An Assessment of the Academic Supports Provided to African American Female Students in Undergraduate, Pre-professional Architecture Programs

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Even with the increased number of minority graduates from architecture programs, African American females still make up less than 0.4 % of all licensed architects in the United States. While, increasing diversity within the field of architecture continues to be a priority for both the academy and the profession, one can ask whether current architecture programs are doing enough to help women of color successfully engage and complete undergraduate, pre-professional curriculums. A qualitative, single case study (2013-14) explored how, if at all, African American female students were able to engage their undergraduate, pre-professional architecture curriculum. The research represents scholarly discourse related to the professoriate and the scholarship of teaching and learning. This investigation examined the characteristics of undergraduate architectural programs, from the perspective of their academic curriculum, faculty teaching methodologies, and the design studio environment. The intention of this paper is to shed light on the educational practices that currently exist within architecture programs and determine how, if at all, they mitigate or extend the barriers that traditionally limit the success of women of color in architectural education.

INTRODUCTION

Even with the recently increased number of minority graduates from architecture programs, African American females still make up less than 0.4 % of the total population of approximately 110,000 licensed architects in the United States.[1] While the Directory of African American Architects (2017) lists over 2166 licenced African American architects, only 417 are female. As such, increasing diversity, both gender and race, within the field of architecture continues to be a priority for both the academy and the profession.[2] However, one can ask whether current architecture programs are doing enough to help women of color successfully engage and complete undergraduate, pre-professional curricula?[3] Critical race theories and Black feminist thought[4] suggest that when a student, of any background, cannot recognize themselves within the institutional structure and academic curriculum; or they feel they are being treated with a 'one size fits all' frame of reference, there is a loss of individualism and identity, which leads to personal dysfunction.[5] This distressed state causes the student to disassociate from their peers, and eventually withdraw from the degree program or the institution at large.[6]

RESEARCH PROBLEM

In fall 2013, a qualitative single-case study (Sawruk) explored how, if at all, self-identified African American female students were able to engage their undergraduate, pre-professional architecture curriculua. This investigation examined the characteristics of undergraduate architectural programs, from the perspective of their academic curriculum, faculty and teaching methodologies, and the design studio (class-room) environment.[7] The intention of this pilot study is to shed light on the educational practices that currently exist within architecture programs and determine how, if at all, they mitigate or extend the barriers that traditionally limit the success of women of color in architectural education.[8]

For over a century, Western architecture has been a profession dominated by European males.[9] While many males of color found careers in construction prior to the 1950s, they were largely relegated to building trades as skilled craftsmen. Established segregation laws limited the ability of minorities to garner the educational degrees needed to sit for the architectural licensing exam, establish independent firms, and thereby assume leadership roles within the profession. As educational opportunities for minorities have expanded since the 1960s, an increased number of students of color have found their way into architecture programs at predominantly White institutions (PWIs).[10] Yet, there remains a disproportionately low number of people of color, specifically women, in both the academy and the profession.[11] This continued disparity has been cause for sincere concern throughout the architecture community.[12] As such, increasing diversity within architecture programs has been a priority for over a decade, as reflected by evolving departmental missions and initiatives by the American Collegiate Schools of Architecture (ACSA).[13] However, have things really changed? The question can be raised, "Are current architecture programs doing enough to help African American women acclimate and assimilate into both the campus racial climate and specifically professional degree programs?"

Recent statistics[14] confirm the continued disparity within the architecture profession. Currently, males account for more than 82 percent of licensed U.S. Architects, while "all" women account for less than 18 percent. Even with the increasing number of graduates of color from architecture programs,

people of color make up less than one-third of the 110,000 licensed architects in the US.15 According to the National Council of Architectural Registration Boards (2015), Asian Americans represent 15% of licensed architects, while Hispanic/Latino Americans represent 10%. However, even with this increased diversity, African Americans still represent less than 2% of all licensed architects,[16] with African American females making up less than 0.4% of the licensed architects in the United States.[17]

The American Institute of Architects (AIA) and the ACSA have turned to the academy as the initial step in rectifying this situation. Yet, sta-tistics reveal,[18] that many African American women are leaving architecture, and science, technology, engineering or math (STEM) majors before completing their degrees. Over the last decade, numerous studies have asked why this situation continues to occur.[19]

