowledge some of its limitations. Our sample was drawn from a program at a single university; therefore, the conclusions presented here cannot be generalized. Additionally, the measures we applied were not designed for the conceptual framework, so we do not have a perfect representation of all the variables in the guiding framework.

Also, the small sample size led to lower statistical power and prevented us from producing higher-order statistical analyses, such as the examination of the conditional effects of the components of the STEM engagement model across more specific student subgroups. Additionally, the small sample size did not allow us to examine the intersections of students' scientific, raced, and/or gendered identities as we treated each identity separately in the model. Further, while the survey includes a gender non-binary categorization, fewer than five students selected this option, so per our human subjects review board recommendations we did not report on categories smaller than 5. Finally, this work only examines short-term retention in a SIP program, not offering insights into long-term retention. We expect to replicate these analyses to understand program retention rates across four years of the program and link aspects of programming to both short- and long-term retention. Still, examining short-term program retention is valuable, as attrition from STEM will typically occur within the first two years of study.

Findings

In this section, we present the portrait of the three racial group categories (N = 41 Latinx scholars (32%), N = *51* other URM scholars (40%), and N = 36 non-URM scholars (28%)) and the one-way ANOVA results first. Then, we review the results for the logistic regression analyses with all variables included in the model.

Among the three racial/ethnic group categorizations examined, the results of the ANOVA showed that there were differences in mean scores among the three racial groups in the scientific research excitement variable measured at the beginning of the summer bridge, F (2, 125)=7.65, η^2= .x, p < .001, and at the end of summer bridge, F (2, 125)=4.61, η^2=x, p< .01. There were also the differences of mean scores among the groups for (a) the scientific identity variable measured at the beginning of summer bridge, F (2, 125)=4.19, η^2= x, p< .05; (b) reports of experiencing everyday discrimination variable, F (2, 125)=4.82, η^2= x, p< .01; and (c) the race centrality variable, F (2, 125)=5.14, η^2= x, p< .01.

The Scheffé post-hoc test was conducted to inspect where the differences are located when comparing each pair of racial groupings. The post-hoc test showed that Latinx scholars had a significantly lower scientific research excitement score compared to the non-URM group, a difference that was observed at the beginning and end of the summer bridge. Latinx scholars reported that they experienced discrimination in their daily life less often than their other URM counterparts, and there was not a significant difference in the report of experienced discrimination with the non-URM group. Similarly, the post-hoc test showed that Latinx scholars had a significantly higher scientific identity score compared to the other URM group, but Latinx had not experienced a significant difference in scientific identity score compared to non-URM group.

Table 3

ANOVA test and post-hoc test results

Dependent variable	Group category (I)	Group category (II)	Mean difference (I-J)	SE	*p*
Scientific Research Excitement measured at SB1	*Latinx* student group	Non-URM group	- .36	.15	.06†
	Latinx student group	Other URM group	- .20	.14	.34
Scientific Research Excitement measured at SB4	*Latinx* student group	Non-URM group	- .42	.16	.03*
	Latinx student group	Other URM group	- .03	.14	.97
Scientific identity measured at SB1	*Latinx* student group	Non-URM group	- .06	.12	.90
	Latinx student group	Other URM group	- .25	.11	.09†
Less discrimination at SB3	*Latinx* student group	Non-URM group	- .09	.19	.88
	Latinx student group	Other URM group	- .52	.18	.02*

† < .1; * p < .05; **p< .01; ***p< .001

Note. The ANOVA table is available upon request.

The numbers after summer bridge (SB) represent which survey the particular construct was measured. SB1, 2, and 3 were administered early in the SB and SB4 was administered at the end of the SB experience. See Table 2 for construct scaling.

We now move to the results of the blocked logistic regression results predicting program retention after two years (See Table 4). In model 4, the full model, the *Academic Dimension and Psychosocial Dimension variables* were not significant predictors of short-term program retention, while gender and race/ethnic group were significant in the model. However, the *Social Dimension variables,* scientific identity, and fewer incidents of discrimination turned out to be significant predictors of short-term program retention.

Women were 9.3 times (OR=9.30, p < .05) more likely to remain in the program compared to their men counterparts. Regarding the race/ethnic group variable, the results indicate that compared to other URM scholars, Latinx scholars are less likely to be retained during their first two years, albeit marginally, but there is no retention difference between Latinx students and their

non-URM peers. Scholars who had higher scientific identity during the SSP summer bridge program were 9.72 times more likely to remain in the SSP (OR = 9.72, $p < .05$).

Also, scholars who reported fewer incidents of discrimination during SSP summer bridge program were 2.68 times more likely to remain in the SSP (OR = 2.68, $p < .05$). The pseudo-R2 of model 4 was .35, and the chi-square of the Hosmer-Lemeshow indicated that this model had a sound goodness-of-fit.

In summary, the logistic regression analyses indicate that, albeit marginally, compared to other URM scholars, Latinx scholars are less likely to be retained in the program during their first two years. However, Latinx scholars have comparable odds of program retention as non-URM scholars; a promising finding in the given literature that demonstrates Latinx students' lower retention than White and Asian students. These results are conditional on the variables of the model, indicating that these racial group differences are estimated with an assumption that students are compared when they have the same level of predictors in the model. Women, reporting high levels of scientific identity at end of summer bridge (SB4), or reporting fewer incidences of discrimination during summer bridge (SB3) are significant factors for program retention after two years.

Table 4

Results of Logistic Regression Model for SSP Program Retention

Variable	Model 1		Model 2		Model 3		Model 4	
	B	OR	B	OR	B	OR	B	OR
Control Variable								
Gender: Woman (versus Man)	1.41*	4.10*	1.34†	3.84†	2.03*	7.599*	2.23*	9.29*
Non-URM group (Latinx=reference)	1.01	2.74	.67	1.96	1.35	3.84	1.31	3.71
Other URM group (Latinx =reference)	.95	2.58	.96	2.62	-1.57†	-4.78	1.59†	4.94
Independent Variables								
Academic Dimension								
Scientific Research Excitement			.70	2.01	.50	1. 58	.43	1.54
Scientific Self-Efficacy			- .49	.62	-1.27†	.28†	-1.28	.28
Social Dimension								
Scientific Identity					2.33**	10.27**	2.27*	9.72*
Sense of Program Community					-0.31	.74	-2.60	0.77
Less Discrimination					1.02*	2.78*	.98*	2.68*
Psychosocial Dimension								
Gender Salience							- .36	.69
Race Centrality							- .13	.88
Constant	-.23	.80	- .82	.44	-10.94*	.00*	-9.15†	.00†
Model fit	.12		.15		.34		.35	
Pseudo R^2	(p>.10)		(p<.05)		(p<.01)		(p<.05)	
ΔR^2			.04		.19		.01	

† < .1; * p < .05; **p< .01; ***p< .001

Note. See Table 1 for item scaling and the appendix for construct items.

Discussion

Guided by the STEM engagement framework, in this section, we discuss major findings in relation to early program retention in the STEM scholar program (SSP). The results indicate that women scholars are more likely to remain in this program than their men peers. These results suggest that women may be more inclined than men to engage in the extra-curricular and academic activities demanded by the SSP. This finding is consistent with the research that posits that women are more likely to seek out and utilize campus resources and have greater help-seeking skills than

their men peers (Morgan & Robinson, 2003; Stevens & Mora, 2017). Along with this, these results suggest that women students consider that the support and opportunities provided by the SSP are adequate for them. As discussed in the literature review, there is a robust research finding indicating that SIPs serve as significant sources of social support for women and serve as spaces where women seek support to counter bias and isolation in a male-dominated field.

The results indicate that, compared to other URM scholars, Latinx scholars are slightly less likely to be retained in the program during their first two years. Given the program's explicit focus on Black culture, it appears that participation in the SSP may serve as a specific engagement factor for the other-URM group. The Black-centered culture of the program likely provides not only a safer and more affirming space, but also a culturally relevant context for Black students in the SSP, who might otherwise feel isolated and marginalized at a PWI campus in general, and within a STEM program in specific. Of importance to emphasize is that there still appears to be a benefit to the Latinx students in that they maintain similar rates as their White and Asian peers in the program. In this sense, our findings suggest that providing a culturally relevant context for Latinx is important and it might enhance Latinx SIPs retention and subsequently STEM major retention.

SIPs are fundamental for underrepresented students to build a STEM environment that does not constantly reflect or value a single dominant culture, but that celebrates the diversity of cultures from its members. Particularly for Latinx students, it might be relevant to incorporate program components associated with the values of "*familismo*" through service learning, volunteer opportunities, outreach activities, or community-engaged experiences (Herrera & Kovats-Sánchez, 2022, Rendón et al., 2020; Rincón et al., 2020). Our work offers paths to better understand this finding related to the slightly higher departure of Latinx from SIP than their other URM peers, it is important to conduct further investigation into this phenomenon, especially given the program's intentionality to create spaces for minoritized groups to thrive in STEM.

Our findings also extend research underscoring the importance of scientific identity to SIP retention in addition to STEM major retention, which has been the focus of past research in this area (e.g., Carlone & Johnson, 2007; Merolla & Serpe, 2013). From an asset-based perspective, this study suggests that students who did not experience or did not succumb to the identity-related threats that they encounter in STEM environments (Lane, 2016) stay engaged in the SIP during the first two years of the program. The findings regarding the importance of scientific identity to SIPs retention are particularly important to students from non-dominant populations, like women and non-binary gender identities and URM who are more prone to encounter identity-related threats in the STEM field (Herrera et al., 2012; Lane, 2016; Tran et al., 2011).

Our findings highlighting that having fewer incidences of discrimination are significant factors for students' program retention after two years, are consistent with the research around major retention, which suggests that suffering interpersonal discrimination reduces students' engagement and increases their odds of dropping out from their majors (Dortch & Patel, 2017; Hurtado et al., 1996; Syed, 2010). Also, we present evidence suggesting that Latinx students were as likely to experience discrimination as non-URMs, and slightly less likely to experience discrimination than other URMs. This is not surprising, given what is known from research about

the racialized and discriminatory experiences of Black students at PWIs generally (e.g., Allen, 1992; Johnson, 2013; Mwangi et al., 2018; Solorzano et al., 2000), and in STEM fields specifically (McGee, 2015, 2016).

Another important finding of this work is that departure from the SSP is not likely because of URM students' or women's lack of fit in STEM. Previous literature suggests that students leave STEM majors because of their lack of interest in the field or because of their reduced confidence in their STEM abilities (Adedokun et al., 2013; Espinosa, 2011). Neither scientific research excitement nor scientific self-efficacy measured in the summer prior to their first academic year predicted remaining in the SSP or alternatively leaving the program. Sense of program community was not predictive, but it is likely the point at which it is measured that explains this insignificant finding. At the end of summer bridge, it is likely that participants have yet to develop the strong sense of community that these programs typically engender so we plan to continue to examine how this construct behaves as SSP scholars continue through the SSP.

Additionally, one surprising finding was that race centrality or gender salience did not enter as predictive of remaining in the SSP, suggesting that the SSP provides an environment that affirms varying levels of raced and gendered identities and we will continue to monitor the extent that the SSP provides participants in the program with tools to better navigate and integrate these identity aspects into the program, which is suggestive of the literature on science identity and scientific identity compatibility. In this respect, Herrera et al. (2012) claim that encouraging the link between students' social identities and scientific identities can promote retention so a deeper understanding of how these identities change/develop during the undergraduate years should be followed.

Implications

This study has implications for the understanding of SIPs, particularly SIPs retention, which is an unexplored area, and the findings are relevant for the design and implementation of support programs in STEM. URMs at PWIs tend to experience a more negative racial climate that becomes a barrier to adjusting to colleges and universities (Carter et al., 2013). Therefore, intentionally designing programs that address systemic inequities and celebrate and affirm minoritized groups' experiences can facilitate adjustment and success. In this respect, our work suggests that one way in which support program leaders can orient their efforts is through the incorporation of strategies that center Latinx culture and values, in addition to the strategies that highlight Black culture. Our findings also indicate that helping students in STEM fields to form a solid scientific identity in their early years of college can be critical to later STEM success.

A critical finding of this study is that, in all the models, women had significantly higher odds of remaining in the SSP, suggesting that women take advantage of these types of opportunities. Even though the SSP is a very demanding program, women appear more willing to invest their time and effort when they are provided with a challenging, yet supportive and welcoming environment. It begs the question of whether men enter college with inflated levels of self-efficacy and self-esteem to succeed (Bench et al., 2015; Else-Quest et al., 2010; OECD, 2015; Tellhed et al., 2017; Williams & George-Jackson, 2014) and thus expect to be successful without

the assistance of a STEM support program since the majority of college STEM environments continue to be male-dominated spaces that privilege male perspectives (Beasley & Fisher, 2012; Bodzin & Gehringer, 2001; Corbett & Hill, 2015). For practitioners and institutions alike, these results indicate the need to create and implement support programs for women in STEM that go beyond the traditional components of academic support.

Conclusion

This study is one of the first to examine the relationship between STEM engagement and identity dispositions and early retention in a STEM-focused support program. While research using the London et al. (2011) framework has been relevant in the understanding of student retention in STEM majors, our findings suggest that this framework, which focuses on academic, social, and psychosocial dimensions, has some utility for use in predicting who stays in a SIP. The findings of the study highlight the importance of cultivating persistence-facilitating environments that foster student's scientific identity, protect students from experiences of discrimination, and/or provide them with the tools to navigate these discouraging situations.

It is important to mention that these are the early findings studying support program retention. More work in this area is necessary given the impact that SIPs have in retaining minoritized students in STEM. Investigating programs such as the SSP can provide insights into how SIPs moderate long-term success in STEM. Future studies would benefit from including a comparison group of students in STEM majors who are not in a support program, a comparison of academic support programs across STEM fields, a national representation of minoritized students, and comparisons of STEM support programs across different institutional types.

ENDNOTES

[1] For the purposes of this study, we use "SSP" as a pseudonym to protect the identities and privacy of participants in the program.

[2] Portions of this methods section were adapted from a prior manuscript, given similar analytic approaches and the same data source (see Oseguera et al., 2019).

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Appendix

List of Selected Survey Items in each Construct

Construct in the Analysis
Scientific Research Excitement (5-item construct) (Alpha= .80) • I enjoy doing research-related tasks. • I expect that my career will focus on research rather than practice. • I am excited about the idea of scientific research. • I am firmly committed to pursuing a career in research. • I look forward to working in a research lab.
Scientific Self-Efficacy (14-item construct) (Alpha= .91) • Use scientific literature and/or reports to guide research • Develop theories by integrating and coordinating results from multiple studies • Create explanations for the results of the study • Figure out the methods I should use • Figure out what data I should collect
Sense of Community (12-item construct) (Alpha= .89) • I am with the other Science Scholars a lot and enjoy being with them. • When I have a problem, I can talk about it with members of the program. • I can trust people in the program. • If there is a problem in the program, members can get it solved. • Program members and I value the same things.
Scientific Identity (5-item construct) (Alpha= .84) • I feel like I belong in the field of science or engineering. • I have come to think of myself as a 'scientist' or 'engineer.' • I have a strong sense of belonging to the community of scientists or engineers. • The daily work of a scientist or engineer is appealing to me. • I derive great personal satisfaction from working on a team that is doing important research.
Everyday Discrimination (10-item construct) (Alpha= .86) • People act as if they are better than you. • You are treated with less courtesy than other people. • You are threatened or harassed. • People act as if they think you are not smart. • You are called names or insulted.
Race Centrality (3-item construct) (Alpha= .82) • I have a strong sense of belonging with [own race/ethnicity] people. • I feel close to other [own race/ethnicity] people. • Being [own race/ethnicity] is an important part of who I am.
Gender Salience (6-item construct) (Alpha= .78) • Being men/women has a lot to do with how I think about myself. • Being men/women is an important part of my self-image. • Being men/women is unimportant to my sense of who I am. [a] • Being men/women has little to do with how I think about myself. [a] • I prefer to watch movies or television programs that have been made to appeal to boys/girls and men/women.

Note. The full list of items are available upon request.

[a] This is a reverse coded item.

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THE SLIPPERY WORK OF TEACHING ABOUT WHITENESS AND PRIVILEGE: TWO LATINX PROFESSORS' TESTIMONIO

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ABSTRACT
Using *testimonio* (Reyes & Rodriguez, 2012), two Latinx instructors examine their experiences and thought processes with the kinds of resistance faced from White or White-aligning students constantly "slipping away" from doing the work of reflecting on Whiteness and their privilege. Analyzing the data through a critical race-grounded theory approach (Malagón, Pérez-Huber, & Velez, 2009), we theorize a pattern of self-removal and deflection that White students engage in to maintain their privilege and Whiteness invisible. In our discussion, we consider the role of pedagogy and ideology for teacher educators working with resistance from White students.

Keywords: Testimonio, critical race theory, ideological clarity, student resistance, dominant ideologies, pedagogical moves

An important focus of the conversation about achieving equity in schools has to do with the ideological and pedagogical development of White teachers. In a field that is still mostly White, we need to have better knowledge of the kinds of understandings White teachers have about race, equity, and privilege (Matias et al., 2014; Matias, 2016). As more teacher education programs are incorporating anti-racist and CRT-influenced curricula in their classes, the need arises to document how instructors are dealing with resistance, implicit or explicit, to discussions of structural racism,

the hidden curriculum, an invisible structure that socializes students to accept ideologies of power, knowledge, and social stratification (Anyon, 1981; Apple, 2004; Giroux & Purpel, 1983) privilege and institutional oppression. Resistance to these tenets may not always come from students who align with a conservative agenda or values, but also are a part of the learning process for progressive White students (DiAngelo, 2021).

Using *testimonio* (Reyes & Rodriguez, 2012) two Latinx instructors name and analyze their experiences of student resistance toward the tenets of Critical Race Theory (CRT) taught in our courses. *Testimonio* is an intentional "first-person oral or written account drawing on experiential, self-conscious, narrative practice to articulate an urgent voicing of something to which one bears witness" (Reyes & Rodríguez, 2012 p. 525). Analyzing our *testimonios* through Critical Race Grounded theory (Malagon et al., 2006) revealed both micro and macro dimensions of resistance. At the micro level students resisted with what we call *deflection*, *silence*, and *downplaying their advantages*, behaviors that then we theorize as acts of *self-removal* to not acknowledge and examine Whiteness and privilege. To address these behaviors, we testify about using pedagogical moves to counter these behaviors and move students toward ideological clarity, or the "ongoing process that requires individuals to compare and contrast their explanations of the existing social order with those propagated by the dominant society" (Alfaro and Bartolomé, 2017, p.12).

Importantly, our continuous data analysis on the macro levels of impact revealed that our pedagogical moves were also met with new kinds of resistance, leading us to theorize that addressing these kinds of resistance is "slippery work." Even after having carefully selected and implemented many pedagogical moves, students keep "slipping away" from doing this work. We see these slips as a strategy, conscious or unconscious, to avoid talking about Whiteness and privilege. Despite numerous attempts to make Whiteness visible in our courses, students keep "slipping away" from confronting their racial positions and privileges in a direct and honest manner. By 'slipping away' from doing the work, students keep Whiteness invisible and maintain the status quo. At the end of the article, we discuss implications for teacher preparation programs and call attention to the necessity of exploring White privilege, Whiteness, and White normativity in-depth when discussing dominant ideologies and how they play out pedagogically.

Theoretical Framework: A Critical Race Theory Perspective

We start from the stance that in working with White students or those aligned with Whiteness in higher education, we will encounter internalized notions of race and racial superiority that will shape our interactions in the classroom. Thus, we use CRT to provide a clear analysis of the ubiquity of Whiteness in educational institutions (Ladson-Billings, 1998), clarifying how it plays a role in educational policy, curriculum, assessment, and pedagogy. Critical Race Theory has five tenets that acknowledge the centrality of race, stating that (i) racism is a defining feature that is prevalent and endemic in US social relations and in the institutions of education; (ii) dominant ideologies in education, such as meritocracy, colorblindness, objectivity, and race neutrality, must be challenged; (iii) there must be an intentional commitment to social justice; (iv) we must center the experiences and voices of the marginalized; and (v) do not limit ourselves to

one discipline or area of expertise (Solorzano & Yosso, 2001). These tenets give shape and form to the way we crafted our thinking in this study, starting from the idea that racism is normal and entrenched in the day-to-day operations of higher education institutions and teacher education programs. Specifically, it affects relationships between faculty and staff in pedagogical spaces. Thus, we call on CRT to name and expose how racism plays a role, but also mutates and changes, in classroom interactions and institutional practices (Evan-Winters & Twyman-Hoff, 2011).

Alfaro and Bartolomé (2017) recognize that in order to prepare mainstream teachers to work with low-income and linguistically minoritized students we have to help teachers develop ideological clarity at the same time that we develop pedagogical knowledge. Many times, teacher education programs are rife with pedagogical tools but do not do the work of imparting ideological clarity to their students in understanding who their students are and how dominant ideologies affect schools and teaching. Bartolomé (2002) explains that ideological clarity refers to the ongoing process that requires individuals to compare and contrast their explanations of the existing social order with those propagated by the dominant society. The expectation is that, by consciously juxtaposing ideologies, teachers will understand if, when, and how their belief systems uncritically reflect those of the dominant society and support unfair and inequitable conditions (p. 168).

Some examples of developing ideological clarity are demystifying deficit views of students of color, unmasking White assimilationist ideas, and clarifying meritocratic ideological positionings (Alfaro, 2008, 2015; Bartolomé, 2008, 2010). We acknowledge that it is not only White teachers that can hold deficit views of low-income and low-SES students. Teachers or literacy leaders who are in the same cultural group as their students can also reproduce deficit views of their students' language and culture. We agree with Alfaro and Bartolomé's (2017) explanation that developing ideological clarity requires ongoing work. We contend that ideologically clear educators begin by taking an inward look to examine themselves and develop self-awareness of privilege and the benefits of dominant ideologies that have either benefited or oppressed them. Ideologically clear educators also engage in critical analysis of themselves in relation to the curriculum. They can name systemic inequities of schooling and they do the work to unlearn harmful practices that maintain dominant ideologies. Finally, ideologically clear educators consider their self-knowledge and the impact this has as they define and create an equitable culture in their classrooms.