Over the last twenty years, scholars[20] have documented the struggles of African American women in higher education, and with a few articles[21] related to the lack of women of color matriculating into STEM fields. When students of color attend PWIs they often find themselves confronting a negative or hostile campus climate.[18] Transitioning to a life on campus, away from the support of home, requires adjustment, belonging, and eventual attachment.[19] When students are able to achieve these connections, they usually prosper, both socially and academically.[20] If they cannot make a connection, they are often discouraged and withdrawn, and eventually leave.[21] Whether intentional or accidental, when students of color enrol in STEM disciplines they encounter hostile campus environments, are ostracized by insensitive faculty and White peers, or face culturally unrecognizable classroom pedagogy.[22] Insecure, isolated, and eventually depressed, these students often abandon their educational goals and leave STEM programs.[23] This is particularly true of African American women, who generally have unique and personal insecurities, both academically and socially, that need to be recognized and consciously addressed.[24]

Academic success and degree completion are key determinants utilized by policy makers (NAAB), stakeholders (ACSA) and professional organizations (AIA) when evaluating the continued merit of architecture programs throughout the country. Historically Black colleges and universities (HBCUs) have been statistically more successful at providing a more collegial and supportive learning environment for students of color, particularly women.[25] Yet, the responsibility for providing supportive, inclusive environments for African American women should not be the exclusive domain of professional programs at Historically Black Colleges and Universities (HBCU)s.[26] As such, concerned administrators and faculty at PWIs could look to successful programs at HBCUs to help inform their methods and means, when facilitating diverse learning environments.[27] In this way, it is very feasible for architecture programs at PWIs to provide students of color, especially women, with the academic, professional, and social supports necessary to both acclimate and identify with their collegiate environments.[28] A positive campus racial climate would enable them to dwell within the dominant campus culture, compete with colleagues and peers, and excel within professional programs.[29]

During the 2013-14 academic year, a qualitative pilot study (Sawruk, 2013) was conducted to better understand, how if at all, undergraduate, pre-professional architecture programs, at PWIs, support African American women for success within the architecture studio curriculum. It addresses the impact of race, ethnicity, gender, and class on educational participation, professional assimilation, and peer support.[34] The resultant research findings offer insight and a point of reference from which to evaluate undergraduate, pre-professional programs and determine whether they offer female students of color the support necessary to engage, participate, and excel in architecture curricula.[30]

The fundamental question that guided the study was, "How have female students of color engaged, if at all, their design curriculum at undergraduate, pre-professional architecture programs?" To better address this overarching question the investigation was guided by three more focused analytic questions, related to the architectural faculty, architectural coursework, and their design studio environments specifically. AQ#1: How have female students of color engaged, if at all, the architectural design studio (academic classroom/laboratory) environments of undergraduate, pre-professional architecture programs? AQ#2: How have female students of color engaged, if at all, the design faculty and their instructional methodologies in undergraduate pre-professional architecture programs? AQ#3: How have female students of color engaged, if at all, the design-course curriculum of undergraduate, pre-professional architecture programs?

QUALITATIVE RESEARCH METHOD

For the purpose of this limited pilot study, the researcher adopted a case-study approach to qualitative inquiry, as outlined by Creswell (2013). The research began with various assumptions drawn from literature related to campus racial climate, and it sought to address the experiences of, and effects of those experiences on, African American female architecture students. Utilizing a qualitative approach to inquiry, data collection took place in a "natural setting, sensitive to the people and place under study."[31] The resultant data was both inductively and deductively analysed and patterns and themes were established. The findings were then written in such a way as to present a complex description and interpretation of the problem, the reflexivity of the researcher, and the voices of the participants.

DATA COLLECTION METHODOLOGY

"The procedures of research, such as data collection, data analysis … standards of evaluation and ethics, emphasize an interpretive stance."[32] In this case, the pilot study was organized using the Kvale and Brinkmann seven stages of an interview inquiry.[33] Their logistical sequence includes "thematizing the inquiry, to designing the study, to interviewing, to transcribing the interview, to analysing the data, to verifying the validity and reliability, generalizing the findings, and finally to reporting the study."[34]

This researcher openly recognizes that the critical tenants of this study are grounded, though both its related literature review and approach to inquiry, in critical race and feminist interpretive frameworks. As such, the ontological beliefs are structured around power and identity struggles of privilege or oppression, based on race or ethnicity, gender, or class. Recognizing that a "diversity of values is emphasized within the standpoint of various communities," the realities of the interviewees is known through the study of their personal relationships with social structures, freedom and oppression, and power and control.[35] This transformative study therefore begins with the assumption of existing power and identity struggles, seeks to document them, and concludes with a call for action or change.

A single, case-study approach to inquiry was adopted for the pilot study to focus on a few key issues and understand the complexity of the case. As such, a purposeful sampling, showing differing perspectives, was taken from within a boundaried site. The participants were all self-identified African American females, ranged in age from 23-26 years, had all graduated from undergraduate, pre-professional architecture programs in the US, and were currently enrolled in a graduate architecture program located in the northeast United States. Data collection took place in the researcher's office, through structured, open-ended, forty-five minute interviews, which were digitally recorded and later transcribed. The resultant interviews were coded by the researcher, based on previously established thematic matrixes that were subsequently validated through two independent interrater reviews. In the final interpretation phase, the researcher found numerous cross-case codes and themes, which served to support the initial hypothetical assumptions, but also revealed relevant individual successes among various facutly members.

DATA GATHERING TOOL

Since the pilot study sought to gather data that could be logically generalized, with the application to other similar cases, a critical case sampling was secured. Research themes were identified, hypotheses were proposed, and critical concepts were compared with theme relevant literature. The interview questions were developed as a semi-structured, open-ended interview protocol, and a responsive interviewing model, promoted by Rubin and Rubin[41] was followed. In its final

format, the interview protocol progressed from a) personal information, to b) background information, to c) campus racial culture experiences, to d) design studio racial micro-culture, to e) faculty mentors, to f) peer support, to g) design studio curriculum engagement, to h) instructional methodologies practiced by design studio faculty. The interview concluded with a request for additional comments, insights or issues, not addressed by the researcher or the interview questions.

CASE STUDY DATA ANALYSIS

The relevant literature was utilized to formulate a "cluster table," where patters or correspondence and categorical aggregation could be recognized, and possible cross-case synthesis could be considered. Based on the research of Yin,[36] a cluster table can "display the data from individual cases according to some uniform framework."[37] Two relevant concepts emerged for each of the three analytical questions, revealing six individual coding themes. The environmental focus realized a) campus engagement through friends, activities and clubs, and b) the concept of "dwelling" within the design studio, micro racial climate. The effects of social and emotional support from institutional personnel revealed the themes of c) faculty mentors and "other mothering," and d) peers, colleagues and "sisterhood." Finally, the academic focus recognized e) diversity in the design course curriculum, and f) inclusive instructional methodology. After objectively reviewing the transcripts and analysing the data, the cluster table was created, including the positive, negative, and neutral experiences of each participant.

RELEVANT FINDINGS FROM THE LITERATURE SEARCH

While the specific data related to the research participants cannot be presented due to Human Subjects Committee concerns, this paper will present three themes related to the study and derived from the literature review that should be considered by architecture programs, namely campus climate,[38] social support,[39] and curriculum accessibility.[40]

Central to this study are the experiences of female students of color with regards to critical race theory (CRT),[41] microaggressions,[42] and campus racial climate.[43] Despite years of diversity enrichment, minority students continue to experience exclusion, marginalization, and rhetoric rather than legitimate affirmative action initiatives at institutions of higher education.[44] Female minority students acknowledge that they encounter racism, sexism, and ageism from a wide range of people, including friends, colleagues, faculty, and employers.[45] Racism and prejudice continues to exist on college campuses, but is now more often subtle and covert. "Racialized social practices and educational policies allow for the unmarked, invisible and unacknowledged forms of bias,"[46] perpetuating White privilege. All faculty members should be aware of and able to recognize the range of intentioned and unintentional microaggressions that can infiltrate the classroom setting, and they should respond appropriately with moderate directness and intensity.[47]

Previously successful female graduates of color report that first-year female minority students must work hard to develop a positive self-attitude; remain optimistic, motivated, and self-disciplined; and possess perseverance, determination, and commitment.[48] Studies recommend various coping strategies for female minorities in higher education, including resistance, collective support, and dispositional forgiveness, to help reduce the negative affect and cognitive performance of negative stereotypes and microaggressions.[49]