Also taking from CRT, we use storytelling, narratives, and *testimonio* to center the experiences of the marginalized in society. *Testimonios* are "intentional first-person oral or written accounts drawing on experiential, self-conscious, narrative practice to articulate an urgent voicing of something to which one bears witness" (Reyes & Rodríguez, 2012, p. 525). *Testimonio* "challenges objectivity by situating the individual in the community with the collective experience marked by marginalization, oppression or resistance" (Delgado-Bernal et al., 2012, p. 363). In this case, we recount our experiences as Latinx instructors, one male, and one female, with over 20 years of experience teaching literacy and reading courses in elementary, high school and higher education. All in all, this article provides insight into how Latinx instructors face, make sense and work through, pedagogically, cases of White resistance to a counter-hegemonic curriculum.

Resistance to Counter-Hegemonic Pedagogies

Literature in education has addressed the resistance of historically marginalized populations against hegemonic practices in schools (Delpit, 1996; Fine, 1991; Freire, 1973; McLaren, 1989), detailing how they resist indoctrination, lack of funding, and unprepared teachers, and school personnel. Less attention has been paid to resistance by White students, or those that align with Whiteness, against the deconstruction of systems of oppression. We agree with Evan-Winters & Twyman Hoff's (2011) claim that this kind of resistance is often unacknowledged and does not receive enough critical analysis, often "presumed to be innocent and non-threatening" (p. 465). At the heart of our study is the kind of resistance we encounter from White or White-aligning candidates and the pedagogical moves we devise to move students' further toward ideological clarity.

King's study (1991) employs the term 'dysconscious racism' to explain White students' internalization of uncritical perceptions, beliefs, and values that maintain unequal racialized power relations; this form of racism is often expressed as guilt and hostility. Tatum (1997), in this vein, offers a developmental model that explains White middle-class students' passive internalization of racial stereotypes. In spaces of higher education, Evan-Winters & Twyman Hoff's (2011) study of pre-service teachers' evaluations of Black instructors in CRT-infused social foundation course describes the kinds of resistance White students use in order to disengage with the topic: silence and labeling the instructors themselves as racist, incompetent, or limited by their racial background. Overall, the authors find that White student evaluations of Black faculty in these courses are a form of structural violence institutionalized in faculty assessment.

Noted author and social scientist Robin DiAngelo (2011) uses the term *white fragility* to describe how Whites often become defensive in discussions of race or when their privilege is pointed out. While Whites are used to discussing other people when talking about race, she argues that the role of Whiteness in race discussion often goes unacknowledged. She offers a full repertoire of ways that White progressives react to conversations about race and the 'moves' they make in order to maintain the status quo, block any kind of engagement towards expanding their worldview and perpetuate daily forms of racial harm (DiAngelo, 2021). Among them, she describes credentialing, the "attempts white progressives make to prove they are not racist" (p. 58), such as denying that they see color (*color deny*) or claiming that they are close to people of color in some way (*color celebrate*) by explaining that they work with a person of color or have a niece or nephew that is a person of color. With "objectifying", the author explains the "white tendency to overemphasize the race of BIPOC people" (p. 64), asking people of color to be the authority on race while not considering White supremacist systemic structures.

DiAngelo's (2011; 2021) points illustrate the ways that the role of Whiteness has been obscured in discussions around education; we have to analyze the way that White progressives, many of them our candidates in a master's program in the state of California, make complex discursive moves to resist going deep into these conversations. Furthermore, she points out how racism has come to be seen as an individual issue; white nationalists are named as racists, but forms of systemic and structural racism – such as segregation, school funding, or policing-are

ignored. Importantly for pedagogical spaces, she refers to the tendency of White individuals to employ moves such as “downplaying their advantages”, “feeling unfairly accused”, and “silence” (DiAngelo, 2021) that distract from a useful conversation about the role of White people in working to end racism.

The work of Cheryl Matias (2016) has furthered our understanding of White emotionalities and how they impact race relations in teacher education. In particular, we look at her co-authored study (Matias et al., 2014) of White teacher candidates’ views of the white imagination. Through survey responses from teacher candidates, the authors found common themes that informed the white imagination. Among them, White teacher candidates were disinvested in racial justice, acknowledged they were white but did not go deeper into its significance, felt guilty, and engaged in hegemonic Whiteness. Alarmingly, the teacher candidates interviewed talked about how “learning about racism in their program reinforced their normative beliefs of how race and racism are a non-white problem” (2014, p. 11), while at the same time not seeing the role of their Whiteness and privilege when it comes to social justice.

While many of these studies theorize resistance and explain some of the shapes it takes, they do not account for or describe how this resistance takes shape in class in pedagogical spaces, or what instructors can do to counter it. Therefore, in this article, we seek to answer the following questions: a) What kind of resistance do students have toward CRT? and b) What kind of pedagogical moves can faculty employ to counter resistance? We highlight and analyze the experiences of two Latinx instructors facing resistance to CRT-influenced courses by analyzing their lived experiences, naming the kind of resistance encountered and then sharing how we dealt with it through pedagogical “moves”. By analyzing our *testimonios,* we offer a unique perspective to teachers and teacher educators who are interested in building ideological clarity for their students.

Methodology

Testimonio

As two Latinx scholars working in academia, we rely on *testimonio* as a critical race methodological tool (Perez Huber, 2009) to reveal injustices caused by oppression in our classrooms, challenge dominant Eurocentric ideologies, and validate our own lived experiences (p. 645). Informed by Critical Race Theory, we validate our experiences of encountering Whiteness, and White resistance, in our classes and carve a space outside the “apartheid of knowledge” (Delgado Bernal & Villalpando, 2002) that is usually embedded in the production of knowledge. Doing so, we testify about our teaching practices as we create lesson plans, teach in zoom sessions, interact with students, and review assignments. We offer these *testimonios* as a narrative (see findings) that allows us to name and describe how Whiteness plays out in pedagogical spaces.

Testimonio is an intentional “first-person oral or written accounts drawing on experiential, self-conscious, narrative practice to articulate an urgent voicing of something to which one bears witness” (Reyes & Rodríguez, 2012, p. 525). By using different forms of texts narrative, letters,

journals, poetry, song lyrics, video, performance, cultural boxes, or audio, *testimonio* recover *papelitos guardados* or previous experiences otherwise silenced or untold to name issues or events to inform others, raise critical consciousness (Freire, 1973), and inspire corrective action. This makes *testimonios* different from oral histories, autobiographies, and descriptive discourse because the *testimoniante* (participant) takes part in a critical reflection on their personal experience within particular sociopolitical realities and engages its audience to "understand and establish a sense of solidarity as the first step toward social change" (Delgado-Bernal et al., 2012).

Testimonio has a long and varied history originating with liberationist roots in Latin America and it is both a methodology and a pedagogy (Delgado-Bernal et al., 2012). As a methodology, *testimonio* discloses tensions, contradictions, and possibilities for investigating how research is used to uncover and understand inequities in a particular context (Huante-Tzintzun, 2020). Chicanx activists, for example, use *testimonio* to document the lived experiences of Chicanx/Latinx communities in the US to express and document their experiences with marginalization resulting from race, gender, and sexuality (Latina Feminist Group, 2001). Similarly, education scholars and authors use *testimonio* as a pedagogy to document, give voice to, and address issues of inequity in the field of education (Delgado-Bernal et al., 2012; Reyes & Rodriguez, 2012) by contesting "what" counts as knowledge and "whose" knowledge counts (Delgado-Bernal & Villapando, 2002). *Testimonio* pedagogy is a communal process of teaching and learning because it "legitimizes organic knowledge(s) and an organic method of merging theory and practice" (El Ashmawi et al., 2018). For example, Welborn and Lindsey (2020) investigated the experiences of school leaders' journey to become a culturally proficient district. Their case study revealed that implementing a Cultural Proficiency Framework which assesses cultural knowledge of the community, values diversity, and institutionalizes cultural knowledge, amongst other essential elements, caused a shift in the school district's leadership and teachers from a deficit-based to an asset-based mindset about their students. In this article, we use *testimonio* as a methodology, but also as a method to collect and analyze our experiences.

Data Collection and Analysis

Data collection and analysis occurred simultaneously during this study. Our *testimonios* of our experiences with student resistance is our data. We shared our testimonios with each other, read them individually, and discussed our experiences to analyze our data and find common themes. Thus, our data collection and analysis occurred in four stages: (i) first instance data collection; (ii) preliminary collaborative data analysis; (iii), subsequent data collection; and (iv) final collaborative data analysis.

(i) First instance of Data Collection

This study was born out of conversations between the authors at the end of a department meeting when both of us were interested in talking about the experiences of our students in the program. One of us commented on the level of resistance posed by some students in the class, and a longer conversation ensued about how we tackled integrating CRT themes in our classes. Since

then, we convened regularly over *virtual pláticas*. Fierros and Delgado-Bernal (2016) define *pláticas* as a "practice that develops from a goal to honor researchers' and research participants' epistemological position" (p. 107). *Pláticas* includes the sharing of ideas, experiences and stories, and relationship building that requires openness and vulnerability (Guajardo & Guajardo, 2008). Due to the COVID-19 pandemic, we took these definitions and applied them in a virtual setting. Our weekly *virtual pláticas* began by sharing our pedagogical practices, planning, and assessing student work. As these progressed, we shared experiences of particular students who were resisting the material in different ways and decided to document these experiences of student resistance in a methodical way. We agreed to use *testimonio* as a method to give voice to our lived experiences and shared a folder on Google Drive to house our testimonios.

(ii) Preliminary Collaborative Data Analysis

We organized weekly meetings using Zoom to discuss our experiences. Before our meetings, we agreed to read each other's *testimonio* and make comments about any similarities we found. We also asked each other questions using the comment feature in Google. During our *virtual pláticas*, we reviewed our comments and began a line-by-line descriptive coding of our experiences (Glaser & Strauss, 1967). Each week, we continued to collect our data, read each other's *testimonios*, and make comments that would be discussed during our *virtual pláticas* until we found saturation. This approach helped us create focused codes of the emergent categories we were finding around the types of resistance we were experiencing (Glaser & Strauss, 1967). We started to name some of these instances as silence, disengaging, opposition, seeing learning experiences as irrelevant, etc. This level of analysis validated our own experiences and showed us we were not alone in noticing these patterns.

(iii) Subsequent Data Collection

As we continued to collect and analyze our data using the focused codes we found, we decided to use a critical race grounded theory approach (Malagón, Pérez-Huber, & Velez, 2009) that allowed us to simultaneously analyze the data and advance theory development, strategies primarily used in grounded theory (Charmaz, 2006; Glaser & Strauss 1967). Analyzing what these specific patterns meant and examining the conditions or context in which these patterns were emerging led us to compare and name our observations of how students remove themselves from the class in order to oppose reflecting on their privilege. We found instances of this behavior in the literature (DiAngelo, 2021), but not in pedagogical spaces. Thus, we named and described this behavior as 'self-removal' as our theoretical code and decided to further explore it in our *testimonios*.

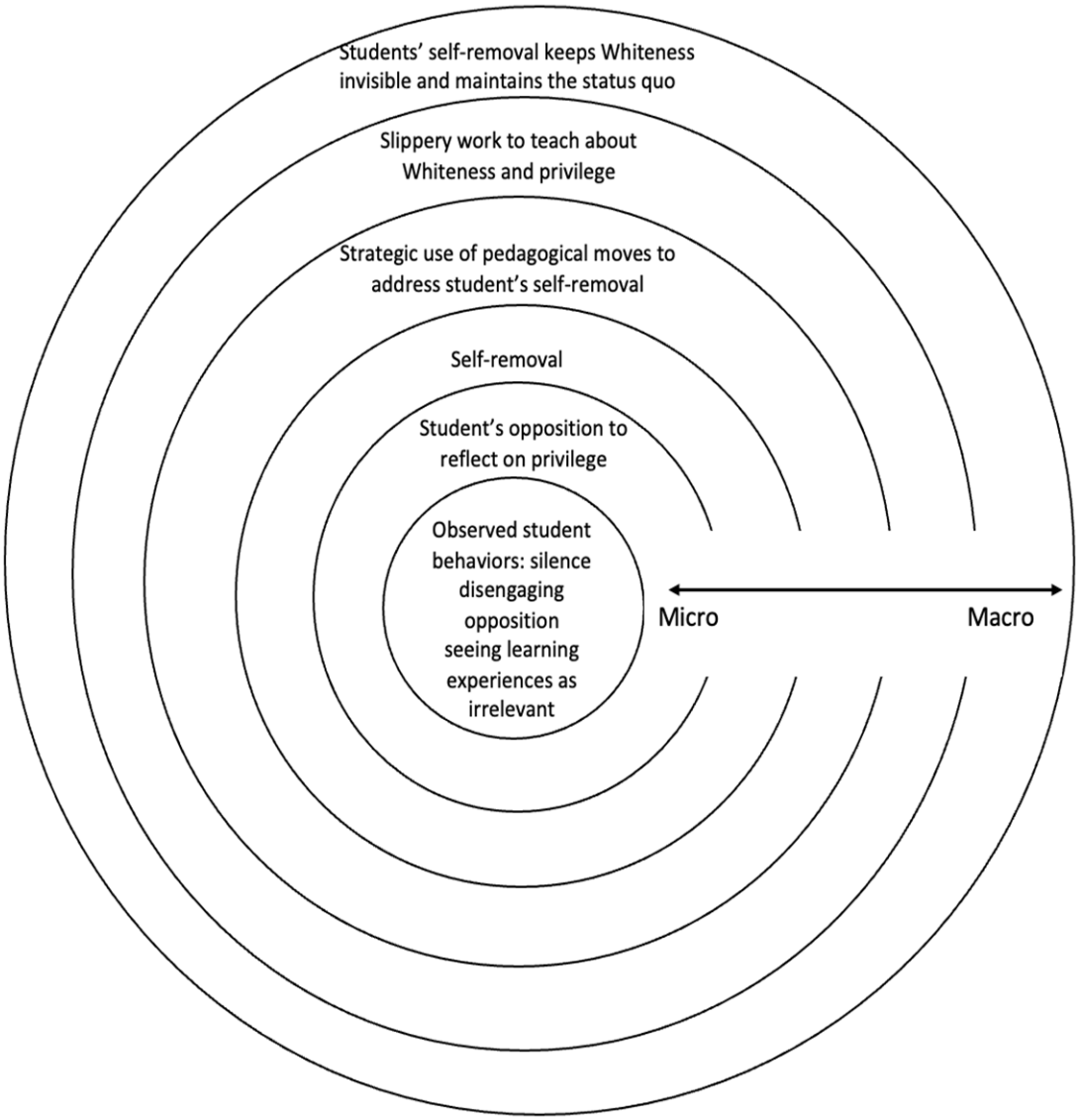
(iv) Final Collaborative Analysis

We continued to write our *testimonios* to dive deeper into the kinds of self-removal as a form of students' resistance, implicit and explicit, that we found in our classes. Our *testimonios* began to function as memo writing and kept us involved in our analysis as well as accountable to

one another, checking ourselves individually and collectively for our own biases (Glaser & Strauss, 1967). During our *virtual pláticas* we asked each other critical questions and recounted events in our classrooms to closely examine our students acts of self-removal and continue to draw upon critical race grounded theory (Malagon et al., 2009), we also reflected on the kind of strategic pedagogical moves we made to counter the resistance we were experiencing.We created a conditional matrix to visually contextualize and make links between the intra-personal (micro-level) and the social (macro-level) dimensions of our data (see Figure 1 below). The matrix helped us examine and understand students' actions, interactions, and emotions, as well as the consequences of their behavior toward our courses. This led us to identify students' behaviors of silence, disengagement, and seeing the learning experiences we provided as irrelevant, as micro dimensions of opposition to reflect on their privilege, which also led us to name these behaviors as acts of self-removal and deflection. The visual matrix also helped us clarify the relationships between the students' behaviors we observed and the pedagogical moves we strategically selected to counter said behaviors. This process required a continuous inquiry of our data that prompted us to continuously ask: What is happening here? This iterative process helped us capture the macro dimensions of these interactions.

Figure 1

Conditional Matrix: The Micro and Macro Dimensions of Students' Resistance



Over the next few months, we continued our dialogue and started construing this article. In this way, our *testimonios* led the trajectory of our research process and our abductive mode of data analysis guided us to theorize this pattern of self-removal and deflection that White students engage in to maintain their privilege and Whiteness invisible (see findings). We categorized the kinds of resistance we found and identified the kind of pedagogical moves we used, referencing the literature on some and creating our own when we did not find it elsewhere. Finally, we chose to highlight the examples that had a common thematic element, favoring cases where the resistance from students was pronounced and long-term.

Findings

As Latinx professors, we use *testimonio* to examine our teaching experiences and bear witness to the White-middle class students' resistance toward Critical Race Theory and anti-hegemonic curriculum. Using critical race grounded theory led to an iterative analysis of our *testimonios,* which helped us identify how students were responding to the material in our courses; abductively, we found common themes of resistance. By naming students' resistance, our *testimonios* also led us to reflect upon the pedagogical moves we selected to address how students were resisting the curriculum and move them toward ideological clarity. Our analysis also revealed that our pedagogical moves were met with new kinds of resistance, leading us to theorize that teaching about Whiteness and privilege is "slippery work." When students resist and 'slip' away from engaging in critical reflection about Whiteness, keeps their privilege invisible and maintains the status quo.

We organize our findings by sharing our positionalities. We include our individual *testimonios* and our analysis of our *testimonios* to highlight the micro and macro dimensions of students' resistance. Following our analysis, we discuss the implications of our findings for teacher preparation programs and call attention to exploring in-depth White privilege, Whiteness, and White normativity when discussing dominant ideologies and how these play out pedagogically.

Julián

My teaching practice is guided by my experience as a bilingual, first-generation Latino immigrant who spent fourteen (14) years navigating life in the United States as undocumented. In many other aspects of life in the United States I encounter privilege: being predominantly raced either as White, mixed or White Latino by other people, as a male, able-bodied and from a middle-class background. In the White spaces in the United States, however, I feel like a foreigner. Whether it is the schools or universities where I have taught, I have an outsider perspective on Whiteness and the way it takes shape in the United States. This perspective has shaped the way I see my work as an educator and how I strive to name and make Whiteness visible in my work.

"My upbringing is very boring…" and other resistances in Julián's class

We start the semester with a reflection on our own positionality in society regarding race, language, and social class in education. I have assigned a written reflection for students to "*give us an introduction on your own upbringing in relation to socio-cultural, economic and linguistic factors."* I have fielded a few emails from students who share with me that "*[they] didn't have any obstacles to overcome,"* or that they grew up in an English-speaking community, so they do not have much to report. One of them mentions that their "*sociocultural, economic, and linguistic factors in my childhood seem very boring…"* I recognize these messages immediately as coming from students that have identified as monolingual, monocultural White students. I respond that I am not expecting that they have overcome obstacles in the past and that this exercise is not a judgment on whether their life experiences are boring or not. In doing so, I make sure to talk about Whiteness, a term they might not have heard very often, especially linked to themselves. I point them toward articles and examples from our course that critically reflect on Whiteness, asking

them to consult the McIntosh (2003) article on White and Male Privilege, and Candace Kuby's (2013) own example of an auto-ethnography of a White person.

I am reading the first draft of the assignment I described above. I find that one student is still avoiding the assignment's directions. Instead of reflecting on their own upbringing, culture, language practices and socio-economic situation, they are writing about the experiences of an Asian-American friend and two of the characters in the book we are reading. They are avoiding talking about themselves. As I craft my feedback, I remind them of the assignment, but I also want to see if they can now recognize this behavior as them resisting this assignment. "*This auto-ethnography is yours, not your friends' or [the characters in the book]. There will be a chance to engage with the characters of the book in the future, but this assignment is about your own experiences. If writing about your own experiences makes you uncomfortable or you feel you have nothing to say, I would go deeper into this. Why is this? Maybe you can use that space to delve deeper into White Privilege (McIntosh, 2003), or White Normativity (Kuby, 2013)?*" As I write the last two sentences, I wonder if I should schedule a Zoom meeting with the student, since this may be something better explained in person.

We have our second synchronous Zoom meeting. For today, students have read Peggy McIntosh's list of statements that help students reflect on the advantages that White and males take for granted from their gender or racial identities ("White and Male Privilege," 2003). We discuss the article's implications and engage in a synchronous "privilege walk" to help them further reflect on their own privileges and oppressions. In this exercise, students respond to nearly fifty (50) statements such as '*Have you had to take on a job because someone in your family was either sick or fired due to COVID-19*?', or '*Have you been followed while shopping in a store*? With each yes, the quiz moves them a step forward. I have also added statements relating to social class, ethnicity, colorism, language, and ableism. The idea is that they can quantify for themselves the areas where they have privilege and where they do not. The goal of the exercise is for students to reflect deeply and intersectional about everyday situations where they may experience privilege or oppressions.

After students complete the walk, I have them discuss some takeaways in groups for fifteen minutes: *What was their experience doing the quiz? What did they learn about themselves? How did it make them feel?* I ask them to list two areas of privilege and two areas where they experienced oppression. Next, we come back to the class discussion for students to share. Class discussion begins with two students of color recognizing privilege in themselves and stating areas of their lives where they experienced oppression. White students are usually the first to share in class discussions, but none have shared today. I allow a significant wait time so that I give an opportunity for as many students to share as possible. Pedagogically, I feel this is an important moment for all students to engage in self-reflection because it will help them recognize their own identities as teachers. Still, there is no participation from White students.

In order to encourage participation, I model my own responses to these questions, making connections to my week 1 presentations about my own positionality as a middle-class Latino male, who can be raced as White, and whose experiences being undocumented opened my eyes to

oppression. After my share, a White male student raises their hand to share and starts talking about his own students' experiences of being raced. After he finishes sharing, I thank him for sharing and clarify that we are talking about our own experiences with privilege and oppression, not others. We are keeping the focus on ourselves. Again, two more students of color share their experiences of privilege and oppression, while White students remain silent. Next, and in order to have everyone participate, I decide to implement a written reflection so that everyone engages in this reflection.