Academic and social advocacy often comes in the form of faculty mentors, female role models, and peer or mutual support groups.[50] Set within positive academic environments, female minority students are better able to engage in campus culture, and attach to architecture and STEM curriculums.[51] Common among female students of color are the reports of various sources of emotional and social supports that enabled them to navigate the often- intemperate pathway to graduation. Key to each report of success was the guidance, advice, comfort, and encouragement of "other-mothers," both Black and White female facutly members or departmental staff members who serve as alternative maternal support systems.[52] These external mentors and counsellors serve as a critical point of connection between the African American female students and the campus at large, when architecture and STEM programs fail them. In all PWIs, the White male students have numerous male role models of various European backgrounds; while most minorities, and female students of color specifically, have few to none. In many ways, female faculty of color are a vital resource in diverse, inclusive architecture programs. Female students need to know that someone else has gone through this journey, struggled and made it. Their presence alone serves as motivation and support.

On a day-to-day basis, female students of color often rely heavily on other female peers or "best friends" to create an academic and social network for success. Confronted with a male dominated classroom environment, a "girls against the guys" bond develops grewing into close friendships often referred to in the related literature as 'sisterhood'.[53] As friends, female minority students can relate with each other, often share similar backgrounds, and confront the same microaggressions. This does not exclude White male students, or other minority male and female students from offering consistent support and serving as a source of security and encouragement in the design studio and architecture curriculum. However, studies reveal that often Black males and White females students and facutly are the least likely to understand the unique experiences of women of color and the intersection of racial and gender discrimination. Double oppression is easily imposed on female students of color, as the subordinate status associated with both racism and sexism is often enforced by white and black men, as well as white women.[54] Overcoming these entrenched cultural,

racial and gender barriers were often found to be initially insurmountable by many African American female students.[61] As such, the responsibility for providing supportive, inclusive environments for female students of color should not be the exclusive domain of other Black women; instead, the entire campus community, including students, staff, faculty and administrators should be engaged in making the road to success accessible, negotiable and amiable.

Students in architecture and STEM programs relay that the faculty, curriculum, and methods of instruction are usually neutral, with no emphasis on any one racial, social, or cultural group. in an attempt to promote equality or facutly present coursework in an unbiased, conceptual or programmatic format. While, the content is very interesting, the methodology is often not engaging for students of color. Both critical race theory and black feminist thought suggest that when students, of any background, cannot recognize themselves in the institutional structure, or they feel they are being treated with a 'one size fits all' or 'single lens' frame of reference, there is a loss of individualism and identity that leads to personal dysfunction.[55] As such, architecture history and theory or studio assignments generally lack diversity, and serve to unintentionally or intentionally promote White priviledge. In turn, when faculty at PWIs integrate a culturally relevant pedagogy into the curriculum, female students of color are better able to foster a positive self-identity, along with self-affirmation, or affirmation of group goals.[63] In this way, sensitive faculty members can be critical in building academic and social counter spaces, and in realizing communities that represent and reflect diversity and cultural wealth.[56]

LIMITATIONS OF THE STUDY

Intrinsic to qualitative research are the numerous limitations, the pilot study revealed. While the researcher conducted a peer review via inter coder agreement, there was no blind coding, triangulation, or external audits. However, sufficient raw data was present to identify themes, confirm concepts, and adequately define the case. Unfortunately, the limited length and breadth of the study did not allow for desired thick descriptions, numerous case samples, and alternative sample sites. As such, the individual comments of the participants are valid in relation to the specific institutions, faculty, and curriculua represented; but are not readily transferable as generalizations related to the experiences of other African American female architecture students in general.

IMPLICATIONS FOR PRACTICE

While the 2013-14 pilot study was limited to only a few participants, it served to reconfirm current literature related to campus racial climate and its significant impact on the perceptions of AfricanAmerican female students attending predominantly White colleges and universities.[57] Minority students in general, but women of color specifically, engage higher education from a unique perspective,[58] and their

social, emotional and academic needs must be consciously addressed by administrators, faculty and staff, if they are going to acclimate, engage, and prosper in undergraduate, pre-professional architecture programs. The related literature identified three specific areas in which undergraduate, pre-professional architecture programs could engage female students of color: 1) peer diversity, 2) curriculum diversity, and 3) faculty diversity. Without the support of friends, all students, but African American female students in particular can feel isolated and ostracized by their gender and race .

Diversity in the program and course content promotes racial and cultural familiarity, reducing tension and misunderstanding that often solicits multiple microaggressions expressed by White peers. Increasing student diversity broadens the opportunities for students of all genders and ethnic backgrounds to engage, share, and support each other, both academically and socially. In turn, while many faculty believe they should introduce "neutral"-focused coursework, previous studies conclude that all students are enhanced by opportunities in the design studio that explore diverse locations and cultures, or traditions familiar to African Americans and other ethnicities. As such, architecture faculty must become more aware of the racial, cultural and class biases present in most architecture curriculums, and work to introduce more diverse and inclusive coursework. Finally, female students of color have a well-documented need to engage female mentors and role models who mirror their race and ethnicity.[59] The lack of diversity among the faculty and staff in many architecture programs makes it very hard for female students of color to find social, academic and professional support within rigorous, often stressful, degree programs.[60] Architecture departments must seek out and encourage female faculty of color to join predominantly White architecture faculties, if retaining and sup-porting female students of color is a sincere concern.

CONCLUSION

Many factors contribute to creating a positive campus racial climate, and as such, they must be viewed in combination rather than as individual initiatives. For decades, the primary environmental concern at predominantly White architecture programs has been compositional diversity, which has been achieved by continuing to provide access and enhancing enrolment for students of color. However, recent literature confirms that if the necessary campus racial support-networks are not in place, these students could easily become disenfranchised and leave. To help students of color transition from secondary school to professional degree programs, role models, faculty mentors, and peer support net-works must be present. The entire academic community needs to unite to support the student. The design studio must be a physically and metaphorically "safe space," a nurturing environment, where ALL students are able to both personally and academically explore, discover, evolve and mature.

In conclusion, many female students of color in architecture curricula confronted various hostile micro-aggressions within their respected colleges, however, many are also able to find various faculty members and peers who offered sincere social and emotional support. Many female students of color report that they found themselves immersed in neutral or universal curricula taught by engaging and encouraging White male faculty. Contemporary architect faculty must be aware that while their methodology is not intentionally exclusive, it is often not intentionally diverse. Finally, it is the combination of supportive individuals and unbiased teaching methodologies that enabled women of color to engage, excel, and graduate from their undergraduate, pre-professional architecture programs.

ENDNOTES

1   AIA (2016) Oguntoyinbo (2013); Pluviose (2007).

2   AIA (2016); Ivy (2009).

3   Anthony (2002).

4   Constantine & Greer (2003); Hughes & Howard-Hamilton (2003); Zamani (2003).

5   Hayes, 2008; Mawhinney, (2011).

6   ASHE Higher Education Report (2011); Harper & Hurtado (2007); Kim & Conrad (2006). 7 Galion & Peterson (2005); Pluviose (2007); Sealey-Ruiz (2007).

7   ASHE Higher Education Report (2011); Perna, Lundy-Wagner, Drezner, Gasman, Yoon,

8   Bose & Gary (2009).

9   McCabe, (2009); McKnight & Zacks (2012); Oguntoyinbo (2013).

10 Dahlvig (2010).

11 AIA (2016); Blair (2011); Pluviose (2007).

12 AIA (2016); Ivy (2009).

13 Anthony (2001, 2002); Groat & Ahrentzen (1996)

14 Pluviose (2007).

15 NCARB (2015, 2017).

16 AIA (2016); Charles (2007); Coles (1989); Lubell (2013); NCARB (2015).

17 Anderson (2003); McCann (2007); McKnight & Zacks (2012); NCARB, (2017).

18 ASHE Higher Education Report (2011).

19 ASHE Higher Education Report (2011); Harper & Hurtado (2007); Kim & Conrad (2006); Moos, as cited in ASHE: Factors (2011).

20 Constantine & Greer (2003); Galion & Peterson (2005).

21 ASHE Higher Education Report (2011); Perna et all., (2009).

22 Dahlvig (2010); Harper (2010); Museus & Liverman (2010); Hutchenson, Gasman & McMurty (2011).

23 House (1981, 1987).

24 ASHE Higher Education Report (2011).

25 Dahlvig (2010); Museus & Liverman (2010).

26 Sawruk (2015); Sealey-Ruiz (2007); Dahlvig (2010); Museus & Liverman (2010).

27 Zamani (2003).

28 Hughs & Howard-Hamilton (2003); Howard-Hamilton (2003); Zamani (2003); Nichols & Tanksley (2004); Prosper (2004); Dahlvig (2010).