For the next week, students are asked to reflect on their own privileges and oppressions from an intersectional perspective (Crenshaw, 1995), using the same discussion questions. As I read the responses from White students, I cannot help but think that many of them do not engage honestly with the assignment. Some comment about how bad they feel about having these privileges, some downplay their privilege and talk about personal struggles related to divorce and family separation. One student talks about not really wanting these privileges. Another student downplays the role of race, arguing that negative racial dynamics are not so prevalent in California.

I employ various pedagogical moves through the first weeks of class in order to have students reflect honestly about their raced position in society. When I sense an instance of self-removal and deflection, I attempt to reframe the interaction towards seeing and reflecting critically on their White culture. I do this by reminding them of the assignment directions and signaling examples in our literature of White intellectuals who have themselves reflected on their race and privilege. This is a strategic move that lets the students know that it is not only me, the instructor, who is asking them to do this, but it is also something that key figures in the field have done in the past. During instances of silence and when students are downplaying their advantages, it is important to find alternative ways to have them engage in this much needed self-reflection. When doing sessions synchronously, I make sure to use enough wait time to encourage students to participate in these uncomfortable and awkward conversations. Letting minutes go by without anyone saying anything in a class is certainly uncomfortable, but I remind them these topics and issues are not comfortable and that we have to get away from our comfort zones in order to make progress. One valuable pedagogical move during instances of continued resistance is to point out to students explicitly when they are resisting these concepts (recognizing their own resistance). Thus, I will make a point of naming self-removal and deflection and provide examples of these moves, asking students to consider why they are resisting the assignment. Whatever shape it takes, these pedagogical moves are intended to stop students "slipping away" from doing the counterintuitive work of deconstructing Whiteness and privilege in society.

Analysis of Julián's Testimonio - The Slippery Work of Addressing Whiteness and Privilege

In this sequence, we can see a variety of techniques that White students employ in the class to resist reflecting on their own privilege and naming their own race and culture. The first kind of resistance we call "self-removal": when students remove themselves from the assignment and reflection immediately by saying they do not have enough to report, that their experiences were "normal," or "boring." In some instances, they will share that they did not have obstacles to

overcome, assuming that I, the instructor, am looking for a narrative with obstacles and challenges in their upbringing.

Students also engage in what we call "deflecting," or talking about somebody else's experience instead of focusing on their own. It is common for teachers to talk about their students' experiences in order not to talk about themselves, as did the student in the Zoom session and the student who wrote about the experiences of an Asian-American friend and the characters of the book instead of her own.

Silence is another technique that students use. DiAngelo (2021) calls attention to how complex conversations about race and inequality are in the United States, where people are so careful about making a mistake or offending someone that they end up "engaging disingenuously" (p. 103). As most Americans have internalized cultural values of fairness and justice for all, while at the same time "breathing the smog of racial biases and stereotypes [...], it leaves many Whites feeling uneasy, uncomfortable (Tatum, 1997 in DiAngelo, 2021, p. 103). Thus, they will become silent in discussions about race and Whiteness. While this silence can sometimes mean students are giving space for others to share or aiming not to dominate the conversation, silence can also mean they are not able to engage in the conversation when it is not comfortable, or when it varies from the way they are used to talking about the subject.

In their writing, I observed instances of students downplaying their advantages by commenting on how they wished they did not have those advantages, feeling bad about them or downplaying the role of race and social class by highlighting other markers such as gender or ability. As DiAngelo (2021) points out, this is another technique used by White people that "comes across as disingenuous and not helpful to the cause, [...] and prevents acknowledgement of unearned advantage by providing "victim" social capital" (p.75). By "victim" social capital, the author refers to the discursive moves that White people make to continuously position themselves in the victim role. This kind of work takes away authenticity from anti-racist work and does not let students take full responsibility for and awareness of unearned advantages.

We describe the work of addressing these kinds of resistances as "slippery" to acknowledge what White students do in a classroom over the period of many weeks, even after I have implemented many pedagogical moves. It seems "slippery" because we feel, as instructors, that students keep "slipping away" from doing this work. We see these slips as a strategy, conscious or unconscious, to avoid talking about Whiteness and privilege. Despite numerous attempts to make Whiteness visible in the course, the students keep "slipping away" from confronting their own racial positions and privileges in a direct and honest manner.

This kind of resistance reveals a set of assumptions from White middle-class students that are worth exploring. It signals that even though we have reflected on White privilege (McIntosh, 2003), given examples of it, and talked about its connection to education, White students still have trouble "seeing" their own Whiteness, "seeing" their privilege and understanding the limitations that it has given them to become ideologically literate. Even though they do not have trouble seeing people of color as raced individuals, they continue to see themselves as "normal," "boring," as "having no culture," as individuals who are "race neutral" and not part of the United States racial

order. This positioning signifies that for White students, ideologies of meritocracy and colorblindness have a stronghold in how they see themselves in society, making it difficult for them, as teachers, to reflect on their own raced and classed status in society. Importantly, it blocks them from acknowledging structural advantages in the major institutions in this country.

These resistances also show that when White students see their upbringing as "boring," they assume the instructor is looking for students to describe challenges and suffering in education in order to get a good grade. This is problematic at many levels, since it points to the fact that the students equate the "problem" in education as one concerning students of color or low-income students, not themselves. They have internalized that students of color are the ones that need help, but do not see themselves as part of the problem. They do not see that White privilege and social class entitlement are barriers to becoming a qualified teacher, or understand that a monolingual, ethnocentric and colorblind philosophy is an obstacle to being an educator. White students both see their dominance as "non-existing and as the natural deserving order… the self-deceived premise that one's power is acquired by being deserved and has no machinery of enforcement" (Schulman, 2013, p. 27). This quote highlights a key issue: students find it difficult to see their unearned advantages and at the same time see themselves as superior because of their advantages. Importantly, this position justifies that they do not see anything in themselves that needs to change, stunts their ideological development, and presents great challenges for instructors working to have deeper conversations and impact.

Madeleine

My focus, as a teacher educator, is to prepare K-12 teachers to engage in critical thinking and self-reflection to find and stay in spaces that bring dissonance to how they experience the world and to search for answers that uphold justice and equity. I recognize that as an able-bodied, middle-class, light-skinned, and biliterate Latina, I experience daily advantages and privileges across various spaces that afford me many benefits. I also acknowledge that these advantages are not available to everyone. Having worked alongside K-12 teachers in varied classroom settings (e.g., public, private, juvenile hall), I have witnessed watered-down curricula taught to students of color and have heard deficit-laden comments about students who look like me and who's potential and talent are waiting to be uncovered. This is what motivates me to include CRT in my courses. I acknowledge that having colleagues as partners in this effort makes a difference in *how* we define what it means to be equity literate, *what* it looks like to be ideologically clear, and *why* we use these fundamental practices to prepare effective teachers.

Resistance to redress the hidden curriculum in Madeleine's class

Today, I teach about the hidden curriculum. Since I have experienced some students feeling discomfort and resistance when learning about this topic, I decided to assign Chimamanda Adichie's TED talk "The Danger of a Single Story." I select this TED talk because Adichie eloquently explains that single stories are created by those who are in power. She warns us about believing a single story of a person or a culture because these shape misinformed ideas and create

identities for others based on stereotypes. This talk will help me foreground the consequences of the hidden curriculum.

At the beginning of the semester, we all agree to keep our cameras turned on to get to know one another and to build a positive community in a virtual setting. Therefore, I find it strange when a student logs in and after we greet each other, immediately turns off their camera upon seeing my title slide: The Hidden Curriculum. I remind the class to turn on their cameras, the student tells me that their camera stopped working. I suggest logging out and logging back in; the student does this, but their camera is still turned off. I think that perhaps this is a technical issue, and I begin class.

I discuss the purpose and impact of curricula on student learning and share the intentionality behind my course design. I explain that during the first four weeks of the semester we read specific articles and participated in discussion boards to define our role as literacy teachers– to provide access to the tools of knowledge and teach the critical thinking required to navigate and make meaning of a specific content (Moje, 2007). I emphasize "tools of knowledge" and "critical thinking" as keywords and I highlight these on my slide. I explain that as literacy teachers, we need to teach our students critical thinking skills. Students nod their heads in agreement. I continue by referencing our readings and discussion from week 2. I remind students that culturally relevant teachers do three things: 1) they know how to vet the curriculum; 2) they ask what the curriculum is supposed to accomplish; and 3) they teach students to critique the curriculum (Ladson-Billings, 2008). Students continue to nod their heads in agreement.

Now that I have activated their prior knowledge, I divide the class into breakout groups made up of three students to ensure everyone has sufficient time to discuss their takeaways from Adichie's TED talk. I want students to reflect upon Adichie's warning about single stories in the curriculum and provide these guiding questions: *What are the parallels between single stories about certain student populations and deficits points of view?* and *Are there any single stories that you know and that you need to reject, counter and disrupt?* In the breakout rooms, students' conversations are rich with reflections about single stories, stereotypes, lack of knowledge of other cultures, prejudice, etc. When the students return to the main room, the conversation is equally rich and filled with takeaways about the power of stories. Students discuss the importance of diverse perspectives and experiences that are affirming and that value different cultures. Some students bring up the importance of stories about people of color that celebrate joy as opposed to stories that perpetuate stereotypes.

I want to anchor these ideas and proceed to summarize the class's comments. I state, *"We need to teach our students counter-narratives and not buy into the single stories of our curriculum."* Then, the student who had their camera turned off joins the conversation and states that they have been teaching "*for a very long time, a few decades*" and that we "*need to be realistic about other constraints*" like parents becoming upset if the curriculum is changed. I think to myself, is it not realistic to teach about counter-narratives? Adichie's talk was the precursor to the overall content of the class. I have yet to teach about the hidden curriculum, and I wonder if this is the reason their camera is turned off.

Since this resistance arose earlier in my lesson than I anticipated, I employed several pedagogical moves to counter it. First, I use wait time. I wait for the student to reflect upon their comment and to see if there is anything else they want to add. I also use wait time to physically show the pause the comment gives me and to create a space for the rest of the class to take in what was said: that teaching about counter-narratives is impractical and that parents become upset when this happens. Then, I reframe the learning objectives for the class and restate that teaching students to become critical thinkers and learn how to ask questions is our role as literacy experts. I referenced my first slides from class, and I couple this statement by asking: *As reading teachers, do we need to have courage to teach our students critical thinking? Do we need to have courage to teach them how to ask questions?* I emphasize the word, courage. Then, I ask the student who commented: *Which parents become upset?* And I wait. I want to provide the space for students to think about the weight of that comment. The student does not respond. To further accentuate my reframing, I make the following explicit: "*My goal in this course is to provide you with the tools and resources for you to teach your students how to think critically and learn how to ask questions. Plus, my role as a teacher is to not withhold knowledge from your education. I also prepare you to think critically."* My reframing is intentional. I want to guide students to think about the content of their curricular materials and the decisions we make as teachers.

Now that I have reframed our lesson, I contextualize the hidden nature of the hidden curriculum. I spend time describing four majoritarian stories (Mitchell, 2013) to reinforce the impact of this systemic structure that exists in schooling. I explain the first majoritarian story: *there is no story about race* as an ideology that promotes colorblindness and that neglects systemic racism, White privilege, and White normativity that affects schooling. The second majoritarian story: *difference is deficit* which ascribes to students who are different from White, mono-lingual English speaking, middle class as "problems" that need to be solved, rather than accepting the rich knowledge they bring and the contributions they make to our society. Third, *meritocracy is appropriate*. I explain that this concept is a myth because while meritocracy promotes hard work and perseverance, it overlooks the disparity in resource distribution to students of color. I also refer to the curriculum in schools that privileges certain knowledge and perspectives over others. Finally, I explain *English is ALL that matters,* which only values the English language and stigmatizes other languages. I describe the benefits of being multilingual and explain that by placing the value only on the English language, native languages become unwelcomed. I problematize the use of labels such as English language learner or Limited English Proficient and explain this as an example of deficit ideologies because these terms position multilingual learners according to a "lack" of English proficiency.

While I have always taught about majoritarian stories when I teach the hidden curriculum, I make sure to accentuate how these majoritarian stories are part of a system: the school and that knowing how these function in schooling makes the hidden curriculum visible. I provide many examples of classroom practices that maintain these stories as normative, everyday practices and problematize how we are socialized to accept these as truth. I use a third pedagogical move and provide two guiding questions for students to discuss in their break-out rooms: *1) Have you*

observed or experienced any of these majoritarian stories? and *2) Are any of these majoritarian stories "normalized" in your schools?* I use these questions for students to think critically as they analyze how the hidden curriculum has remained hidden in their schools and normalized in their teaching practice.

After the break-out room discussion, I ask students to share the outcome of their conversations. My goal is to bring the group to a collective analysis of their experiences with majoritarian stories and to situate the permanence of the hidden curriculum. Many students share their own experiences and reflect upon the impact of the hidden curriculum on teachers' ideologies. These comments extend the conversation and work as a second form of reframing. I call this student-reframing. First, students' comments reaffirm that, in schools, we have an instruction gap, not an achievement gap (Milner, 2012). Second, students label the resistance expressed earlier as negative and lacking critical analysis. Students comment that teachers need to engage in critical self-reflection to identify their uninformed beliefs. I recognize this second form of reframing and I reiterate that critical analysis is the work of literacy leaders. I know this is the perfect segue to make a connection to dysconsciousness. I explain that someone is dysconscious when "they do not have a complete analysis of social reality, which does not call into question the status quo, and cannot anticipate or leave any possibility for a change in the status quo" (Joyce, 1991 in Brandon, 2006, p. 199). I also use this quote to address any resistance that was not voiced by other students.

I conclude the class with a final pedagogical move to help students anchor the core concepts of the class. I use concept mapping and ask students to select a word or phrase that represents a takeaway from class. Students type in the chat feature of Zoom: single stories, humanizing pedagogy, hidden curriculum, critical thinking, etc. I introduced the Summarizing Tic-Tac-Toe strategy on a slide deck with a grid with three squares by three squares and I copy students' words onto the grid. Students in small groups select three words either up, down, across, or diagonal, and find the relationships between each word or phrase to create a sentence that summarizes their learning, and which also serves as their call to action. I emphasize that we now have the language to name what has been missing in the curriculum. Before sending the students to the breakout rooms, I ask: "*What is your stance on teaching and learning and your role as a literacy leader?* My goal is to prompt their thinking once again about what they want to do now that they have gained this new knowledge. I want to help them develop new ideas about their teaching practice and in essence, begin to develop ideological clarity. The student who expressed resistance at the beginning of class states wanting to feel "*self-efficacious*" and powerful about what they can change in their classroom. When the assignment to critically analyze a unit from their curriculum is due, the analysis of their curriculum is vague. Some students use bullet points to summarize a lesson plan. I provide feedback and redirect these students to revise their papers. I also ask them to meet with me one-on-one via Zoom to review their analysis.

Analysis of Madeleine's Testimonio - Keeping Whiteness and Privilege Invisible: Self-Removal and Defending the Status Quo

The comment the student made during class serves as an example of the resistance I sometimes experience when I teach about the hidden curriculum, and it tends to come from White, middle-class students. The resistance is usually a self-removal from the conversation or challenging the content in two ways: a lack of substance in their assignments or expressing their opinions during class. When the student keeps their camera turned off, they create a distance between themselves and the content of the lesson. This is a form of self-removal from engaging in the conversation that the curriculum is a system that maintains the status quo that privileges some and not others. Self-removal is also seen in assignment submissions that require students to critically analyze their curriculum. Students, who resist doing this work, submit papers that include a superficial analysis of their curriculum and instead focus the content of their papers on their students' lack of knowledge and experience. Statements such as: "*this story is about a big house and a pool"* or "*this is a picture of a boat and paddle*" and *"my students don't have experience with this and cannot relate*" constitute their analysis of their curricular materials. Another type of resistance is challenging the content of the lesson during class. Most of the time, when students voice their resistance, they situate their comments in the number of years they have been teaching, which calls attention to a "practical knowledge" of sorts that positions White students to dismiss the content as idealistic or impractical.

It is important to critically examine these examples of resistance as they uncover some suppositions about White, middle-class students. Removing themselves from class or submitting superficial work points to students' unwillingness to accept and name schools as the larger structure that perpetuates inequities in the educational opportunities and attainment for students of color. Their disinclination removes White students from challenging the dominant ideologies of the curriculum, White histories, White privilege, and White normativity that are present in school curricular materials.

Critically analyzing the curriculum is a difficult task for White students because it requires them to recognize and accept their role, whether unconscious or not, in the differential education, access, and opportunities afforded to students of color. Accepting curriculum without a critical analysis helps White students "slip away" and in turn, deny the benefits of having their race predominantly represented in curricular materials and the marginalization of single stories maintained through schooling. This denial is a means to dismiss the existence of their positionality and privilege. Their unwillingness to engage in these conversations also helps students "slip away" from examining their biases reflecting an ideology of assimilation that functions in two ways: 1) maintains the social structures of the status quo and, as a result, 2) maintains their privilege as invisible. Referring to parents becoming upset at changing the curriculum also functions as another strategy to "slip away" from taking responsibility to do this work. Parents, in this case, function as an outside source, a buttress that maintains the social order and one that continues to defend the status quo. Finally, this comment also works as a roadblock for others, especially newer teachers, who upon hearing about parents becoming upset may also disengage from committing to self-

reflection of their positionality. Resisting to do this work negates the development of self-knowledge and prevents acquiring the critical consciousness required of an equity literacy leader.

Conclusion

Through our *testimonio,* we analyze the various forms of resistance we experienced from White middle-class students toward CRT and the pedagogical moves we selected to counter their resistance. Using Critical Race Grounded theory (Malagon et al., 2006), we analyzed the micro and macro dimensions of resistance and their implications on the work to develop teachers with ideological clarity. At a micro level, our analysis of our *testimonios* led us to identify and name the forms of student resistance of *deflection, silence,* and *downplaying advantages* to theorize these behaviors as acts of *self-removal*. Students who engage in these behaviors of resistance "remove" themselves from examining and critically reflecting upon Whiteness and privilege.

We also testify about selecting and implementing specific pedagogical moves to counter these behaviors. Yet, chiefly among our analysis, we find that students also resist these moves, or how we counter their acts of self-removal. Thus, helping us theorize that addressing students' resistance is "slippery work." We describe this as 'slippery' because we found that White students resist and react to a pedagogical move with different resistance 'slipping' away from the point of vulnerability toward a space that is familiar and comfortable for them. Students resist and "slip away" from acknowledging their racial positions and the privileges that they afford them in society. This finding also reveals the macro dimension of student resistance: resistance is not a single incident, instead it is continuous, takes many shapes and forms, and is encountered in different spaces. Our ongoing critical analysis and dialogue also led us to acknowledge that pedagogical moves are a response to resistance. Although we carefully crafted our courses, curated readings, and designed specific learning experiences aimed at developing students' ideological clarity, the reactions of White middle-class students are still very problematic. Resistance to these topics is always shifting. This finding is important because teacher educators need to know how to recognize and counter student resistance. They need to be aware of the ways in which White students evade from engaging in topics about White privilege and Whiteness and how these tactics, if not countered, keep Whiteness invisible and maintain the status quo.

We want to acknowledge that the pedagogical moves we described in this article – reframing, wait time, recognizing their resistance, asking questions, and concept mapping – are not novel in teaching spaces, but our teaching context and our selection and use of these practices were strategic. Our intentional use of these "moves" was aimed at helping White students see their Whiteness, acknowledge the myth of meritocracy, the danger of colorblindness, assimilationist, and deficit-laden ideologies–in essence, to become ideologically clear (Bartolomé, 2002) about who they are and how their self-knowledge impacts their teaching decisions and teaching practice.

The work ahead

We bring attention to our lived experiences and highlight these findings because ideology informs pedagogy and developing ideological clarity requires ongoing work (Bartolomé, 2002).

As teacher educators, we recognize our role in the preparation of K-12 teachers. We want to bring attention to teacher educator programs and the need to prepare pre-and in-service teachers to move beyond finding the "right" teaching method to improve the academic achievement of students, particularly students of color (Bartolomé, 2004). When the focus is solely on methods without first defining ideology, Bartolomé argues, is a form of "managing cultural differences while de-emphasizing learning" and this approach makes teachers complicit in maintaining dominant ideologies (Macedo & Bartolome, 2004, pg. 118). Our instruction in teacher preparation programs needs to begin with ideological clarity and move from theory to practice. The examples of student resistance analyzed here are part of a system - a system that maintains hegemonic ideologies invisible and that works within the context of the larger system that perpetuates inequities for students of color. This type of resistance can remain present if ideologies of oppression (e.g., colorblindness, assimilation, meritocracy, deficit-thinking) and how these function in schools are not explicitly taught in teacher preparation programs. By making these visible, we can prepare K-12 teachers to critically analyze their beliefs and understand the impact of these oppressive ideologies on the educational outcomes for students of color. What we are arguing for is an in-depth preparation for those who seek to become teachers. This requires removing the space that 'politeness' takes up around the topics of dominant ideologies, race, White privilege, and White normativity that silences these conversations and learning.

Our recommendations for teacher educators calls for specific action: include readings about ideological clarity, the hidden curriculum, and anti-racist education in their courses. Revise assignments that require students to write about their "philosophy of teaching" to in-depth exploratory assignments that require an examination of ideologies of oppression from an inner and outer perspective: who we are and the social structures of schooling and society. We propose using a set of critical guiding questions, based on Alfaro and Bartolomé's (2017) work, that all educators need to use as they reflect upon their beliefs and how these are enacted in schools. Table 1 below outlines the ideologically clear educators' commitment to consistently ask and answer these questions to acknowledge their role in the education of students of color.

Table 1

Guiding Principles of Ideologically Clear Educators

Ideologically Clear Teachers…	• Reflective Questions that Guide Ideological Clarity
Explore their own biases by centering their own experiences (Self)	• What are my privileges and oppressions? • What is the role of dominant ideologies (e.g., color blindness, assimilation, meritocracy, Whiteness, deficit-laden views, English-only) in justifying inequalities in society? • How have my experiences shaped my response to dominant ideologies? • How have I benefited from structural and systemic oppression? • What kind of resistance have I engaged in when thinking about my own privilege from an intersectional perspective? • How do I keep acknowledging my privileges, biases, and oppressions on a regular basis, acknowledging that this work does not end?
Examine their own biases and experiences in the context of their teaching practice (Self-and-curriculum)	• How do I use dominant ideologies as a lens to critically analyze the curriculum provided by my school? • How do I interrupt dominant ideologies that exist in my curriculum? • How does my self-knowledge and positionality (race, gender, ethnicity, social class, etc.) shape and guide the decisions I make about my instruction? • How often do I reflect upon my teaching practice to uncover any biases I may have?
Create a culture of equity (Self-and-students)	• How do I create an equitable culture in my classroom? • How do I positively represent my students' cultures and identities in my lessons? • How are my students' language repertories accepted, valued, and used in my lessons? • How does school feel for my students?