29 Kim & Conrad (2005); Mikyong & Conrad (2006); Nieves (2005); Perna (2004); Wagener & Nettles (1998).

30 Wagener & Nettles, (1998).

31 Dahlvig, (2010); Redd, (1998).

32 Galion & Peterson (2005); Pluviose (2007); Sealey-Ruiz (2007).

33 ASHE Higher Education Report (2011); Hayes (2008).

34 Wagener & Nettles (1998).

35 Perna et al. (2009); Zamani (2003).

36 Creswell (2013), p. 44.

37 Creswell (2013), p. 34).

38 Kvale & Brinkmann, as cited in Creswell (2013). 39 Creswell (2013), p. 163).

39 Lincoln et al., as cited in Creswell (2013), p. 35-37. 41 Rubin & Rubin, as cited in Creswell (2013).

40 Yin, as cited in Creswell (2013). 43 Creswell (2013) p. 199.

41 Dahlvig (2010); Redd (1998).

42 Mawhinney (2011); Wagener & Nettles (1998).

43 Galion & Peterson (2005); Hayes (2008); Pluviose (2007); Sealey-Ruiz (2007). 47 Crenshaw, 1991, 1998.

44 Sue, Capodilupo, Torino, Bucceri, Holder, Nadal, Esquilin, (2007).

45 Solorzano, Ceja, & Yosso (2000).

46 McGee, 2013; Sue & colleagues (2007; 2008; 2009).

47 Sue et al., (2008).

48 McGee (2013), p. 259.

49 Pasque, Chesler, Charbeneau, & Carlson, 2013; Sue et al. (2009).

50 Lewis, Mendenhall, Harwood, & Browne-Huntt, 2013; Mitchell, (2011).. 55 Burrow & Hill, 2012; Schoulte, Schultz, & Altmaier, (2011).

51 Green & King (2001).

52 Bowen & Bok (1998); Hinton (2009); Museus, Palmer, Davis, & Maramba (2011). 58 Mawhinney (2011).

53 Bradley & Sanders (2003).

54 Howard-Hamilton (2003); Zamani (2003).

55 Hughes & Howard-Hamilton (2003); Taub & McEwen (1992).

56 Constantine & Greer (2003); Hughes & Howard-Hamilton (2003); Zamani (2003). 63 Mawhinney (2011).

57 DeMirjyn (2011); Grier-Reed (2010); Yosso Smith, Ceja, & Solorzano (2009).

58 Dahlvig (2010); Hayes (2008).

59 Howard-Hamilton (2003); Nichols & Tanksley (2004); Prosper (2004); Zamani (2005). 67 Bradley & Sanders (2003).

60 Perna et al. (2010); Sealey-Ruiz (2007).

REFERENCE

American Institute of Architects (AIA). 2016. Diversity in the Profession of Architecture Executive Summary. New York: The American Institute of Architects.

Anderson, J. D. 2003, June 16. Thoughts on the Future of Architecture Education. Paper Presented at the Meeting of the 2003 NAAB Validation Conference, Santa Fe, New Mexico.

Anthony, K. 2001. *Designing for Diversity: Gender Race, and Ethnicity in the Architecture Profession*. Urbana, IL: University of Illinois Press.

Anthony, K. 2002. "Designing for Diversity: Implications for Architecture Education in the Twenty-First Century." *Journal of Architecture Education*, 55(4), 257-267.

ASHE Higher Education Report. 2011. *Factors that Influence Success among Racial and Ethnic Minority College Students in the STEM Circuit*, 36(6), 53-85.

Blair, T. P. 2011. Exploring Factors Affecting Success and Persistence of Underrepresented Minorities in Undergraduate Science, Technology, Engineering, and Mathematics (STEM) Majors (Capella University) Proquest Dissertations and Theses. Retrieved From Http://Search.Proquest.Com/Docview/906774173?Acco untid=11308

Bradley, C. and Sanders, J. 2003. Contextual Counselling with Clients of Color: a "Sista" Intervention for African American Female College Students. *Journal of College Counselling*, 6(2), 187-191.

Burrow, A. L. & Hill, P. L. 2012. "Flying the Unfriendly Skies? The Role of Forgiveness and Race in the Experience of Racial Microaggressions." *The Journal of Social Psychology*, 1525, 639-653.

Charles, K. J. 2007. African American Male Students of Architecture At Select Hbcus: Locus Of Control, Self-Efficacy And Tribrachic Intelligence Spring 2006--Spring 2007. Morgan State University. Proquest Dissertations and Theses, 165.

Coles, R. T. 1989. "Black Architects: An Endangered Species." *Journal of Architectural Education*, 43:1, 60-62.

Crenshaw, K. 1991. "Mapping the Margins: Intersectionality, Identity Politics, and Violence against Women of Color." *Stanford Law Review*, 436, 1241-1299.

Crenshaw, K. 1998. *Demarginalizing the Intersection of Race and Sex: A Black Feminist Critique of Antidiscrimination Doctrine, Feminist Theory and Antiracist Politics.* The University Of Chicago Legal Forum 140, 139-167.

Creswell, J. W. 2013. *Qualitative Inquiry and Research Design: Choosing among Five Approaches* (3rd Ed) Thousand Oaks, CA: Sage Publications.

Constantine, M. G. and Greer, T. M. 2003. *Personal, Academic, and Career Counselling of African American Women in College Settings. New Directions for Student Services*, (104), 41-51.

Dahlvig, J. 2010. Mentoring of African American Students at a Predominantly White Institution (PWI). *Christian Higher Education*, 9(5), 369-395.

Demirjyn, M. 2011. *The Voicing of Chicana/Latina Ethnicity, Emotion and Equity in Higher Education. Making Connections: Interdisciplinary Approaches to Cultural Diversity*, 131, 75-90.

Galion Jr., Louis B. and Peterson, Marshalita S. 2005. *Instructing and Mentoring the African American College Student: Strategies for Success in Higher Education*, Boston, MA: Pearson Education, Inc.

Ginsberg, M. B. and Wlodkowski, R. J. 2009. *Diversity and Motivation Culturally Responsive Teaching in College.* New York, NY: Wiley.

Green, C. E. and King, V. G. 2001. "Sisters Mentoring Sisters:Afrocentric Leadership Development for Black Women in the Academy." *Journal of Negro Education*, 156-165.

Grier-Reed, T. L. 2010. "The African American Student Network: Creating Sanctuaries and Counterspaces for Coping with Racial Microaggressions in Higher Education Settings." *The Journal of Humanistic Counseling, Education and Development*, (49), 181–188.

Groat, L. N. and Ahrentzen, S. 1996. "Reconceptualising Architectural Education for a More Diverse Future: Perceptions and Visions of Architectural Students." *Journal of Architectural Education*, 49(3), 166-183.

Harper, S. R. 2010. "An Anti-Deficit Achievement Framework for Research on Students of Color in STEM." *New Directions for Institutional Research,* Winter(148), 63-74.

Harper, S. R. and Hurtado, S. 2007. "Nine Themes in Campus Racial Climates and Implications for Institutional Transformation." *New Directions for Student Services*, 120, 7-24.

Hayes, M. J. 2008. *Cultural Identity and the Social Adjustment and Academic Adjustment of African American College Students.* (Unpublished Psy.D. Diss.) University of Hartford, CT.

Herzog, S. 2010. "Gauging the Effect of Compositional and Curricular Diversity on Freshman Success." *New Directions for Institutional Research*, 2010(145), 73-97.

Hinton, D. 2009. "Creating Community in the Margins: The Successful Black Female Academician." Springer Science + Business Media, LLC, *Urban Rev.*, 42, 394-402.

House, J. S. 1981. Work Stress and Social Support. Reading, Mass: Addison-Wesley.

House, J. S. 1987. Social Support and Social Structure. *Sociological Forum*, 2(1), 135.

Howard-Hamilton, M. F. 2003. *Theoretical Frameworks for African American Women. New Directions for Student Services*,104, 19-27.

Hughes, R. L. and Howard-Hamilton, M. F. 2003. Insights: Emphasizing Issues that Affect African American Women, New Directions for Student Services, (104), 95-104.

Hutcheson, P., Gasman, M., & Sanders-Mcmurtry, K. 2011. "Race and Equality in the Academy: Rethinking Higher Education Actors and the Struggle for Equality in the Post-World War II Period." *The Journal of Higher Education*, 822, 121-153.

Ivy, R. May 2009. "Reflecting the Facts." *Architectural Record,*25.

Kim, M. M. & Conrad, C. F. 2006. "The Impact of Historically Black Colleges and Universities on the Academic Success of African-American Students." *Research in Higher Education*, 474, 399-427.