Finally, it is important to address that preparing ideological clear teachers requires partnerships amongst colleagues and close collaboration and communication between teacher-educators. One professor alone cannot accomplish this work. Instead, this work requires a collective commitment from teacher educators and teacher preparation programs because developing teachers' ideological clarity is on-going work. Establishing a direct vertical alignment between courses and learning objectives ensures that ideological clarity and dominant ideologies are introduced in one course and revisited and extended in the next course. This type of spiral curriculum prevents students from "slipping away" from doing the work. We argue that teacher preparation programs need to have a stronger and more visible vertical alignment around these topics.

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CHARACTER EDUCATION INITIATIVES AND PREPARATION FOR SCHOOL ADMINISTRATORS: A REVIEW OF LITERATURE

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ABSTRACT
Over the past 25 years, substantive scholarly literature has been published that focuses on ethical decision-making by school administrators. In addition, learning activities integrated in principal preparation programs (PPPs) that relate to professional ethics and character education provides aspiring school administrators with functional tools and strategies to address challenging workplace issues, including matters that relate to inequity, racism and oppression. This literature review provides a current understanding of K-12 character education and ethics as it relates to school administrator professional preparation and practice. Using well-defined criteria, 31 peer-reviewed research articles published during the past 25 years were included in this review. After a thorough comparative analysis was completed, four overarching themes emerged that relate concepts of ethics and school leadership: (a) principal preparation program practices that focus on professional ethics, (b) implementation of character education interventions in schools, (c) non-commensurate school administrator attention to student achievement, and (d) school administrator attitudes on ethics and the development of character.

Keywords: educational leadership, character education, professional ethics, principal preparation program

How does one become a "good" person? Can this be taught? Aristotle's *Nicomachean Ethics* proposes that a foundation of ethics is needed for a person to become good (Aristotle & Sachs, 2002). Further teachings promote the idea that becoming good is connected to the development of character, which comes from the Greek verb “charassein”, meaning to sharpen or engrave (Merriam-Webster’s Collegiate Dictionary, 2011). Therefore, the human character is “etched” into one's being by the choices a person makes. Character education programs in K-12 schools promote the idea that a virtuous, "good" life is a worthy educational endeavor and there is value in instilling aspects of character into a student's well-rounded education (Benninga & Berkowitz, 2006; Bezzina, 2012; Davidson et al., 2007; Hoedel, 2018;; Holtzapple, 2011; Kim, 2018). The University of Birmingham’s Jubilee Centre for Character and Virtues (2017) states that, “the ultimate aim of character education is not only to make individuals better persons but to create the social and institutional conditions within which all human beings can flourish” (p. 7). School administrators face challenges that require an understanding of their own character as well as those they serve (Cherkowski, 2012; Minthrop, 2012). Developing an ethical “grounding” will ensure that today’s school leaders will be able to adequately address challenges present in their schools that relate to, among other issues, inequity, racism, and oppression, today and in the future. Principal Preparation Programs (PPPs) prepare future school administrators to adjust to the ever-changing social construction of modern-day society, many times presented as moral dilemmas (Willis, 2011). Therefore, this literature review aspires to provide a current understanding of concepts related to character education research and human flourishing (Jubilee Centre Framework, 2017), in relation to K-12 education and connecting these concepts to the professional preparation and practices of school administrators. The following questions will be addressed in this literature review:

1. What does the literature say about character education initiatives related to K-12 school administration?
2. What does the literature say about how principal preparation programs (PPPs) support the concepts of character education?

This effort was undertaken by researchers affiliated with The Center for Education Leadership (CEL) at the University of Tennessee, Knoxville (UTK). The CEL aims to prepare aspiring educational leaders to positively influence educational outcomes by supporting the many stakeholders in today’s schools. As a PPP, the CEL provides educational opportunities for school leaders (i.e., administrators) in its Leadership Academy, including coursework and practicum experiences that satisfy the necessary requirements toward an educational specialist degree and a state license in school administration. In addition, the CEL has been awarded grant funding by the Kern Family Foundation to research and develop ways to integrate character education more substantively within the CEL’s mission, as well as within the Leadership Academy coursework and on-site professional preparation activities. Important to this work is to define the degree that K-12 school leaders acquire the decision-making skills and values needed to lead their institutions with character and integrity. The support provided by this grant will assist the CEL in more fully understanding the degree that the nurturing of ethical decision- making among its aspiring school

leaders translates into positive character development and human flourishing for the students and the families in the schools they lead.

Review of Literature

Educational administrative decision-making requires more than the mechanical application of existing rules and regulations (Hoy et al., 2006). School leader duties consist of complex decisions and thoughtful processes instead of merely possessing and carrying out specific technical skills to ensure effective and efficient organizational operations management (Sergiovanni, 2009). Current research on effective leadership and management practices has focused on the importance of value, moral, and ethical bases for educational leadership decision- making (Frick, 2009). Twenty-first century K-12 principals are expected to make ethical decisions in response to various dynamic situations throughout the school year. Minthrop (2012) states that "leadership that furthers integrity presumably creates a sense of normative and programmatic coherence in conjunction with toleration of dissent" (p. 702). Understanding the relationship between moral reasoning, values, character education, and their relationship to leaders' ethical decisions and students' well-being and academic achievement drives this study. The Jubilee Centre (2017) states, “the ultimate aim of character education is the development of good sense, or practical wisdom; the capacity to choose intelligently between alternatives” (p. 7).

In addition, The National Policy Board for Educational Administration (2002a) states that educational leaders need personal values that integrate the ethical dimensions of decision-making (p. 3). PSEL (2015) Standard 2 also emphasizes the need for ethical importance in an educational leader's training. In addition, Tennessee Instructional Leadership Standards (TILS) identify core performance indicators of ethical and effective instructional leaders (TDOE, 2018). As written, each of the TILS starts with the phrase “Ethical and effective instructional leaders…” to articulate the intrinsic connections between ethical behavior and school leadership. The ethical attributes emphasized are “honesty, respect, inclusiveness, sound judgement, commitment, fairness, compassion, work ethic and a genuine belief that all children can learn and grow and contribute to the foundation of ethical behavior connected to leadership” (TDOE, 2018).

The need for guidelines and training regarding ethical decision-making and values emphasis in the school setting is a growing research area for educational administration leaders. For example, K-12 schools worldwide implement and emphasize character education programs like PeaceBuilders (2020) and Capturing Kids’ Hearts (Campus Design, 2020). These programs work with school administration, teachers, and students to promote healthy relationships and develop student values that enhance their character. A number of research teams have developed frameworks for understanding character education in schools. One important framework has been developed by the Center for Character and Citizenship called PRIMED, an acronym for five principles of effective character education (Berkowitz et al., 2017):

- **P**rioritization: Prioritization of character and social emotional development in school
- **R**elationships: Strategic and intentional promotion of healthy relationships among all school stakeholders

- **I**ntrinsic Motivation: Promotion of the internalization of core values/virtues through intrinsic motivational strategies
- **M**odeling: All adults and older students model core values/virtues and socioemotional competencies
- **E**mpowerment: Schools empower all stakeholders as co-owners and coauthors of the character education initiative and the school in general
- **D**evelopmental Pedagogy: Schools intentionally foster the development of student character and socioemotional competence and utilize methods that are developmental in purpose

The second framework, adopted for this review (see Figure 1) is the Jubilee Center's Character Education Framework, which emphasizes the Building Blocks of Character (The Jubilee Centre, 2017). These Blocks of Character include: (a) intellectual virtues, (b) moral virtues, (c) civic virtues and (d) performance virtues (i.e. self-management) which all lead to practical wisdom, and ultimately, human flourishing of individuals and society. According to the Jubilee Center (2017), human flourishing is "necessary to achieve the highest potential in life" (p. 6).

The Jubilee Centre's Character Education Framework (2017) represents the most recent and comprehensive studies on virtue education and its application to K-12 and Higher Education environments. Substantively integrating aspects of character education related to flourishing within PPP curricula provides school administrators with the necessary tools to address today's ethical issues. Several administrators cite examples of difficult decisions that require attention to ethical considerations. For instance, one principal states, "It's an everyday thing for me...I get the most problematic children, and I'm their last chance...every day there's drama in these children's lives" (Cherkowski et al., 2015, p. 626). Larson and Derrington (2012) state, "it is our responsibility and job as administrators to follow through on what is right, not what is easiest" (p. 10). More recently contributing to this discussion, Angelle (2017) stipulates that, "the values we hold influence not only actions and behaviors, but also decision making" (p. 12).

The implementation of training in ethical decision-making within PPPs and its applications for school leaders in K-12 schools is documented in scholarly literature. Prominent researchers, particularly those that focus on best practices in educational leadership, have expressed their difficulties in establishing commonly acceptable definitions of key terms in ethics education (Beck & Murphy, 1994; Sergiovanni, 1992; Starratt, 1991). Bezzina (2012) states that moral purpose, expressing underlying values and ethics, has been consistently identified as one of the fundamental necessities for bringing about change and improvement to deliver desirable student learning in schools.

Key Terms

To adequately study the subject of ethical decision-making and implementation of character education and human flourishing in K-12 PPP's, it is necessary to more carefully define these and other, related terms provided by notable scholars. Therefore, for this review, the following key terms are defined as follows:

- character – The complex set of psychological characteristics that enable an individual to act as a moral agent (Berkowitz et al., 2004, p. 76).
- character education – Educational practices that foster the development of student character (Berkowitz, 2011, p. 156).
- ethical decision – A decision that is both legal and morally acceptable to the broader community (Schwartz, 2015).
- ethics – An autoregulatory process to ultimately find the necessary axiological justifications to what gives meaning to our decisions. Autoregulation signifies that the regulation comes from within us in our choices and actions and calls for personal effort (Langlois & Lapointe, 2010).
- human flourishing – Human flourishing is the widely accepted goal of life. To flourish is not only to be happy, but to fulfil one's potential (The Jubilee Centre, 2017).
- phronesis or practical wisdom – the overall quality of knowing what to want and what not to want when the demands of two or more virtues collide, and to integrate such demands into an acceptable course of action (The Jubilee Centre, 2017).
- morals – The first-order beliefs and practices about good and evil which guide our behavior (Sun, 2011).
- value – A preference, an ideal that guides our behavior, and something we try to live up to (DeRoche & Williams, 2001).
- virtue – Character trait that enable human beings to respond appropriately to situations in any area of experience (The Jubilee Centre, 2017).

Methodology

Detailed procedures were used to select included research, using specific search criteria within the topic's scope. Inclusion/exclusion criteria were defined as a result of eligibility considerations developed by the research team. Strict screening procedures were employed to ensure that all literature included a broad, yet comprehensive, understanding of the main topic, and answered one or both of the research questions. Procedures used to select the included literature followed guidelines widely accepted by the research community (Galvan & Galvan, 2017).

Inclusion/Exclusion Criteria

To ensure that the research material included in this study focused on the research questions and were substantive in nature, the researchers garnered articles published in the last 25 years in peer-reviewed, scholarly journals, as well as relevant books and National Center of Educational Statistics (NCES) reports. Studies that focused on character education programs in K-12 schools were included, and principal preparation programs at the university level. Also included were studies that described the ethics of administrative focus on standardized testing, single K-12 site case studies, and various school/district administrator attitudes. In this study, administrators included principals, superintendents, assistant principals, and other persons serving in full and part-

time administrative roles. These professionals work in urban, suburban, and rural geographic areas, serving students from diverse racial, ethnic and socioeconomic neighborhoods. There was no restriction on articles that included teachers and administrators regarding gender, race, ethnicity, age, socioeconomic status, or sexual orientation.

The process of sifting through a wide variety of source material was recursive, evolving until a final, well-defined group of 28 articles remained. At the onset, the following computerized reference databases were used - Education Resources Information Center (ERIC); JSTOR; NCES Database; and Education Full Text. The researchers searched these databases for all peer-reviewed publications published between 1980 to 2020 using the following search criteria: (a) character education AND (school administration or school leaders) (b) Educational Administration AND Ethics AND Character Education (c) Educational Administration AND Virtue (d) Educational Administration AND Morals (e) Journal of Character Education AND Leadership (f) Journal of Moral Education AND Leadership, Flourishing, Character Education (g) Educational Leadership AND Principal AND Character.

The results of these searches provided 61 unique listings. Twenty articles were added from an inspection of the reference sections of these articles whose titles contained references to either "educational administration", "principal", "ethics", "character education", "values", “morals”, and "virtues". An additional three literature review articles, which included these terms, were used. After an initial review of the literature was completed, two research articles and a book were added at the behest of the reviewers as well as to capture research completed most recently. Also, two reports published by the National Center for Educational Statistics (NCES) provided the researchers with statistical information based on survey results from the nationally representative National Teacher and Principal Survey (NTPS). After all searches were completed, annotated bibliographies were created for each of the included articles, which provided the researchers with a secondary way to evaluate the relevancy of each article.

An inspection of these annotated bibliographies resulted in the removal of 10 articles which, under examination, do not specifically reference character/character education, morals, virtues, ethics, or values. Also excluded were 38 dissertations, editor columns, position papers, case studies, magazine/newspaper articles, and fictitious case studies. Removal of this grey literature was justified based on the understanding that they either: (a) did not represent empirical research (e.g., reviews of literature, fictitious case studies), (b) were not peer- reviewed by persons outside their organizations (e.g., dissertations), or (c) included bias and misrepresentation. Inclusion/exclusion of all material for this study was accomplished in a collaborative, in-person format where each researcher critically examined the other's expressed rationale. In all, 16 qualitative, nine quantitative and six mixed-methods articles were included, resulting in a final group of thirty-one articles. The final list of included articles and related details is included in Table 1.

Findings

As a result of an analysis and qualitative coding of the articles included in this study, four distinct, but interrelated, themes emerged: (a) principal preparation program practices that focus on professional ethics, (b) implementation of character education interventions in schools, (c) non-commensurate school administrator attention to student achievement, and (d) school administrator attitudes on ethics and the development of character.

Articles related to the “principal preparation programming” theme (six articles) include those related to academic degree training programs dedicated to ethics (e.g., ethical competencies and decision-making practices, pedagogy, and principal perceptions of educational administration programs). Literature contained within the “character education interventions in K-12 schools” theme (six articles) relates to the effectiveness of character education intervention (e.g., evaluation, justifications for character education, school perceptions, effectiveness regarding student attitudes and performance). The “non-commensurate school administrator attention to student achievement” theme (two articles) includes research which focused on accountability obligations regarding testing and ethical decisions (e.g., tensions, professional values, and moral literacy). Finally, articles grouped in the “school administrator attitudes on character” theme (fourteen articles) include literature describing school administrators' attitudes regarding ethical decisions (e.g., perceptions of student outcomes, ethical dilemmas, spirituality, the ethic of caring, and moral purpose).

Principal Preparation Program Practices

According to a recent report evaluating principal preparation programs, approximately 700 PPP's train educational leaders across the United States (G.W.I., 2016). Principal preparation programs (PPPs) are a primary means for providing beginning principals with the tools they need to effectively lead their schools (Grissom et al., 2019). A number of studies included in this review provided evidence that PPPs should provide ethics training (Cranston & Kusanovich, 2013; Eyal et al., 2011; Greer et al.,2015; Langlois & LaPointe, 2010; Larson & Derrington, 2012; Mullen, 2017). For this study, ethics training refers to the internalization of moral values and virtues that guide personal and professional practices.

Understanding how principal preparation programs emphasize care, justice, professionalism, and critique, Mullen (2017) investigated pedagogic intervention designed to raise consciousness about ethical leadership and learning within the graduate school. This yearlong study was performed by using a document analysis of student assignments in a principal preparation program affiliated with the University Council for Educational Administration (UCEA). The participants were asked, "open-ended questions [that] prompted views of ethics" (p. 264). The author discovered that "the teaching of ethics is thus essential...ethics in [educational leader] programs can be strengthened, such as in the form of a continuous curriculum rather than a discrete unit or course only, although this is a good start" (p. 267). Similarly, the effects of three, one-year-long Trajectory, Ethics, Responsibility and Authority (TERA) principal training programs were explored by Langlois (2010) using observations, surveys, and individual/group

interviews. It was the aim of the TERA training program to "develop greater ethical sensitivity, judgment, and awareness among educational administrators of the moral dimensions of their decision-making processes and to the impact of their decisions on people, their organization, and their community" (p. 147). After the first year, student data showed a greater capacity to use Starratt's (1991) ethics of care, critique, and justice in their decision-making processes. Students in years two and three progress towards a more balanced use of all three ethics rather than an unbalanced use of the ethic of care. Langlois concluded that the TERA program increased student ethical awareness, in general. It also emphasized the need for a school value statement to promote the adherence to greater ethical standards.

A multiple ethical paradigm approach using ethics of care, community, critique, justice, and professionalism were adopted to understand better how educational leaders resolve everyday ethical dilemmas. The study's purpose was to examine ethical considerations of aspiring principals (Eyal et al., 2011). By analyzing the ethical issues faced by principals, this study suggests that value conflicts are the core issues in resolving these dilemmas. Potential conflicts arise “between the value of justice and the values of profession and care, between the value of care and the values of utilitarianism and community, and between the school community and the wider public interest” (Eyal et al., 2011, p. 399). Thus, Cranston et al. (2013) identified the focus and content of principals' dilemmas and used the idea of multiple ethical paradigms to explore contradictions among the accepted ethical categories underlying common dilemmas. Eyal took this even further by amplifying the tendency of principals to prefer certain values over others when dealing with school dilemmas.

Studies emphasize using drama-based and conversational techniques in preparing principals to face ethical dilemmas (Cranston & Kusanovich, 2013; Mullen, 2017). Educational leaders experienced alternative pedagogical approaches to generate meaningful and lasting insight into the stories inevitably found in leadership preparation programs. Dynamic enactment of dramatized scripts representing positively charged school leadership situations enabled principals to experience ethical dilemmas in a more realistic context. "Although not conclusive, the findings of this study point toward a natural fusion of the ethical and the creative act" (p. 51). Cranston also emphasizes that the lists of traits or dispositions of moral leaders, responsibility, authenticity, and presence are easily and readily available to analyze, enact, and practice in an interdisciplinary manner.

In a 2015 study, Greer researched levels of moral reasoning exhibited by graduate students enrolled in an educational administration program, PPP, of study in one Southern state and compared their scores with national averages for graduate students, in general, to determine if educational interventions are needed. Results showed that moral reasoning scores of the students in the educational administration program were lower than those of students enrolled in graduate programs focused on other professions. "Teachers risk becoming technicians instead of morally engaged people who think critically about and reflect upon their ethical and moral responsibilities to students” (p.514). This study shows the need for more concentrated studies regarding moral reasoning for educational administration students.

In a six-year study, Larson and Derrington (2012) surveyed students from Western Washington University's Principal Preparation Program (PPP) about ethical dilemmas. The researchers stated that, "by examining survey data obtained from recent program graduates and their supervisors, the researchers sought to assess the extent to which those who have completed the principal licensure program are prepared to address practical circumstances in which their moral compass might be challenged" (p. 5). Based on their survey, the researchers found that PPP supervisors observed graduates in the program to have a high moral compass. The study did not determine if the PPP students exhibited these high morals prior to matriculating in the program or if the PPP assisted them in developing these traits.

Ethical decision-making and effective moral leadership are related (Roberts & Sampson, 2011). A prominent leader in ethical educational leadership, Pijanowski (2017), states that "moral leadership has been the focus of policy initiatives, accreditation standards, and a body of research has emerged over the past two decades identifying moral leadership as a characteristic of high performing schools, particularly among high poverty schools" (p. 35).

Pijanowski's survey of 75 graduate educational leader programs in the United States showed varying methods of integrating ethical and moral instruction into their programs. Rest's (1994) moral reasoning model was used to evaluate curricula used in a number of PPPs in the United States. The model revealed that 91 percent of PPPs surveyed reported that moral sensitivity was covered in a course or integrated into their curriculum, and 86 percent explicitly taught moral judgment. The topic least likely to be taught was motivation at 58 percent. This still represents a sharp rise in the attention that ethics and moral leadership were receiving in the early 1990s (Pijanowski, 2017). These studies show that an increased awareness and emphasis on ethical leadership is growing in educational administration programs.

Character Education Interventions in K-12 Schools

Studies included in this literature review provided evidence concerning the effectiveness of implementing character education interventions in K-12 schools, including the programs that focused on: (a) reducing negative behaviors in students, (b) increasing academic performance, (c) increasing the prevalence of prosocial attitudes, and (d) increasing understandings of virtue and morals in the school.

Bezzina (2012) focused on the connections between moral purpose and teachers who install interventions of values and ethics into learning modules in Catholic schools in New South Wales, Australia. The article summarizes effects on six Leaders Transforming Learning and Learners (LTLL) schools, both before and after the LTLL intervention, and examines changes that took place as a consequence of the change. The LLTL pilot phase (2005–2006) included nine primary and secondary schools from four school systems, and the post-pilot phase involved 11 primary and secondary schools from five school systems. The study provides a solid rationale for an approach such as that of LTLL, which engages schools in evidence-based inquiry in their schools with a focus on greater explicitness about moral purpose, and which consciously seeks to share new learning across a group of schools and their systems (p. 262).

Holtzapple (2011) investigated the Capturing Kids' Hearts Campus by Design model, a school-level intervention that impacts student behavior by enhancing school climate through endorsement of improved relational and conflict management skills. The study included 8,350 students in Grades 7-12 and 469 teachers from six high schools located in districts served by the Oneida-Herkimer-Madison Board of Cooperative Educational Services (BOCES) in New York and two high schools operated by the Riverside County Office of Education (RCOE) in California. Using discipline referral archival data, statistical analyses demonstrated that schools implementing Capturing Kids' Hearts Campus by Design experienced on average a 22 percent decrease in discipline referrals. In contrast, control schools experienced, on average, an 11 percent increase in referrals. Also, students in intervention schools exhibited a 26 percent increase in prosocial behaviors associated with the training, while students in control schools exhibited a 15 percent decrease in these behaviors. The theoretical framework underlying the Capturing Kids' Hearts Campus by Design learning approach is the Social Cognitive Theory developed by Bandura (1986). A central premise of Social Cognitive Theory is that behavior is dynamic and dependent upon both personal constructs and environmental factors that influence each other simultaneously (p. 73).

Prominent leaders in the character education movement, Benninga et al. (2006), surveyed 120 elementary schools to determine character education's effectiveness. The results of this survey led the researchers to conclude that well-conceived character education programs exist in conjunction with strong academic programs. They identified a direct correlation between an emphasis on character education and academic achievement, specifically as they relate to standardized test scores.

A more recent study by Hoedel (2018) evaluated a 15-year character education initiative, initially devised as a pilot study that later was implemented in 2000 high schools nationwide. The study showed that an emphasis on specific character traits to influence positive behavior directly affected student behavior outcomes, demonstrating a significant harmful behavior reduction. In a similar study, Kim (2018) surveyed 159 school teachers who implemented a character education program in their schools. Documented results showed improved student behavior in conjunction with timing of the implementation of the character education program; Teachers in this study also reported increased career satisfaction.

Another two-year study of "promising practices" in high school character education focuses on the use of eight specific character strengths integrated across the curriculum (Davidson et al., 2014). outcomes. The Smart & Good Schools framework proposes eight such strengths of character as the crucial outcomes of schooling: (1) lifelong learner and critical thinker, (2) diligent and capable performer, (3) socially and emotionally skilled person, (4) ethical thinker, (5) respectful and responsible moral agent, (6) self-disciplined person who pursues a healthy lifestyle, (7) contributing community member and democratic citizen, and (8) spiritual person engaged in crafting a life of noble purpose. This model emphasizes that character is not just about "doing the right thing; it's about doing our best work" (p. 373). Connections between moral character and

academic achievement are documented. “Character is a foundation for, and a critical outcome of, all academic and ethical endeavors” (p. 378).

Impacts of curriculum emphasizing character and virtue reflects differences between understanding and practicing virtue. Ofsted’s new requirement of England’s assessment of curriculum and the effects on character development influenced a study of 1226 eleven- and twelve-year-old children experiencing Narnian Virtues character education curriculum. The research showed children’s understanding of character improved rapidly in the experimental group. This is important, as knowledge of virtue generally precedes behavioral application (Pike et al., 2021). In 2013 another study of English students used a version of the Intermediate Concept Measure for Adolescents, involving dilemmas, to assess an important component of character—moral judgement—among 4053 pupils aged 14–15. Data reflected students’ overemphasis on “self-interest” and conformity to friends. Knowing what to do more than why they do it reflected choices concerning poor actions and justifications (Walker et al., 2017).

Non-commensurate School Administrator Attention to Student Achievement

Studies in this review have also focused on administrator attitudes related to schools focusing an increased amount of time, energy and resources on standardized testing as related to student achievement. This has become a highlighted area of concern for administrators since the implementation of measures associated with the NCLB Act (2001). Minthrop (2012) "explore[d] the tensions between external accountability obligations, educators' professional values, and student needs. Strategic, cognitive, and moral dimensions of this tension [were] captured with the central category of integrity" (p. 695). Non-systemic factors, like collective integrity by faculty and school leaders, can influence whether an accountability system, NCLB measures, produce educationally desirable outcomes Whether integrity develops or survives seems to require a good dose of educational leaders' strength but may also depend on the profession's insistence to fully exhaust the “moral horizon” of an institution, which obligates educators to balance equity, system efficiency, child-centeredness, and professionalism with prudence. These results demonstrate the power of integrity as a critical virtue of leadership under accountability pressures. It shows the different ways integrity can be forged in schools and how it can be missed with school life consequences. “The paper stresses the point that it is quite conceivable that ideological zeal, Machiavellian strategizing, or eager system conformism may produce more forceful agency than integrity" (p. 695).

Willis (2011) interviews an Indiana principal who is faced with the dilemma of increased accountability measures for his high school students. "With all of the pressures faced by John and his staff, he has to make decisions about how he intends to approach the testing cycle in the 2010-2011 school year" (p.49). The principal and his staff decide to select certain students to test in the first semester, 50 out of 106, to meet the state requirements and “keep the doors to his school open”. This difficult decision reflects a leader's choice of following guidelines or accommodating his students and staff's needs.

School Administrator Attitudes on Ethics and the Development of Character.

A substantial portion of the research articles in this study, approximately 50 percent, is related to the school administration's attitudes towards ethics. This would include concepts related to: (a) ethical decision making, (b) ethical use of data, (c) overseeing character education programs, (d) moral reasoning, and (e) the “ethic of care”.

One descriptive study explains the relationship between moral agency and ethical decision-making processes among a sample of Canadian school principals (Cherkowski, 2012). This study found that modeling moral agency is essential for encouraging others to engage their moral agency to serve their students’ best interests. Despite efforts to engage in collaborative decision-making, principals are often faced with the reality that they must alone absorb the cost of decisions. The study contends that school principals who act as moral agents need to become aware of the ethical issues and challenges that permeate their day-to-day work lives (p. 1).

A study of Ohio superintendents highlighted the importance of promoting ethical leadership tenets in their various school districts. Ethical Leadership Surveys conducted in this study investigated superintendent attitudes regarding ethical perspectives related to leadership. Leader ethical views were related to several other factors, including school culture characteristics, as well as the superintendent's age and prescribed values. Results of this research study suggest that, overall, “public school district superintendents in the State of Ohio have strongly positive ethical leadership perspectives" (Fowler, 2014, p. 106).

Ethical decisions based on data and accountability permeates articles in the literature. For example, Ehrich's (2015) article focuses on ethical issues related to accountability measures and how to use data to drive ethical decisions. Study conclusions include the notion that ethical leaders can achieve goals within the context of an accountable, data-driven structure. More practically, the author states, "the dilemma between adhering to the system's needs (i.e., rules/regulations) vs. the needs of individual students (i.e., mercy and compassion to individuals) was one of several dilemmas articulated by these principals" (Ehrich, 2015, p. 208).

Educational leaders modeling the values of character programs in their schools are themes in the selected literature. The promotion of shared leadership with teachers and shared decision-making with students represent ways to model character (Bezzina, 2013; Francom, 2016). There were also connections to the importance of parents supporting school leader decisions and programs, but not necessarily implementation of these programs. Francom (2016) concedes that it is vital for school leaders to be action-oriented by regularly monitoring and evaluating the effectiveness of their character education programs. The author concedes that including student voice is important in this process, because “we're going to make the decisions along with the students, and that's the way it is" (Francom, 2016, p. 26)

Another theme to be explored is how administrators explore the concept of spirituality within notions of character development. Gibson (2014) discussed key findings from his qualitative case study focused on lived experiences of school administrators and their teachers in three New Zealand public primary schools. Teacher participants perceived spiritual aspects of leadership in their principals’ practices as influential in their schools’ development of character,

competence, and positive conduct. The author states, "most of the teacher participants were able to attribute positive emotional and practical effects to spirituality in principal leadership in terms of morale, professional attitudes, care of students and management practices" (p. 533).

In addition, Gibson directly references the "care of students" (p. 532). Several additional articles emphasize the use of care in ethical decisions; the ethics of care and justice often "collide" when principals make decisions (Bass, 2009; McGee & Mansfield, 2014). As a result of interviewing African American women principals, Bass (2009) stated, "most of the women readily admitted to having 'broken the rules' in the best interest of the children they cared for" (p. 626). In Angelle's (2017) case study, the primary participant used an authentic leadership style to express an attitude of care for her students and teachers. Understanding the dimensions of morality can help school administrators promote care and emphasize (positive) values in the profession (Lowery, 2019). School administrators are required to navigate ethical complexities in their school communities. In support of this statement, Rintoul and Goulais (2010) add that effective leadership preparation requires elements of moral literacy, such as ethics sensitivity, ethical reasoning skills, and moral imagination (p. 754). The importance of principal training in moral dilemmas is emphasized, given the principal's inexperience (Hightower & Klinker, 2012).

Discussion and Future Research

Educational leaders' ethical decision-making impacts the school they lead and the growth of their character. Using the Jubilee Centre's (2017) framework to provide a basis for discussion, research shows a correlation between principal preparation training in ethical decision-making using specific training tools related to intellectual virtues, ethic of critique and judgement, which focus on Starratt's ethics model and positive growth in leadership decision on the front lines in a school setting. Leaders feel more equipped to think more critically and handle difficult decisions after participating in PPP learning activities focused on ethical decision-making. This increased capacity ensures that present and future educational leaders are empowered to serve as change agents to support an increasingly diverse group of stakeholders in their schools (Center for Leadership, Equity, and Research, 2022). The literature suggests additional connections between a leader's sense of moral virtue and the effectiveness of the school to implement character education and emphasize productive values. Ideas associated with authentic leadership permeate articles that relate to the alignment of school leader attitudes and school priorities. An ethical leader sets the tone of character education across the curriculum and emphasizes professional development for school employees. Leaders who place an emphasis on "human flourishing" at their sites keep the welfare of students, teachers, and staff at the forefront of decision-making.

Educational leaders who consider previous and current student opinions about their experiences are more apt to endorse student-centered learning strategies in their schools. A school leader's implementation of character education programs in their schools provides students with models for ethical citizenship and civic service to their communities. An ethical leader's emphasis on both academic achievement and active service among diverse community members is grounded in effective character education.

There are other articles in this review that relate to the efficacy of focusing on character education and professional ethics. These articles suggest that students with certain positive character strengths perform better academically and behaviorally. For example, Wagner's (2015) article makes the connection between a student's understanding of their character strengths and their academic achievement. Students with particular characteristics strengths, such as perseverance, self-regulation, prudence, love of learning, hope, gratitude, perspective, teamwork, and social intelligence, relate to a student's overall perception of themselves (Wagner, 2015, p. 3). According to the author, students with these character strengths show a predisposition towards positive behavior and academic performance. While more research needs to be done in this area, this study and others mentioned support the premise that character traits relate directly to a student's understanding of their capacity to achieve academically. As school administrators deepen their practical wisdom, or phronesis, of the roles that character development plays in their schools, they increase their capacity to support various school stakeholders.

A few limitations and delimitations to this study should be noted. The most significant limitation is the selection of articles from databases which, in themselves, are limited, perhaps excluding literature that may have more fully informed this study. In terms of delimitations, the selection of articles within these databases, as well as the inclusion/exclusion criteria as described in the methodology section, were of the researchers' choosing, based on their own knowledge and experience.

In terms of areas for further research, the use of the Character Institute's Values in Action (VIA) character strengths survey as a tool in Principal Preparation Programs needs to be investigated further. Additionally, the effect of educational administrator self-care on decision-making presents another possible area of research (Pijanowski, 2017). It is recommended that additional research be focused on the degree that character development training in PPPs affects school administrators who received this training. Finally, future studies would do well to evaluate the differences between character education and professional ethics for administrators who serve as part of a larger administrative team versus those who serve as the sole administrator in their schools.

Overall, the goal of answering the study's research questions was achieved to the degree that the select literature provided comprehensive answers to these inquiries. The first, and more general, research question – "What does the literature say about character education initiatives related to K-12 school administration?" – was addressed by the selected literature that provided philosophical and/or empirical means to define terms and characterize situational cases toward these ends. The second research question – "What does the literature say about how principal preparation programs (PPPs) support the concepts of character education? – was specifically highlighted in no less than a third of the articles investigated in this study. The notion that intentional efforts to nurture the development of character and ethical training to prepare aspiring school administrators was beneficial to the professional development of these future leaders and the schools they served in was not disputed in any of the literature reviewed in this study. Answering these two questions, within the constraints of the study, aspires to inform policy

makers, researchers and practitioners alike, adding to the increasingly relevant conversation about the relationship of professional ethics and character development to educational leadership.

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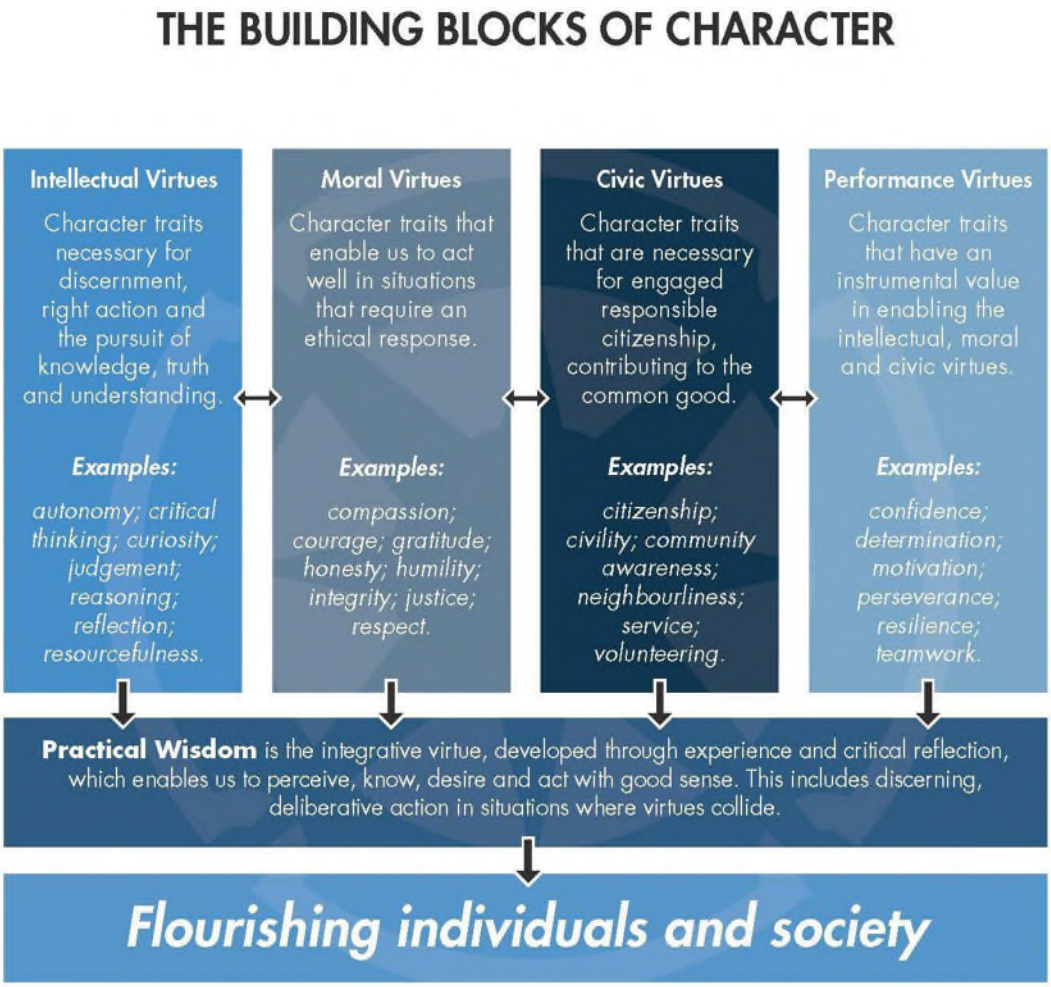
Table 1

Author Inclusion Table

Author(s) (year of publication)	Subject	M	R	P	ST	Y	Purpose
Angelle, (2017)	School/District Admin. Attitudes	Ql	N	1	E	Pu	Authentic Leadership
Bass (2009)	Ethic of Care	Ql	N	5	E, MS, HS	Pu	Fostering Caring in School
Benninga, et al. (2006)	Character Education K-12	Qn	S	120	E	Pu	Implementation
Bezzina (2012, 2013)	Ethical Leadership	X	I	11 schools, 45 teachers	MS, HS	Pr	Moral Purpose and Emphasis
Cherkowski, et al. (2012)	Principal Ethics	Ql	S	14	E, MS, HS	Pu	Decision Making Process
Cranston, et al. (2013)	Ethical Decision Making	Ql	S, O	1	U	Pu	Effectiveness Performing Arts
Davidson, et al. (2014)	Character Education	X	I,O	36 High Schools	HS	Pu,Pr	Character Education Model
Ehrich (2015)	Ethical School Leadership	Ql	I	6	E, MS, HS	Pu	Principal Perceptions and Practices
Enomoto (1997)	Ethics of Care and Justice	Ql	I	1200	HS	Pu	Application of Care and Justice
Eyal, et al. (2011)	Ethical Judgement	Ql	S	52	U	Pu	Principal Perceptions of Training
Fowler, et al. (2014)	Ethical Leadership	X	S,I	606 districts	E,MS,HS	Pu	Superintendents Perspectives
Francom (2016)	Character Education K-12	Ql	A,I	NSOC*,14 schools	HS	Pu,Pr	Implementation
Gibson (2014)	Spirituality in Leadership	Ql	I	3	E	Pu	Principal Perceptions
Greer, et al. (2015)	Principal Ethics Training	Qn	S	539	U	Pu	Baseline Moral Reasoning
Hightower and Klinker. (2012)	Principal Perception	Ql	I	1	MS	Pu	Moral dilemmas
Hoedel, et.al. (2018)	Character Education K-12	Qn	S	2000.	HS	Pu	Effectiveness
Holtzapple, et.al (2011)	Relational and Conflict Mgt.	Qn	A	8350 students/469 teachers	HS	Pu	Leadership Effect on Intervention
Kim, et al. (2018)	Character Education K-12	Qn	S	159	E	Pu	Teacher Perceptions
Langlois & LaPointe (2010)	Principal Training Program	X	S, I	30	U	Pu	Ethics Training Impact
Larsen & Derrington (2012)	Principal Preparation Ethics	Qn	S	Admin/ Supervisors	U	Pu	Decision Making
Lowery (2019)	Ethical Dilemmas	Ql	I	10	E, MS, HS	Pu	Moral Literacy and Ethical Decisions
McGee & Mansfield (2014)	Ethical Conflict	Ql	S	42	E, MS, HS	Pu	Experienced Principal Experiences
Minthrop (2012)	Professional Values	X	S,I	157, 9 schools	MS	Pu	Integrity Issues
Mullen (2017)	Pedagogical Support PPP	Ql	S	14 Principals	U	Pu	Ethical Student Learning
Pijanowski (2017)	Principal Preparation	Ql	I	75	U	Pu	Moral reasoning
Pike, et al. (2021)	Character Education Programs	Qn	S	1226 Students	MS	Pu	Character Curriculum
Rintoul & Goulais (2010)	Vice Principalship	Ql	I	3	E, MS	Pu	Developing Moral Literacy
Roberts & Sampson (2011)	Superintendent Preparation	Qn	S	20	U	Pu	Ethics in Leadership
Walker, et al. (2017)	Student Moral Judgement	Qn	S	4053	HS	Pu	Moral Reasoning
Willis. (2011)	Principal Perception	Ql	I	1.	HS	Pu	Moral dilemma testing

Note. T = publication type (J = journal article, RR = research organization report, B = book, G = government report); R = research design (S = survey, I = interview, O = Observation, A = Database Analysis, N=Narrative); M = research method (Qn = quantitative; Ql = qualitative, X = Mixed Method); D = Duration; P = sample size; ST = Setting (E = elementary, MS = middle school or junior high, HS = high school, U=University); Y = school type (Pu = Public, Pr= Private, Pa = parochial, Ch = charter, NA = not applicable); *NCEE =National Center for Education Evaluation

Figure 1
Framework for Character Education



Note. Used with permission from the Jubilee Centre, 2017.

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THE SUMMER OF THE PIVOT: PRIORITIZING EQUITY IN REMOTE INSTRUCTION THROUGH A MULTIDISCIPLINARY COMMUNITY OF PRACTICE INITIATIVE AT A CANADIAN UNIVERSITY

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ABSTRACT

This article is about the multidisciplinary Community of Practice (CoP) initiative that was implemented in the summer of 2020- summer of the pivot- at a Canadian post-secondary institution to prepare faculty, staff, and students for remote teaching and learning while navigating pandemic conditions created by COVID-19. The CoP as a case study using Critical Theory as a theoretical framework examines the experiences of a collective group of faculty and staff from different disciplines leading a multidisciplinary university-wide initiative and the implications of the approach for promoting effective pedagogies for teaching and learning remotely. Findings based on feedback from workshop attendees, reflections from the CoP facilitators, and comments forwarded to senior administrators about the impact and the effectiveness of the program indicate positive results. It is recommended that although the CoP initiative was originally conceived as a response to the summer of the pivot, it should become an integral approach to promoting dialogue and innovative strategies to advance equitable practices in higher education by cultivating community networks. The findings serve to continue constructive dialogues and discussions about how universities can transition, pivot, and mobilize innovatively and creatively to prioritize equitable teaching and learning conditions that challenge the status quo. This requires a long-term

commitment by higher education institutions to break away from historically normalized practices and invest in innovative ways to identify and meet the needs of various stakeholders.

Keywords: community of practice, remote teaching; COVID-19, mentors; critical pedagogy

Community of Practice (CoP)

Beginning in March 2020, with the rise and spread of COVID-19, in-person classes shifted to remote learning across Canada, including at Wilfrid Laurier University in southern Ontario, Canada. Educational institutions at all levels began exploring how to pivot and transition their policies and practices to support teaching and learning in a remote context. This was uncharted territory with many new challenges (Ali, 2020; Safi et al., 2020; Toquero, 2021). Educational institutions adapted to remote learning to continue teaching and learning using platforms such as Zoom and Microsoft Teams. Equity, inclusion, and access to technology were important topics receiving extensive attention as part of navigating teaching and learning challenges created by the COVID-19 pandemic (Ferdig et al., 2020). Recognizing that the spread of COVID-19 and the potential next waves would likely continue late into 2020 and beyond, Wilfrid Laurier University announced prior to the start of the summer that the majority of Fall semester classes would be offered remotely. Like educators across the country, and indeed, globally, post-secondary institutions faced the challenges of pivoting to remote pedagogical practices which many faculty and staff were unfamiliar with. Hence, the university administration, including the Vice President Academic Council (VPAC), recognized the need to invest in developing faculty, staff, and instructors in effective pedagogies using online platforms to support best practices for teaching and learning remotely. As part of creating new opportunities for training and professional development, the university initiated a university wide Community of Practice (CoP) program which included collaboration between faculty members from across the institution and staff from the Educational Development team within the Teaching and Learning office.

Guiding Inquiry

This article describes the experiences of facilitators involved with the CoP initiative and discusses why the multidisciplinary low-stakes community approach to enacting the program yielded positive results in helping members of the university prepare for remote teaching and learning and to challenge normalized practices in teaching and learning in higher education. The CoP as a case study used Critical Theory as a theoretical framework to examine the experiences of a collective group of faculty and staff from different disciplines leading a multidisciplinary university-wide initiative and the implications of the approach for promoting effective pedagogies for teaching and learning remotely. The processes involved and documented are just as important as the outcomes of the CoP initiative, particularly in the field for the Scholarship of Teaching of Learning (SoTL) which refers to faculty, staff, and students working collaboratively to undertake systematic inquiry about student learning conditions and processes and how to improve it. As Healey et al. (2019) point out:

> Because writing for SoTL [The Scholarship of Teaching of Learning] is entangled with how we see ourselves as writers and as scholars of teaching and learning and how we relate to and are perceived by the discourse community, talking about identity formation matters when we talk about writing in this field. Writing is a scholar's way of being in the conversation and making that attempt for the first time or seeking to contribute to the conversation in a different way or to create new conversations is both intellectual and emotional work (p. 33).

As academics from various disciplines, members of the CoP felt there was value in documenting, analysing, and sharing this initiative to better understand experiences of facilitators involved in enacting the program. Also, this would help to identify collective lessons learned for moving forward in promoting equitable use of technology and pedagogies for effective remote teaching and learning. This was important to advance equitable conditions and approaches for teaching and learning both during the pandemic as well as post-pandemic.

This article explores the following questions:

1. What is the experience of a collective group of faculty and staff from different disciplines leading and enacting a CoP initiative at a Canadian university during the COVID-19 pandemic?
2. How did the Faculty Peer Mentors (also referred to as the facilitators) in the CoP adapt to the dynamic evolving conditions of the pandemic as part of the CoP initiative?

Documentation of the CoP experience through regular check-in meetings and sharing of the findings contribute to the research gap about navigating teaching and learning challenges during the COVID-19 pandemic, specifically how post-secondary institutions can adapt and mobilize during and after the pandemic to prepare members for large-scale remote teaching using a multidisciplinary CoP approach. The findings discussed are exploratory and in the early stages as higher education institutions continue to navigate remote learning going into 2023 with the rise of new COVID-19 variants and rise in popularity of online course delivery. The findings serve to continue constructive dialogues and discussions about how universities can transition, pivot, and mobilize to break away from historically normalized practices and invest in innovative ways that identify and meet the needs of various stakeholders.

Interpreting the Role of Communities of Practice

At Wilfrid Laurier University, the conceptualization of a Community of Practice (CoP) is informed by Wenger-Trayner's (2015) definition referred to as "[G]roups of people who share a concern or passion for something they do and [willing] learn how to do it better as they interact regularly" (p. 1). The goal of CoP is to provide an opportunity and a forum for faculty and staff to come together to discuss issues related to teaching and learning, organized by a series of emerging needs and themes such as student writing, teaching large classes, teaching first year students, effective use of technology, and most recently the shift to remote teaching. An underlying premise of all CoPs is open and honest dialogue that is respectful and non-threatening, in some cases

involving challenging the status quo in higher education, where multiple voices and perspectives are encouraged and honoured.

In CoPs all participants respond to each other in a manner that demonstrates open-mindedness to new ideas and respect for one another, recognizing that community members come from a variety of disciplinary backgrounds and bring different experiences, philosophies of practice, beliefs, and values to the group. This approach is similar to what bell hooks (2004) coined as a "transgressive learning community" where discomfort is situated as an integral starting point for dialogue and action to initiate new beginnings through spaces of inquiry that are supportive. A critical component of transgressive learning communities is the prioritization of equity and social justice, particularly who is disadvantaged by current normalized practices and in what ways. By extension, the conversations focus on revealing, mitigating, and disrupting oppressive structures, in our context in higher education, with a focus on remote teaching and learning.

Our approach for the implementation of the CoP was similar to what Drane et al. (2019) enacted with their transgressive learning community for underprivileged, underserved, and historically underrepresented graduate students as a response to the limitations experienced by the aforementioned groups within the academy:

> These boundaries include what a teacher should look like; what behaviors teachers are allowed to perform in the classroom; what literature teachers should engage in; what good teaching means; and the roles of teaching centers and other spaces of institutional support. Thus, we offer the transgressive learning community as a safe space of transgressive and transformational pedagogical engagement (Drane et al., 2019, p. 107).

Similarly, our CoPs wanted to question normalized practices in teaching and learning in academia and create discussions around what should be prioritized during a pandemic in terms of content and pedagogy, and by extension what should be disrupted, altered, and transformed after the pandemic to serve the needs of all students including those from equity-deserving groups.

Members of a CoP are a social learning network engaged in collaborative problem-solving and knowledge production (Gramsci, 2000; Taylor et al., 2021; Teeter et al., 2011). Our CoP groups were united under the shared goal of improving the quality of remote teaching and learning for the university community and its various stakeholders which aligns with key characteristics of Critical Theory focusing on "redressing oppression and [being] committed to social justice" (Brown & Strega, 2005, p. 11). In the spirit of open dialogue, collegial discussions were encouraged to invite participants to share their successes, challenges, best practices, questions, ideas, and feedbacks in a positive and constructive manner. Part of this further involved discussing attitudes, strategies, and approaches to challenging policies and practices that have become status quo in higher education but do not serve the best interest of students, faculty, or staff. As Felten (2013) points out, "Learning should be understood broadly to include not only disciplinary knowledge or skill development but also the cultivation of attitudes or habits that connect to learning" (p. 122).

The CoP explored ways in which members made meaning of their role before, during, and after the initiative using interpretative and critical theory as conceptual frameworks (Brown & Strega, 2005; Freire, 1970; Giroux, 2007) which value experiential processes, thoughts, and feelings (hooks, 2004; Miller, 2000). The authors adopt Brown and Strega's (2005) definition of Critical Theory described as "theories that view knowledge in social constructionist terms as rooted in subjective experiences and power relations" (p. 68). This social constructionist approach with an emphasis on the connection between subjective experiences and power relations aligns with what Lather (1986) calls "research as praxis" where research inquiry is characterized by "negotiation, reciprocity, and empowerment" (p. 257) to advance equitable outcomes and optima conditions for teaching and learning. Hence, the authors have written this paper collaboratively and with reciprocity through on-going meetings as a community of learners to support and empower each other to constructively express their evolving emotions, feelings, and experiences as they navigated challenges created by the COVID-19 pandemic.

Members of the CoP became a support group for one another beyond the scope of the CoP initiative guided by love, respect, empathy, and a growth mindset. Members felt empowered to share the learning lessons with others to improve teaching and learning conditions at the university, particularly as a form of advocacy for the needs of equity-deserving groups. This was critical pedagogy in practice where the root causes of unmet needs for various stakeholders were discussed and situated within larger power dynamics embedded in higher education institutional policies and practices. It illuminates the writers' experience of the CoP as a response to the pandemic and the importance of supporting colleagues emotionally and spiritually during the unprecedented transition from in-person to remote teaching and learning, in the process being forced "to confront our own egos and 'the way we've always done it' as instructors and colleagues" (Pope-Ruark et al., 2019, p. 122). The creative process in terms of unfolding of events and the enactment of the CoP on a university-wide level is the heart of the story where the biweekly check-in meetings became a platform to challenge normalized pedagogical practices for instructors and professors. This also shed light on the ways in which trust, love, respect, and empathy through community networks can facilitate empowerment and a growth mindset. Some of our weekly check-in meetings were recorded along with notes taken to further document the big ideas expressed and to use them at later stages to advocate for changes in the university to advance more equitable outcomes through changes in policy or practices.

Our Context

Wilfrid Laurier University is home to 20,000 students across multiple campuses in southern Ontario, Canada. The university has a teaching complement of approximately 500 full-time and more than 350 contract teaching faculty across nine departments. The CoP initiative was designed by the Educational Development Team within the Teaching and Learning Office and approved and funded by the Provost in June 2020. Once approved, a call for nominations and expressions of interest were circulated to departments. Members were confirmed, and after preliminary meetings to discuss the overview of the initiative, each CoP leader was given responsibility for

creating content and facilitating a weekly session through July and August 2020, culminating with a capstone webinar in early September 2020 to align with the start of the Fall term. Facilitators leading the weekly CoP workshops were given the title of Faculty Peer Mentor. Their faculty affiliation and CoP workshop titles were as follows:

- Member from the Faculty of Arts: Creative Approaches to Remote Teaching
- Member from the Faculty of Education: Approaching Assessment in a Remote Environment
- Member from the Faculty of Social Work: Teaching with Inclusion in a Remote Environment
- Member from the Faculty of Music: Building Asynchronous Content for Remote Courses
- Member from the Faculty of Science: Assisting Students to Engage with Data in a Remote Environment
- Member from the Faculty of Science: Approaching Large Class Teaching in a Remote Environment

Members of the CoP appreciated the autonomy provided to share their expertise and lived experiences to plan content for their weekly sessions. The Educational Development Team supported the logistics of content areas and discussion boards and communicated and promoted each CoP. They also supported Faculty Peer Mentors with preparing their culminating capstone webinar. The capstone webinars were recorded and made available through a Remote Teaching Hub on institutional intranet and as a course in the institutional Learning Management System (LMS). Overall, the goal of the CoP initiative was to create opportunities to engage in meaningful constructive dialogues and discussions around remote teaching and preparing for the Fall term through low stakes learning opportunities by promoting alternative approaches and pedagogies that prioritized equity.

Attendance at CoP sessions was open to instructors from all faculties, so each Peer Mentor facilitated sessions that included peers from various backgrounds and disciplines. Each Faculty Peer Mentor was compensated $5000 for their participation in the initiative. Check-in meetings were held every two weeks between Faculty Peer Mentors and staff from the Educational Development Team to share ideas and resources and to support one another with content for the workshops and arising challenges. Members built collective rapport by sharing critical information about successes and challenges arising from their weekly CoP sessions. Through regular meetings, members took time to listen and learn from each other given each person’s unique background and experiences. A community was formulated where members supported one another beyond the realm of the classroom. It became clear that remote planning and teaching had a direct impact on individual health and family circumstances.

While CoPs are not unique in and of themselves (Ferdig et al., 2020), this initiative is significant in a couple of ways. The project was developed as a multidisciplinary collaboration among six faculty members from five faculties, including a combination of full-time, part-time, sessional faculty, and four staff from the Educational Development Team. The Educational Development Team supported the CoPs by managing registration, logistics, organization of the

meetings, and participating in CoPs by providing subject matter support and connecting participants to literature and resources related to best practices. This diverse interdisciplinary collaboration encouraged adaptability and flexibility to address a wide range of needs and concerns preparing for remote teaching and learning such as logistical (class sizes), pedagogical (assessment adjustments), and technological (comfort with new technologies and online platforms) intersecting with themes related to equity, diversity, and inclusion.

Preparation

While many universities developed contingency plans for emergency situations to ensure academic continuity (Day, 2015), the pivot towards pandemic teaching brought on by COVID-19 left many faculty apprehensive about how remote courses could provide academic continuity. The CoP preparation was an exercise in emergency academic continuity planning "to maintain appropriate learning environments when conventional face-to-face teaching and learning is impossible" (Day, 2015, p. 76). SoTL pedagogical strategies are effective at helping faculty "prepare for an academic environment of changes and challenges" (Auten & Twigg, 2015, p. 11). Preparation for the CoP initiative put these strategies into practice by asking Faculty Peer Mentors and their session attendees to analyse their teaching and course content and reflect on intentional adjustments and adaptations in the midst of a pandemic to holistically support student learning and well-being with the use remote technologies (Auten & Twigg, 2015; Drane et al., 2019). While the pandemic pivot did not necessarily cause faculty to undergo full redesigns of their courses, it did create conditions where adjustments were to be made to content and pedagogy, which in turn meant rethinking assessments, content, engagement methods, and learning activities counter to the status quo and business as usual practices. A key methodological strategy for such an adjustment is self-reflection of teaching practices with input from peers (Brookfield, 1997; deBraga et al., 2015). Preparation occurred within this framework, as mentors sought to develop sessions that fostered self-evaluation, growth mindset, and dialogue to develop best practices for the pending pivot.

Preparation broadly involved interrogating what successful remote learning environments might look like and feel, and how to present this material in a format that is accessible, engaging, and supportive. The process of planning content for weekly sessions required faculty to think reflexively about their own practice in the classroom and to seek ways to communicate this effectively to their session attendees. Faculty Peer Mentors had varying amounts of experience with online and remote learning. For instance, only two members mentioned having previous Zoom experience. Some had previous experience building online courses. All began acquiring or increasing their working knowledge of video conferencing platforms.

On top of the technological side of preparation, considerable energy was spent on content preparation. This involved self-teaching and growing as facilitators prior to sharing new learnings and insights with session attendees. Many mentioned seeking current literature on remote learning (Clinefelter & Aslanian, 2016; Darby & Lang, 2019; Flynn & Kerr, 2020; Nilson & Goodson, 2018) and the aesthetics of how to present information to students in digestible and accessible

chunks (Skop, 2020; Uras, 2019). Blogs from scholars such as Sue Beckingham's *Social Media for Learning* (Beckingham, 2020) were helpful for exploring ways educators can leverage social media platforms in remote learning environments. One member from the Faculty of Science also joined multiple social media groups dedicated to online chemistry instruction. Another member attended a webinar on a new cloud-based statistical platform and read a range of published literature concerning specific difficulties with teaching statistics and data management courses online. A few mentors mentioned reaching out to colleagues to solicit their thoughts about the upcoming semester and pooling together a range of resources to be shared with others.

Since the participants for each CoP and their concerns were not known ahead of time, there was flexibility in content selection and pedagogy within each session to empower the session attendees by addressing their unique concerns and anxieties (hooks, 2003; Lather, 1986, Freire, 1970). This aligned with a key characteristic of critical theory which advocates for practical solutions via critical enlightenment. According to Kincheloe and McLaren (2002):

> Critical theory analyses competing, power interests between groups and individuals within a society, identifying who gains and who loses in a specific situation. In this context, to seek critical enlightenment is to uncover the winners and losers in particular social arrangements and the process by which such power operates (pp. 90-91).

Focusing on the immediate needs of the participants and the challenges with their course offerings allowed attendees to express their immediate concerns for areas they felt the most anxious about and wanted more support in. Several members of the CoP saw their roles as facilitators who would seek out relevant material for subsequent sessions at the suggestion of those in attendance to help empower them in their decision-making as they prepared for their courses in the Fall semester. While this may have increased the workload for the presenters, as they could not necessarily anticipate where the CoP's curiosity and concerns would lead them from week to week, it ensured that the attendees would be engaged in the subject matter and discussions based on authentic practical needs expressed. The CoP members also recognized that some subjects would be better explored with the assistance of specialists from across the university community and therefore for some of their weekly sessions invited guest contributors.

Discussion: Tale of Two Emerging Communities Internally and Externally

At the beginning of the CoP initiative there were feelings of anxiety among the Faculty Peer Mentors. On top of questions around who is involved with enacting the program, they were discussions about what exactly was expected of them, what kind of workload it would entail, and what level of autonomy offered. They were also anxious over how to deliver their session in a pedagogically sound way that was socio-culturally relevant, responsive, and inclusive in a remote environment. Following the first two sessions, Faculty Peer Mentors expressed a variety of feelings ranging from nervousness and worry to excitement. Feelings of worry related to mentors' concern that topics discussed would not be applicable to all participants who were from diverse disciplines. Others expressed that the first session helped to decrease worry due to robust attendance and active

engagement from attendees who provided helpful feedback to adjust future sessions to meet their needs and course planning challenges. On the other hand, one mentor reported feeling inspired by the richness of the conversations due to the multidisciplinary nature of it. Some reported that these feelings were eased in future sessions once a consistent group of attendees were established in their sessions.

Throughout the various sessions offered by Faculty Peer Mentors, they identified pedagogical shifts, topic relevance and applicability, and technology issues as common challenges with CoP attendees. One mentor reported that pedagogical strategies varied based on the number of attendees in each session. Another mentor reported challenges pertaining to the applicability of the topics. They described concerns that the asynchronous teaching strategies outlined and shared were specific to their discipline and may not have been applicable to other departments. However, they reported feeling "more confident as we moved through the sessions recognizing that my job was to share my knowledge and facilitate community sharing instead of knowing all the answers."

Technology challenges were slowly overcome as mentors' familiarity with Zoom increased over the weeks. One mentor shared that they were experimenting with Zoom and its various functionalities during their weekly sessions. For example, breakout rooms in Zoom were used to facilitate discussions involving sessions with large number of attendees whereas more intimate discussions were facilitated for sessions involving smaller number of attendees. By the end of their sessions, they gained increased comfort and confidence in the pedagogical use of Zoom features with support from the staff in the Teaching and Learning Office. Another mentor shared their plan to record all CoP sessions so they could develop a set of summary notes to provide to people who were not able to attend the synchronous sessions. Other mentors chose not to record their weekly sessions to encourage open dialogue and rich discussions amongst the participants, in some cases discussions about how to navigate and challenge inequitable practices upheld by higher education policies and practices, without worrying about being policed or reprimanded for expressing their anger and frustrations.

The level of collegiality within the CoP fostered a collaborative spirit. Members expressed that two communities emerged. The first was the community of attendees within each CoP and the second a community amongst the Faculty Peer Mentors internally as a support group for one another emotionally and pedagogically. Knowledge and resources were co-constructed and shared in a multi-directional manner amongst the group and with the attendees rather than through a linear hierarchical manner (hooks, 2014; Weiner, 2014). Faculty Peer Mentors supported one another by attending each other's workshops and discussing arising challenges from their on-going sessions. They became closer over the weeks, through their bi-weekly check-in meetings, as they got to know each other better academically, personally, and professionally which provided socio-emotional support while navigating pandemic conditions. This also helped with peer mentors becoming more confident and braver in presenting the content in their weekly sessions. This aligned with the study by Pope-Ruark et al. (2019) focusing on team teaching which emphasized, "When we examine our experience through the lenses of a trust and empathy-based team relationship; equal ownership of teaching and learning; shared power, responsibility, and

accountability; and ongoing critical conversations, we know we have all grown personally and professionally" (p. 132).

Through clear communication, consistent support, and biweekly check-in meetings with each other and the Educational Development team, members grew an affinity for one another, embracing each other's frustrations, vulnerabilities, lived experiences, resource sharing, and innovative pedagogical strategies. One mentor stated they were pleasantly surprised by the depth of the conversations which transported them to their days as a doctoral student taking seminar courses filled with analytic conversations. Our collective experience was similar to what Drane et al. (2019) experienced as part of their transgressive learning community where, "[M]eetings served as brave spaces for members to discuss issues, situations, and problems unique to our communities" (p. 113). We became an internal community with a passion to advocate for change to support the needs of students, and on a larger scale to advocate for disruption and institutional change within university policies and practices to advance equitable outcomes through sharing within brave spaces (Campbell & Eizadirad, 2022).

The post-secondary pivot from in person instruction to remote teaching has been rewarding in terms of growth experienced by Faculty Peer Mentors and the depth of strategies shared by mentors with colleagues to support their learning, yet also frustrating and challenging as often higher education institutions are resistant or slow to change. Sharing and building new multidisciplinary connections were identified as signs of success. Seeing and talking to other faculty in the midst of a pandemic was "collegial and fun" and every mentor finished their CoPs with the knowledge that they, as educators, were not alone, confirming Lee and Son's (2015) observation of the value in comparing teaching practices among educators. Beyond the intended goal of sharing best practices, the CoP provided emotional and spiritual support which fostered interpersonal connections amongst the participants which promoted empathy, flexibility, and empowerment (hooks, 2004; Miller, 2020; Taylor et al., 2021).

Overall, the CoP initiative was guided by prioritizing equity, practical solutions, and a growth mindset: acknowledging that the process would not be perfect, leaving room for flexibility, adaptability, and learning from mistakes (Ali, 2020; Taylor et al., 2021). As Drane et al. (2019) point out, "learning communities focused on radical pedagogy and identity can/should be flexible rather than fixed" (p. 115). This flexibility allowed Faculty Peer Mentors to feel more confident presenting to their peers from various disciplines, seeing their role not as experts that would share knowledge via lecturing but rather as facilitators utilizing dialogical approaches (Eizadirad, 2019; Freire, 1970; Giroux, 2007; Miller, 2000) to help others find their agency and put their strengths to use based on their local needs and circumstances related to their course and discipline.

Emerging Themes: Learning and Growing on the Go

Despite the diversity of CoP topics and different approaches implemented to lead the sessions, common themes emerged across the CoP sessions. There were constant discussions about equity in a remote context. Common examples identified were the disparities in access to technology among the student body, students attending remote classes from different time zones,

equitable online assessment strategies, acknowledgment of the precarious position of contract faculty in expending unpaid labour to pivot to remote learning, how to balance synchronous and asynchronous classes, and un/comfortability with various technological tools and platforms. These themes demonstrated consistent concerns by instructors in higher education about equity and inclusion issues for students and faculty. These are shared and documented via this article to assist in promoting larger discussions of how these topics should be prioritized and addressed by higher education institutions to advance equitable outcomes through changes in post-secondary policies and practices, particularly to meet the needs of students from equity-deserving groups.

Within the CoP communities, many negative emotions were expressed ranging from feeling nervous and anxious to fear of the unknown or technological challenges. Colleagues expressed concerns about the amount of time and energy required to transform courses to remote instruction and assessment while simultaneously learning how to navigate new technologies and platforms. Many concerns identified were rooted in feelings of uneasiness over being forced out of one's comfort zone and having to learn how to use new pedagogical strategies to transform courses from in-person to a remote format in a short span of time, while navigating pandemic conditions personally and professionally. Creativity in an emergency remote environment needed to be infused with a large dose of reality. What was possible technologically? What could be redesigned in a relatively short period of time for remote learning? Ultimately, creativity was not about fancy bells and whistles. Instead, it was about the intent to create brave spaces (Arao & Clemens, 2013; Eizadirad & Campbell, 2021) in a remote environment that embraced challenges, adaptability, flexibility, and an equitable growth mindset that would lead to deeper and stronger connections between instructors and students. As Drane et al. (2019) emphasize, "By altering the ways in which we think about learning communities, from producing a tangible product to facilitating personal transformations, we can create a model that better serves underprivileged, underserved, and historically underrepresented future faculty" (p. 115). Developing and cultivating caring relationships with students and amongst faculty that prioritized equity in the midst of feelings of discomfort was at the core of this process, which was just as important as content and pedagogy adjustments. This speaks to the importance of centering and implementing critical pedagogy (Arao & Clemens, 2013; Felten, 2013; Freire, 1970; Wismath & Newberry, 2019) which seeks to capture multiple voices rooted in different lived experiences.

Conclusion and Future Areas for Exploration

Many of the tools shared during CoPs not only aided the immediate shift to remote learning, but also impacted the authors' future teaching praxis (Freire, 1970) across multiple settings and modalities, including what needs change at an institutional level to create more optimal conditions for effective teaching and learning. The use of a critical theory framework was instrumental in the insights gained from this CoP initiative as it allowed us to have authentic honest conversations within brave spaces about the intersections of the personal, political, and professional domains involving oppositional discourses in higher education. Central to this inquiry process was a critique of the power relations and processes associated with preparation, administration, and delivery of

courses in ways accepted by the university. We aligned with the works of Kincheloe and McLaren (2002) who emphasize:

> [C]ritical social theory is concerned in particular with issues of power and justice and the way that the economy, matters of race, class, and gender, ideologies, discourses, education, religion and other social institutions and cultural dynamics interact to construct a social system. (p. 90)

These disparities in relation to inequities of access to opportunity became even more explicit in the midst of the pandemic as it impacted students, faculty, and staff.

The trial by fire into the world of remote education during a global pandemic resulted in increased comfort levels with implementing numerous technologies and practices, but also led to greater advocacy by Faculty Peer Mentors across multiple disciplines to challenge traditional practices in post-secondary institutions to advance equitable outcomes. How many of us will now host Zoom office hours when we either cannot travel to campus, or in the case of contract faculty, are not furnished with private office spaces from our institutions? How many of us will be more considerate of the needs of international students in our classes due to different time zones or more limited access to support services? Perhaps some of us will continue recording or live streaming lectures for students that cannot be physically present even post pandemic. New pedagogical approaches also include forms of hybrid course delivery where classroom discussions provide options for participation through a digital chat application for shy or differently abled students. There is an increase in the number of faculty that continue to make use of learning management systems to offer asynchronous and synchronous content and assessments. And no doubt the frozen screens, muted microphones, uncontrollable background noises, accidental appearances of family members and pets, and the general stress instructors experience teaching remotely will lead to being more empathetic and flexible towards students in vulnerable or inequitable circumstances. There is great potential to continue the role of Faculty Peer Mentors in different capacities, beyond navigating crisis situations such as the pandemic, to advance equity as relationship-building, both between colleagues and faculty and with students. The objective would be to implement a critical theory paradigm to further continue constructive dialogues and generate innovative ideas rooted in diverse experiences to help universities transition, pivot, and mobilize to improve teaching and learning conditions. This must include breaking away from historically normalized practices that perpetuate systemic inequities and barriers to meet the needs of various stakeholders in higher education more holistically including students, faculty, and staff.

Overall, this article presented the case study of how a university-wide CoP initiative originated, gained approval, and was implemented at a Canadian university using a collaborative, low-stakes approach involving faculty and staff from various disciplines. Members of the CoP became a support group for one another beyond the scope of the CoP initiative guided by a critical theory paradigm and values of love, respect, empathy, and a growth mindset. Members felt empowered to share the learning lessons with others to improve teaching and learning conditions for various stakeholders at the university, particularly as a form of advocacy and activism for the needs of equity-deserving groups. The level of collegiality within the CoP fostered a collaborative

spirit where two types of communities emerged: one was the community of attendees within each CoP session and the second an internal community amongst the Faculty Peer Mentors. Feedback from weekly workshop attendees, reflections and themes shared by the Faculty Peer Mentors throughout bi-weekly check-in meetings, and the comments forwarded to senior administrators about the impact of the program indicate positive results with how the CoP initiative supported faculty, staff, and instructors. This effort was recognized by the university administration in letters of appreciation sent to Faculty Peer Mentors, which was especially important for contract teaching faculty whose contributions predominantly remain underappreciated and undervalued by senior administration. Overall, more funding and research is needed in examining the use of CoPs in higher education involving multidisciplinary teams to gain further insight into long-term impacts of low-stakes professional development initiatives and their effectiveness. To continue building on the success of the CoP initiative, the following areas are outlined for further exploration: inclusion of university staff in CoPs, student-led CoPs, developing hubs to continue exploring equity in education, and prioritizing self-care and collective care of instructors to mitigate burnout. It is recommended that although the CoP initiative was initiated as a response to the summer of the pivot, it should become an integral approach to responding to challenges in higher education by prioritizing the cultivation of community networks through an ethics of care to advance equitable outcomes. At Wilfrid Laurier university, a series of Communities of Practice focusing on specific topics have been initiated as of Fall 2022 focusing on ungrading, pedagogies of care, and inclusive pedagogies in response to the positive results from the original CoP initiative implemented in the midst of a pandemic. Investments in CoP initiatives requires a long-term commitment to finding innovative ways to continue to improve and optimize teaching and learning in higher education.

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DIFFERENCE-EDUCATION INTERVENTION THAT PROMOTES A SENSE OF BELONGING, MINDSET, AND HOPE IN MINORITIZED FIRST-GENERATION STUDENTS

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ABSTRACT
This research aimed to test Difference-Education Intervention (DEI) to determine the impact of this intervention on first-generation students' sense of belonging, mindset, and hope in Hispanic Serving Institutions. Social Learning Theory was used to understand that individuals must internalize what is learned and perceived socially, as learning cannot be separated from its social context. As a result of a careful review of the literature, DEI was replicated to examine its effects on first-generation students in Hispanic Serving Institutions. The study used an experimental design to create a control and intervention group. A convenience sampling technique was utilized to recruit 174 first-generation and continuing-generation first-year students from seven class sections of a college preparation course at Fresno State. A total of 84 students (48.28%) participated in the intervention and completed both the pre and post-survey questions. 28 participants were male, and 56 were female. 71 of them were first-generation students, and 13 identified as continuing-generation students. These findings suggest that social-psychological interventions can increase a student's sense of belonging, mindset, and hope for first-generation students in Hispanic Serving Instutions.

Keywords: difference-education intervention (DEI); social-psychological intervention (SPI), wise intervention, hope, growth mindset sense of belonging, and social learning theory

First-generation students generally have added difficulties in their initial transition to college when compared to continuing-generation students (Jury et al., 2016). These challenges prevent this population of students from fully engaging in the education process (Inkelas, Daver, Vogt, & Leonard, 2007). These challenges stem from understanding how to navigate the system, dealing with stress, practicing solid study skills, sustaining hope and resilience, and communicating/networking. These qualities are critical to a student's success and essential to acquire within the first year of college for students to stay on track to graduate on time while gaining further skills (Yeager & Walton, 2011). Walton's (2014) research showed how cognitive reattribution interventions help students interpret ambiguous stimuli more favorably. Within these interventions, students learned that other students also experience some challenges, that other students have them too, and that these circumstances tend to improve over time. Using Walton's interventions as a replacement for a negative interpretation ("I do not belong here") and subsequent retreat, students interpreted specific challenges as typical initial difficulties. They stayed involved, attended classes, participated in extracurricular activities, and exerted effort, all of which resulted in better integration into the campus community and improved academic performance. Walton and Cohen (2011) offered that a sense of social belonging exists as a mental construct and that "wise" and scientific interventions can reduce disparities in attainment and well-being.

Stephens et al. (2014) conveyed to students that their social upbringings are relevant in college and might result in different experiences. Stephens et al. called their approach the Difference-Education Intervention (DEI). These interventions capture how an incoming student's diverse background can shape their college experience. DEI reinforces academic relevance within the individual, fostering a sense of identity as a college student while at the same time cultivating an experience of adequacy and a better understanding of the impact of differences in their social background (Stephens et al., 2014). DEI participants saw improved GPA, mental health, and engagement.

In the past five years, interventions have been tested that target disenfranchised student populations in higher education settings. These forms of intervention have considered counterbalancing the challenges these students face (Stephens et al., 2014; Walton et al., 2012; Walton & Cohen, 2011). These interventions show real promise for higher education institutions because they do not last more than 1 hour, yet they are responsible for increases in GPA and other positive dynamics with underrepresented students (Walton & Cohen, 2011). For this paper, the interventions known as "wise interventions" are conceptualized as Social-Psychological Intervention (SPI) and (DEI) (Stephens et al., 2014; Walton, 2014). SPI revealed how it could help create recursive effects that have lasting positive effects on marginalized student populations (Yeager & Walton, 2011). Findings from the DEI suggested that one-time interventions begin to reduce the social class achievement gap in participating first-generation students through the support these students received in their new college setting (Stephens et al., 2014).

Hope

According to Snyder et al. (1991), hope is a cognitive, motivational construct encompassing two interrelated elements: agency and pathways. *Agency* is the motivation to pursue goals and is fostered by meeting prior goals, present goals, and progress toward achieving future goals. A pathway is a perception of being able to successfully generate plans and pursue these plans to achieve goals (Snyder et al., 1991). Hope, then, is defined as reciprocally derived from the presence of a) goal-driven directedness (agency) and b) ways to achieve one's goals (pathways) (Snyder et al., 1991). During the actual goal pursuit, emotions offer the individual feedback about the progress. This feedback from the current situation interacts with the agency and pathway components, which are viewed as relatively stable cognitive appraisals of goal-related capabilities (Snyder, 2000) and shape how the current situation is interpreted. Thus, Snyder found that individuals with high levels of hope were more resilient to negative feedback from goal pursuit because their inherent agency and pathway levels were high. This would be the moderately stable trait of hope, which Snyder et al. (1991) distinguished from state hope, which is more situational.

The role of hope in connection to learning and higher academic achievement has been discussed in great detail (Snyder et al., 2002). Hope is a general belief and corresponding emotion that can positively influence the future. Consequently, in situations where students are faced with something novel, hope will provide them with motivation and the belief that they can find pathways and reach their goals. So, they start in a new situation with a positive bias, with a sense that they can figure it out. This involves understanding the goals, how to get there, and how to motivate oneself. Hopeful people have internal dialogues like "I can," "I'll make it," and "I won't give up." These beliefs regarding goal completion can also affect students' emotions positively (Snyder, 2000). Subsequently, during the goal pursuit, positive emotions emerge when students see the goal as attainable and sense progress, but negative emotions, such as stress, begin to emerge if students feel the goal is not attainable or they lack a sense of progress (Snyder et al., 2002).

Students who permeate high hope do not harbor over their failures but credit their results to a lack of effort or strategy for success (Snyder et al., 2003). High-hope students also tend to choose learning goals over performance goals (Snyder et al., 2003) and tend to select more goals. Longitudinal studies suggest that hope can support emotional well-being in transitional phases during adolescence over time with perceived competency (Ciarrochi, Parker, Kashdan, Heaven, & Barkus, 2015; Wandeler & Bundick, 2011). Throughout a student's academic career, hope plays a significant role in academic achievement. Hope was found to be correlated with improved results on attainment tests for students in grade school (Snyder, Cheavens, & Sympson, 1997), improved GPA for scholars in high school and college (Snyder et al. 1991, 2002), and predicted students' progression in college (Gallagher, Marques, & Lopez, 2016). Furthermore, hope has explained additional variance even after controlling for personality variables, intelligence, and previous grades (Day, Hanson, Maltby, Proctor, & Wood, 2010). Hope is relevant in educational contexts in a variety of cultures across the world: Australia (Ciarrochi et al., 2015), China (Du & King, 2013), Italy (Wilkins et al., 2014), Portugal (Marques, Lopez, & Pais-Ribeiro, 2011), Turkey

(Kemer & Atik, 2012), the United States (Snyder et al., 2002) and Switzerland (Wandeler, Baeriswyl, & Shavelson, 2011).

Mindset

A growth mindset is a belief that a person's intelligence is malleable, and when people effectively exert effort, they can grow their ability and intelligence (Dweck, 2006). A person with a fixed mindset perceives the world as being set; no matter how much effort a person puts into a task, that person cannot improve. As the mindset model has established scholarly recognition, the focus in the literature has shifted from model testing to application (Aronson et al., 2002). In applying the mindset intervention model, a study by Good et al. (2003) reduced gender differences between male and female math scores in junior high students. A further mindset intervention taught college students about a growth mindset, and these students achieved higher grades than those of another group that received no intervention (Aronson et al., 2002). Aronson et al.'s research reported a decrease in the achievement gap, as African American students showed more significant improvement after the intervention. The mindset model represents a stable belief over time and permeates the college experience (Blackwell et al., 2007; Dweck, 2006; Good et al., 2003; Yeager & Walton, 2011).

Dweck (2006) stated that the importance of a growth mindset in schools is that it can create a desire in individuals to concentrate on learning to be an expert on a specific task. Currently, schools place more emphasis on positive evaluations and sustaining a good image from an academic standpoint, which promotes a fixed mindset (Dweck & Leggett, 1988). Thus, a fixed mindset is associated with the belief that abilities are fixed and hard to change, whereas a growth mindset reflects the belief that change is possible and abilities are malleable through effort and willingness to learn, which substantially influences achievement and resilience (Dweck, 1999, 2006; Gunderson et al., 2013; Rattan, Good, & Dweck, 2012). A growth mindset is essential because it can help students deal with the challenges of daily life and become more stimulated and connected to school, which can help offset many of the adverse conditions that hinder an individual's willingness to connect to school in the first place.

Sense of Belonging

Most students aim to view themselves positively. However, daily stressors of school, exams, grades, academics in general, and unpredictable human dynamics compromise a student's sense of connection to school and their peers. School can become a shameful and perilous place for students who are members of historically disenfranchised groups such as Latinos and African Americans (Steele, 2010). These students may have to deal with the added fear of negative stereotypes rather than attending school for respect and being judged on their academic performance. Some of this behavior is fathomable when one reflects on the adaptive nature that some races have had to go through while living in America (Steele, 2010; Walton & Cohen, 2011). Race, gender, and any labeling identifying social construct can foster a recurring threat for specific groups within a social context. We now understand that these negative experiences can threaten

an individual's social identity, making a person feel marginalized due to their association with a specific group (Steele, 2010). Moreover, these conditions can trigger traumatic events within the individual, making them feel isolated or like an imposter, which challenges their educational learning and functioning (Inzlicht, Tullett, Legault, & Kang, 2011; Steele, 2010; Steele, Spencer, & Aronson, 2002).

Despite the research on stereotype threats, there is a lack of information and understanding of interventions to help students reduce this threat. Consequently, stereotype threat lingers and amplifies the gap in academic performance, rates of degree attainment, and poor grades among first-generation students of color compared to their White peers (Steele & Aronson, 1995). In the academic realm, this population is academically, socially, and emotionally distressed. These students are inclined to experience more stress and financial burden and drop out at twice the rate of their peers (Engle & Tinto, 2008). Given these drawbacks, even with equal opportunities at colleges and universities, first-generation students of color were found to achieve significantly lower on exams, graduate at lower rates, and earn lower grades (Owens & Massey, 2011). Owens and Massey suggested that these experiences and results could have been derived from harmful stereotype threats perceived by the individual about their group, which causes anxiety to perform.

Hurtado et al. (1996) examined the transitional social experiences of Latino students and found that perceptions of racial/ethnic conflict were directly related to lower social and academic adjustment levels. The researchers highlighted that even high-achieving Latino students could have difficulty socially assimilating to campus if they internally believe that most students or adults perceive them as special admits. As a result, students might internalize these climate observations and struggle to fit in with other social groups on campus. These studies on the transitional experiences of students are essential to consider. Implications are helpful for both scholars and practitioners as they work to develop solutions to better assist students of color in experiencing a smooth social transition to college.

Strayhorn (2012) studied the association between Latino and Caucasian learners' college engagements and their sense of belonging at 4-year colleges and universities. Strayhorn's findings suggested positive relationships between Latino college students' sense of belonging and interaction with diverse peers. Caucasian students shared positive outcomes with interacting with diverse students, but the analyses found that it was not as strong as it was for Latinos. These results compare to Johnson et al. (2007), in which diverse student interaction was a critical indicator of Latina/o/x students' sense of belonging compared to their different racial and ethnic peers.

In addition to the studies mentioned above examining the connection amid diverse exchanges with peers and a sense of belonging amongst Latino students (Strayhorn, 2012), additional research reveals further insights amongst other ethnic groups, particularly African American and Caucasian students. Hausman et al. (2007) revealed that first-year African American learners who engaged in more student relations became more connected while increasing a sense of belonging over time (i.e., from the beginning of the fall semester to the end of the spring semester). However, amongst Caucasian learners, student interaction was correlated with a more

rapid drop in the sense of belonging. The authors suggested that peer support is essential in supporting African American students enrolled at predominantly White institutions.

Social-Psychological Interventions (SPI)

Recently there have been attempts to develop evidence-based approaches to create best practices in the education field, specifically to address the needs of disenfranchised populations. Interventions like Social Psychological Interventions (SPI) and DEI are suggested to help students in their academic journey because these interventions encompass succinct training that aims at a student's thinking, emotional state, and dogmas within the school's social setting to help them feel more connected (Stephens et al., 2014; Walton, 2014). Initiating recursive or self-reinforcing processes that change how students make sense of and respond to situations over time leads to the long-term effects of these interventions (Cohen, & Sherman, 2014; Stephens, Townsend, et al., 2015; Walton, 2014; Yeager & Walton, 2011). SPI and DEI interrelate with the individual, which fosters an understanding of how individual characteristics operate simultaneously through the organizational framework, steering clear of selective stress on either individual characteristics or fundamental contexts (Anderson et al., 2016). Methodologies such as these can provide higher education administrators with innovative perspectives when examining a student's academic performance. However, these interventions target the cognitive constructs in students and often ignore the emotional construct where feelings of shame can exist. A student's sense of belonging can be undermined if they do not understand how to deal with the dynamics associated with shame (Anderson et al., 2016).

SPI and DEI were reported to create recursive social and psychological mind shifts within an individual, which can explain the lasting effects these interventions have on the students who participated (Stephens et al., 2014; Yeager & Walton, 2011). These interventions also guide students in understanding exactly who they are and what strengths they bring to their new educational setting, increasing their desire to pursue a college degree (Stephens, Brannon, Markus, & Nelson, 2015). There are two significant differences between SPI and DEI: SPI targets the cognitive or psychological process of the students' mindset, which can manifest into a social problem or hinder the individual from thriving (Walton, 2014). SPI also focuses on a sense of belonging and suggests to students that the feelings of being challenged are normal. This information helps students develop a sense of belonging. This is how the recursive positive spiral begins for that individual in SPI.

DEI aims to educate students that social differences in upbringing and background, group membership, and identity can shape our life outcomes negatively or positively (Stephens, Hamedani, & Townsend, under review). DEI helped students become aware of differences and helped them become more resilient. Research needs to examine the differences between DEI and SPI. When comparing both interventions, SPI appears more cognitive, while DEI includes an emotional component in its approach. Generally, colleges provide first-generation students with programs that target academic or financial skills (Stephens et al., 2014). Although this knowledge can benefit first-generation students, it can only be capitalized upon if students feel connected and

capable enough in school to take advantage of these resources. DEI and SPI provide newly admitted college students with psychological resources that can be instantly taken advantage of in the college setting. These psychological benefits include the internal belief that people with backgrounds like theirs are worthy of college and can be successful (Steele, 2010; Stephens et al., 2014; Stephens, Markus, & Fryberg, 2012). These interventions are critical because they acknowledge that students of the 21st century graduating from high school face different challenges than those who have graduated over the past three decades, especially after the COVID-19 pandemic.

With many colleges only focusing on academics, marginalized students are left with the impression that schools provide no guidance or psychological resources to safeguard their college experience (Stephens et al., 2014). Students who face adversity in college can experience shame or withdrawal, which is known to create fear, blame, and disconnection (Brown, 2012; Hauser, 2016). In the first weeks and months of college, socially disadvantaged students encounter shared difficulties such as seclusion or receiving unwarranted criticism. Difficulties like this validate a student's mental construct and degrade their sense of belonging and belief that they can succeed (Walton, 2014). When these students try to navigate college for the first time and develop these mental constructs, it can become a self-fulfilling prophecy that may lead to low motivation. Stories of students unsure of whether they belong are apparent in explanations from numerous first-generation and ethnic minority individuals (Walton et al., 2013; Walton & Cohen, 2011; Walton & Cohen, 2007). For example, Aries and Berman (2012) captured insights into what students feel and face during their college transition; students reported that they felt as though they were on a different planet and could not connect to others, which can lead to poor academic transitions. Interventions that target first-generation students must also target social and psychological processes, as such interventions could play an essential part in improving graduation rates for the California State University (CSU)system (Complete College America, 2011). It is vital to our educational system that such interventions be further explored (Walton, 2014).

Theoretical Framework

Social learning theory is the umbrella framework that will guide this research. Social learning theory postulates that individuals must internalize what is learned and perceived socially, and learning cannot be separated from its social context (Bandura, 1977, 1986; Kozulin, Gindis, Ageyev, & Miller, 2003; Tudge & Winterhoff, 1993; Vygotsky, 1978, 1987). Bandura (1962) is credited with developing the central tenets of social learning theory. He described that this theory effectively clarifies individual actions as being neither driven by inner forces nor buffeted by environmental stimuli. Rather, psychological functioning is explained in terms of a continuous reciprocal interaction among cognitive, behavioral, and environmental factors (Bandura, 1962).

Fundamental principles of the social learning ideology are not new to education and the idea that social interaction and exchange of personal experience within groups has long been a component of teaching and learning in academia (Bandura, 1986). Social learning theory has been recommended to serve as a basic foundation for pedagogical practices in various school settings

(Latham & Saari, 1979; Schroeder, Minocha & Schneider, 2010; Trudge & Winterhoff, 1993). Current trends towards the use of social learning theory that is likely compatible with a students' responsibility for their own formation and development of knowledge have been examined to determine if introducing new stimuli into their social interactions can elicit positive effects in students' academic performance (Bandura, 1977, 1986; Hausfather, 1996; Palincsar, 1998). For this study, social learning theory suggests that participating in a Difference in Education Intervention (Stephens et al., 2014) can help first-generation students who attend the same university and who may reflect similar backgrounds as the graduate students participating in the intervention.

Methods

The researcher utilized a convenience sampling technique to recruit participants for the intervention. A total of 174 first-generation first-year students and continuing-generation students have been recruited from seven class sections of the University 1 (college preparation) classes at Fresno State. Professors of these sections were also invited through email by the researcher and the coordinator of these classes. 84 students (48.28%) participated in the intervention and completed both the pre and post-survey questions. Two students opted not to take part in the intervention. The demographics are reported in Table 1, indicating that the sample was representative of the Fresno State student population. Twenty-eight participants were male, and 56 were female. 71 participants were first-generation students, and 13 identified as continuing-generation students.

The study also included 12 junior and senior year panelists attending Fresno State. The study aimed to develop a mixed panel group, similar to DEI (Stephens et al., 2014). The panel members were selected by emailing former University 1 students from a populated mailing list held by the University 1 coordinator. This was achieved by emailing students in various statistics classes in the field of education, social work, and health and by networking with professors affiliated with students from diverse backgrounds who fit the study's criteria. This study explores if DEI can increase a sense of belonging, growth mindset, and hope for first-generation college students.

Table 1

Demographic Representation of Participants

Ethnicity	Frequency	Percentage in the sample	Percentage at Fresno State
Hispanic/Mexican-American/Latino/Chicano	59	70.2	44.7
White/Caucasian	12	14.3	23.3
Southeast Asian (Hmong, Laotian, Vietnamese)	5	6.0	15.3**
Other/Mixed Race	3	3.6	3
Asian (other than Southeast Asian)	2	2.4	**
African American or Black	2	2.4	3.5
Pacific Islander	1	1.2	0.2
Total	84	100.00	90

Note. ** Asian and Southeast Asian are categories in the same demographic. Research could not get an exact estimation for this population.

Research Questions

This experiment attempted to answer these research questions using quantitative analysis: The quantitative research hypotheses are as follows:

1. Does the DEI intervention increase students' sense of belonging?
   H1: There is a positive correlation between the DEI interventions to a student's sense of belonging as measured by the sense of belonging scale.
2. Does the DEI intervention increase students' levels of hope?
   H2: There is a positive relationship between those who completed DEI intervention and high levels of hope.
3. Does the DEI intervention increase student's levels of a growth mindset?
   H3: There is a positive relationship between those who completed DEI intervention and high levels of a growth mindset.

Procedure-DEI Intervention At Hispanic Institution

Participants submitted their responses to the intervention questions via email and followed instructions for the next part of the research phase. This confirmed their consent and commitment to contribute to this research experiment. The researcher emailed all panelists who agreed to participate in the five questions' next steps to participate in the panel held on October 28, 2016. The researcher provided a $25 gift card and breakfast for the panelists who participated in the study as an incentive.

On October 28, 2016, the panel members arrived at an arranged location at 7:30 am to prepare for the panel, ask final questions, network, and eat breakfast. The first panel began at 8:00

am. Randomized samples were accomplished for the University 1 students by placing 200 tickets in a bucket with random numbers that ended with digits that ranged from zero to nine. As University 1 students entered the building, they hand-selected a ticket from the bucket, and if their ticket number ended with 0,2,3,5,6, or 8, they were to be placed in classroom A (the SRWI). If they selected a ticket ending with 1,4,7, or 9, they would be in classroom B (control group). Students then placed their tickets back into the bucket and were escorted to their selected classroom by a research assistant to optimize randomization. Panel members were selected from a bucket of red and green ping pong balls. There were six red balls and six green balls; the panelists with red balls were placed in classroom A, and those with green balls were placed in classroom B. As for the panel members taking part in the intervention in classroom B, they were to answer certain, and were instructed not to speak too much about their background or resilience.

The questions were projected on a PowerPoint presentation around the classroom for the University 1 students to read and to prompt the panel members in each classroom as to when to begin, move on, and end. The PowerPoint began by asking the University 1 students to take a pre-test. A link was then provided to the students, and a time limit was set for the pre-test. The PowerPoint was operated using a wireless device that switched from slide to slide after each panelist's response to each question. At the end of the panel, the University 1 students completed the post-test.

Classroom A observed 6 of the 12-panel members, as well as the selected University 1 students participating in the SRWI intervention. Classroom B was the control group setting. In the control group, the second group of participants also listened to another half of the 6 remaining panel members, but this panel did not utilize the questions from the DEI study.

Panelists commenced by independently responding to the following questions:

1. People come to college for many different reasons. What did coming to college mean for you?
2. Students can have a wide variety of experiences when they transition to college and come from many different backgrounds. Thinking back, what was the transition to Fresno State like for you? What did you feel or think when you first entered Fresno State?
3. Can you share some specific challenges about coming to college? Can you provide an example of an obstacle that you faced when you came to Fresno State and how you resolved it? Why or how did you keep going?
4. Did your decision to attend Fresno State affect your relationship with your friends and family at home? If yes, how so?
5. Would you advise other students to do with backgrounds similar to our own?

Results

Each of the three constructs: belonging, hope, and mindset were measured independently utilizing the participant's survey responses from time one (t1) to time two (t2). The quantitative analysis is shown in Table 2. The primary methods of analysis are independent t-tests and repeated

measures analysis of variance (ANOVA), and Two-Way ANOVAs. These methods were used to determine what relationships existed between the intervention and related outcomes.

Table 2

Analysis of the 4 Dependent Variables for SRWI

#	**Construct**	N	M	SD	1	2	3	4	5
1	Belonging t1	82	4.61	0.75					
2	Belonging t2	70	4.94	0.70	.740**				
3	Hope t1	82	6.95	0.85	.491**	.311**			
4	Hope t2	73	7.22	0.81	.506**	.491**	.671**		
5	Mindset t1	83	4.36	0.78	.337**	0.217	.457**	.421**	
6	Mindset t2	71	4.52	0.83	0.142	0.198	0.234	.446**	.610**

Note. *** = p<.001, ** = p<.01

The effects of the intervention were tested with repeated measures ANOVA with the main factors condition (intervention condition vs. control condition), time (pre- and post-test), and the interaction between condition and time (difference between the two conditions over time). Results are described below, which are shown in Table 3.

Table 3

ANOVA Interaction between Time and Intervention

Pre & Post Test	Dependent Variables		
DEI vs Control	Sense of belonging	Hope	Mindset
Time	17.30***	11.34***	1.57
Time*Intervention	0.75	0.09	3.50+

Note. *** = $p < .001$, + = $p = 0.066$

Research Question 1: Sense of Belonging

For sense of belonging only the main effect of time was statistically significant at the .05 significance level, with F (1, 66) = 17.3, $p < .001$. Since the interaction of time with the condition was not significant, this indicates that there was no difference in change across the groups and that the sense of belonging was significantly higher at time 2 (M = 4.93, SD = 0.70) than at time 1 (M = 4.62, SD = 0.76) with an eta^2 of 21%.

Research Question 2: Hope

For hope only the main effect of time was statistically significant at the .05 significance level, with F (1, 66) = 11.34, $p < .001$. Since the interaction of time with the condition was not significant, this indicates that there was no difference in change across the groups and that hope was significantly higher at time 2 (M = 7.19, SD = 0.81) than at time 1 (M = 6.90, SD = 0.82) with an eta^2 of 14%.

Research Question 3: Growth Mindset

For the growth mindset, the interaction of time with the condition was not statistically significant (p= 0.066). Although the result was not statistically significant, it is important to note because the mindset mean increased for the intervention group and decreased for the control group. The eta^2 of 23% indicates that there is a substantial portion of the variance that is explained by the intervention. When inspecting figure XYZ one can see that the intervention group increases from time 1 (M = 4.28, SD = 0.85) to time 2 (M = 4.57, SD = 0.85), while the control group decreases slightly. Figure 1 illustrates the indications that an interaction occurred for the growth mindset between the control and the intervention group. And the effect of time was not significant, a further indicator that the increase did not occur in both groups.

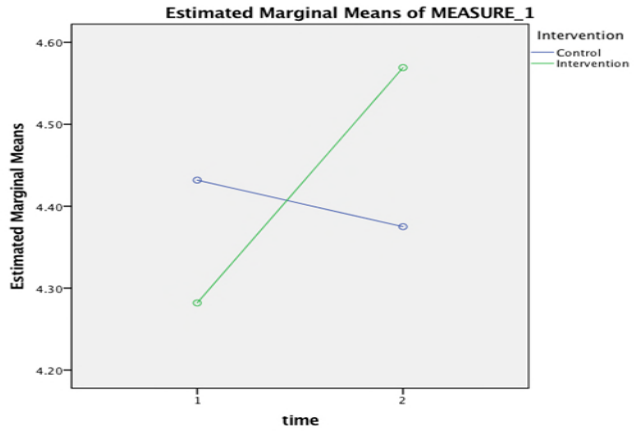

*Figure 1***.** Growth mindset interaction

Using a quantitative approach with repeated measures ANOVA's the participants' pre and post-scores three non-cognitive skills were compared across the two groups to determine if the intervention had an effect on these non-cognitive factors for participants of the study. This study determined that both panels did have a positive impact on participants' sense of belonging, and hope, but only DEI had a positive effect on growth mindset. Inversely, in the control group growth mindset went down. This study found that first-generation students who participated in a DEI can have an increase in their sense of belonging, hope, and mindset.

H1: There is a positive correlation between the SRT interventions to a student's sense of belonging as measured by the sense of belonging scale.

H2: There is a positive relationship between those who completed SRT intervention and high levels of hope.

H3: There is a positive relationship between those who completed SRT intervention and high levels of a growth mindset.

The results from this study revealed that DEI could be an essential intervention to be further explored in colleges when working with marginalized populations as it shows promise to promote a sense of belonging, growth mindset, and hope. These data from panelists' responses also give university administrators a better understanding of some of the issues first-generation students face, specifically at Fresno State. This study also provides the opportunity for DEI to be further explored in the field of education in efforts to eliminate the social-class achievement gap and address the holistic (mental, emotional, and social) aspects of the first-generation and continuing first-generation student experience.

Limitations

Being involved as the researcher and the facilitator of the intervention could have skewed the results due to researcher or participation bias. Being so closely involved with the participants made them feel like they needed to respond in a certain way, exaggerate, or even have selective memory and not be responsive to the prompts. Another limitation that should be noted was obtaining consent from students to proceed with the study. The lack of belonging and feelings of shame are sensitive subjects for some, and it can be challenging to get access or student buy-in. This could have reduced the generalizability of the study by decreasing the number of participants willing to participate due to the sensitivity of the research topic. It is unpredictable to estimate the return rate on surveys, and surveys might have yet to be completed truthfully. If the return rate dropped or responses were skewed, then results could have been threatened as well as the generalizability of the study—additionally, the study aimed for a sample of 180 students representative of the university's student demographics. When conducting an experiment with a control and experimental group there is always the risk of attrition.

Discussion

Interventions such as DEI and SPI show promise in higher education settings because they use scientific methods to systematically develop brief interventions that can have long-lasting positive effects. The present study showed that panels of continuing students sharing experiences and advice with first-year, first-generation students can increase a sense of belonging and hope. Interventions like these are critical as Latina/o/x students have steadily increased in this last decade, and this cohort continues to face significant barriers to academic achievement, including minimal information about college and limited access to the kind of preparation and advising that will help them get there (Conchas & Acevedo, 2020). DEI, where students are systematically guided to talk about their background, is particularly helpful for first-generation students to increase resilience and how to navigate these cultural barriers. DEI is a new concept in the field of education and needs to be further explored to determine the holistic dynamics associated with this

framework when working with first-generation students in regards to gender, race, class, and ethnicity.

When conducting research in a higher education setting, it is critical to observe if DEI has an effect on academic attainment for first-generation students and if these interventions can support the student during and post-COVID with challenges that can manifest social isolation, anxiety, and depression without proper attention (Gopalan, Linden-Carmichael, Lanza, 2022). DEI is an unconventional approach to traditional education that seeks to provide leaders with a tool to help their college students have the best possible opportunities available to them in our 21st century with interventions rooted in proven scientific approaches. Furthermore, longitudinal studies need to be created to track how long the effects of DEI last on the participant's non-cognitive skills and academic attainment.

Conclusion

The LAO noted in its report that the California State University system currently enrolls students who do not meet proficiency in college-level coursework (California Legislative Analyst's Office, 2013). Additionally, Tierney and Rodriguez (2014) observed the University of California (UC system) and found that of every 100 freshmen who enrolled, about 60 graduated in the fourth year, whereas 84 graduated in the sixth year. In addition to the UC system, this study found that for every 100 newly admitted college freshmen who entered the California State University (CSU) system, only 17 graduated within the fourth year. In the community college setting, merely 52 of 100 entering first-year college students continue into their sophomore year, while only 31 graduate by the third year (Tierney & Rodriquez, 2014). These data make it clear that a higher proportion of students who are enrolling in higher education remain excessively ill-equipped for the challenges that higher education demands of them and, as a result, function below par, fall short with coursework and further obligations, and subsequently discontinue their goal of attaining a college degree. Rather than normalizing student experiences, interventions like DEI conveyed to students that their social upbringings are relevant in college and might result in very different experiences. The interventions reinforced academic relevance within the individual, fostering a sense of identity as a college student while cultivating an experience of adequacy and liberation (Stephens et al., 2014).

Students who suffer from low socioeconomic factors or first-generation students are less likely to graduate on time than those who do not fit into these categories (Jury et al., 2016). In the past five years, interventions like DEI and SPI have been scientifically tested to support disenfranchised student populations in higher education settings. These forms of intervention have been considered to counterbalance the challenges these students face (Stephens et al., 2014; Walton & Cohen, 2011). These interventions show real promise for higher education institutions because they do not last more than 1 hour, yet they are responsible for increases in GPA and other positive dynamics with underrepresented students (Walton & Cohen, 2011; Stephens et al., 2014). I would also add that creating community spaces that build on these interventions where students can check in with each other and find ways to build community can also enhance the sustainability

of these interventions for first-generations students. In light of COVID-19 and new policy emphases on disenfranchised students graduating on time, scholars must develop a solid theoretical understanding of how these interventions work to support universities in creating the environments and conditions that will help all their students thrive; especially those populations (such as first-generations students) who have historically and continue to have challenges in their transition to college.

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BOOK REVIEW

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Teachers of color: Resisting racism and reclaiming education
Rita Kohli
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As Black educators with decades of combined experience in the K-12 education setting, we appreciate seeing a book depicting the unique obstacles and struggles that teachers of Color face, and greatly empathize with the stories and experiences provided to serve as counterstories. Kohli spends a great deal of time attending to the disparities that teachers of Color face in the education sector, and she delineates tangible ways in which to disrupt the inequities. As such, *Teachers of*

Color: Resisting Racism and Reclaiming Education unapologetically confronts the lack of diversity within the teaching profession, and provides a strong foundation and framework for readers to begin to unpack the intersection of racism and education. Kohli (2021) skillfully weaves the experiences of over thirty teachers of Color to serve as counterstories to the whitewashed assumptions and expectations of teachers of Color in the K-12 public school sector. Kohli (2021) argues that "To understand and address the diversity crisis of the teaching force, it is necessary to move beyond discussions of racial representation" (p. 4). Simply recruiting teachers of Color is not enough. In an attempt to authentically explore the obstacles and barriers that teachers of Color face, Kohli (2021) divides the book into three major categories – racialization, resistance, and reimagination.

Racialization

Identifying racialization as a common experience for teachers of Color, Kohli (2021) critically examines the racial hierarchy embedded in educational systems of practice and unpacks the impact that these systems and expectations have on teachers of Color. Kohli asserts that "To sustain a diverse teaching force, teacher education programs, schools, and districts must first acknowledge the entrenched systems of oppression that make school a hostile place for People of Color" (p. 28). Many of the teachers of Color who contributed their stories to this text detailed accounts of being perceived as a threat, being silenced or shut out, and facing racial microaggressions in the workplace. The disrespect teachers of Color experienced was a common thread in many of the accounts that were shared. When thinking about how to attract and support teachers of Color to the education profession, we must first recognize that "Teachers of Color have been navigating the racial climates of schools since they were students and continue to confront racism in their professional lives" (p. 28). As such, Haddix (2016) poses the question "What does it mean for students of Color to become teachers within contexts largely created for preparing white, English-monolingual teachers?" (p. xiii). Acknowledging the potential harms caused in their K-12 experiences combined with their racialized experiences as educators, we must recognize the impact of a hostile racial climate and the toll it has on teachers of Color.

While "Teachers of Color offer a great deal in realizing a rigorous, culturally sustaining, and humanizing education for students of Color" (Kohli, 2021, p. 13), racism embedded in the educational system and environment often impedes their efforts. Consequently, many teachers of Color shared feelings of isolation, stress, anxiety, and frustration as a result of working in a hostile racial climate. In an attempt to further understand the impact of a hostile racial climate and the toll it has on teachers of Color, Kohli (2021) identifies racial stress and battle fatigue as some of the consequences of being in such environments. To illustrate how racial stress and battle fatigue materialize for teachers of Color, Kohli (2021) expertly infuses the voices and stories of various teachers of Color to provide concrete, real-life examples that serve as counterstories. Additionally, "The counterstories also confirm that the presence of teachers of Color alone does not ensure a healthy racial climate" (Kohli, 2021, p. 71). Despite wanting to disrupt the status quo and teaching

in more culturally sustaining ways, teachers of Color often feel pressured to abandon their pedagogical practices and ideologies, which was the case for all teachers included in this text.

Resistance

Regardless of the struggles and obstacles teachers of Color face entering and remaining in the educator workforce, Kohli (2021) identified "resistance" as a common experience for many teachers of Color. As a means of unpacking what supports the retention of justice-oriented teachers of Color, Kohli (2021) identifies three tools that are foundational to their success. These tools include: racial literacy, communities of resistance, and organizing for change (Kohli, 2021). Recognizing racial literacy as the understanding that racial injustices are real, Kohli (2021) shares the stories and experiences of various teachers of Color who work to dismantle racial injustices to serve as a counterstory. Kohli (2021) found that teachers of Color who persisted with their careers as educators identified developing communities of resistance to be essential to their abilities to "resist oppressive conditions and reclaim their power" (p. 95). In addition to racial literacy and communities of resistance, Kohli (2021) identified organizing for change to be a powerful tool for teachers of Color to utilize when making educational changes within their communities when faced with adversity. The utilization of the aforementioned tools allows teachers of Color to "refuse the dehumanization and cultural disregard of schools, and to collectively fight to reclaim education" (p. 111).

Reimagination

Ladson-Billings and Tate (1995) argue that racism is a large factor in the racial inequities that Black, Indigenous, and People of Color (BIPOC) face; therefore, the ways in which schools have operated must be examined and reimagined. As Kohli (2021) states, "It is essential to consider a life beyond opposition and resistance" (p. 114). Teachers must focus on what they are *fighting for* as opposed to what they are *fighting against* (Kohli, 2021, p. 115). For instance, educators should think about what a racially just classroom and corresponding pedagogies look like to ensure that learning is meaningful and connected to students' lives. "This type of dreaming – of what communities of Color want, need, and deserve for their youth – is foundational to realizing something different and better" (Kohli, 2021, p. 115). By focusing on topics that inspire and uplift, educators can reimagine their classrooms as "holistic, dynamic, creative spaces where students, and they themselves, can heal and grow in multidimensional ways" (Kohli, 2021, p. 130-131). Moreover, teachers of Color must focus on the world of possibility by centering their pedagogical practices around the notion of moving beyond antiracist education to a community of empowerment. An important step towards the reimagined classroom that allows teachers of Color to thrive and dream big is dismantling the racial hierarchy embedded within the structure of many current teacher education programs.

Recommendation

Teachers of Color: Resisting Racism and Reclaiming Education is a necessary and timely addition to the scholarship regarding teacher education. As rhetoric and efforts to recruit more teachers of Color continue to permeate the educational landscape, Kohli (2021) reminds us that simply recruiting teachers of Color for the sole purpose of representation is not enough. The lack of teachers of Color currently in the field of education, in addition to the recruitment and attrition of teachers of Color, is a far more complex issue that deserves the time and attention to fully understand all of its complexities. As such, Kohli (2021), elegantly weaves research and personal accounts together for a solid glimpse into the experiences of teachers of Color in a predominantly white profession. The infusion of the stories and experiences of teachers of Color throughout the book, serving as counterstories, is a critical component of the text because it works to disrupt assumptions and beliefs commonly held about the experiences of teachers of Color. As Milner and Howard (2004) argue, counterstories provide space for us to "reinterpret, disrupt, or to interrupt pervasive discourses that may paint communities and people, particularly communities and people of color, in grim, dismal ways" (Kohli, 2021, p. 18).

As a standalone, the text is a necessary resource for educators, administrators, and teacher educators as it dives into lived experiences of teachers of Color. Not only did the text speak to the injustices that teachers of Color experience daily, but it also provided actionable steps that educators can take to create real change. For those looking for more direction in ways to support teachers of Color, we suggest pairing this text with *Cultivating Racial and Linguistic Diversity in Literacy Teacher Education: Teachers Like Me*. Like *Teachers of Color*, *Teachers Like Me* acknowledges that the field of education is a white, English-monolingual, middle-class-dominated space. As such, the text explores the ways in which preservice and practicing teachers of Color navigate predominantly white spaces while creating powerful arguments for support, inclusion, and change. Each of these texts, as standalones or paired together, work to offer valuable insights and to deepen readers' understandings of the experiences and obstacles teachers of Color face entering and/or remaining in the education workforce.

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