Lewis, J. A., Mendenhall, R., Harwood, S. A., & Browne Huntt, M. 2013. "Coping With Gendered Racial Microaggressions among Black Women College Students." *Journal of African American Studies*, 171, 51-73.

Mawhinney, L. 2011. "Othermothering: A Personal Narrative Exploring Relationships Between Black Female Faculty and Students," *Negro Educational Review*, 62/63(1-4), 213-232.

McCabe, J. 2009. "Racial and Gender Microaggressions on a Pre-dominantly-White Campus: Experiences of Black, Latina/O and White Undergraduates." *Race, Gender and Class*, 133-151.

McCann, H. 2007. "First, the Good news: the Number of Black Women Licensed to Practice Architecture in the United States has Quadrupled." *The Journal of the American Institute of Architects*, 2007(2).

McGee, E. 2013. "Young, Black, Mathematically Gifted, and Stereotyped." *High School Journal*, 963, 253-263.

McKnight, J. M. and Zacks, S. (2012). "Why the Lack of Black Students?" *Architectural Record*, 2012(11), 71.

Mikyong M. K. and Conrad, C. F. 2006. "The Impact of Historically Black Colleges and Universities on the Academic Success of African-American Students." *Research in Higher Education*, 47(4), 399-427.

Museus, S. D. and Liverman, D. 2010. High-Performing Institutions and their Implications for Studying Underrepresented Minority Students in STEM. New Directions for Institutional Research, Winter (148), 17-27.

Museus, S. D., Palmer, R., Davis, R. J., & Maramba, D. C. 2011. Racial and Ethnic Minority Students' Success in STEM Education. ASHE-ERIC Monograph Series. San Francisco: Jossey-Bass

National Council of Architecture Registration Boards (NCARB). 2017. NCARB by the Numbers. Retrieved from: www.ncarb. org/.../2017-NCARB-by-the-Numbers.pdf

Nichols, J. and Tanksley, C. B. 2004. Revelations of African-American Women with Terminal Degrees: Overcoming Obstacles to Success, Negro Educational Review, 55(4), 175-185.

Nieves, A. 2005. 'To Erect Above the Ruined Auction-Block Institutions of Learning': Race-Women, Industrial Education, and the Artifacts of Nation-Making in the Jim Crow South. International Journal of Media & Cultural Politics, 13, 277-293.

Pasque P. A., Chesler M. A., Charbeneau J., Carlson C. 2013. Pedagogical Approaches to Student Racial Conflict in the Classroom. Journal of Diversity in Higher Education, 6, 1-16.

Perna, L. W. 2004. Understanding the Decision to Enroll In Graduate School: Sex and Racial/Ethnic Group Differences. Journal of Higher Education, 755, 487-527.

Perna, L., Lundy-Wagner, V., Drezner, N. D., Gasman, M., Yoon, S., Bose, E., and Gary, S. 2009. The Contribution of HBCUs to the Preparation of African American Women for STEM Careers: A

Case Study. Research in Higher Education, 50(1), 1-23.

Perna, L. W., Gasman, M., Gary, S., Lundy-Wagner, V. and Drezner, N.

D. 2010. Identifying Strategies for Increasing Degree Attainment in STEM: Lessons From Minority-Serving Institutions, New Directions for Institutional Research, 2010(148), 41-51.

Pluviose, D. 2007. Laying Out a Blueprint for Diversity, Diverse: Issues in Higher Education, 24(9), 9-11.

Prosper, T. 2004. African American Women and the Pursuit of Higher Education, Encounter, 17(3), 16-18.

Redd, K. 1998. Historically Black Colleges and Universities: Making a Comeback. New Directions for Higher Education, 1998(102), 33.

Sawruk, T. 2013. Pilot Study Final Paper: An Assessment of the Academic Supports Provided to Black Female Students in Undergraduate, Pre-Professional Architecture Programs Unpublished Doctoral Pilot Study. University Of Hartford, West Hartford, CT.

Sawruk, T. 2015. How Can The America COMPETES ACT Better

Support the Academic Success of African American" Women in STEM Degree Programs? Journal of Civil Engineering and Architecture, 3(5), 121-127.

Schoulte, J., Schultz, J., & Altmaier, E. 2011. Forgiveness in Response to Cultural Microaggressions. Counselling Psychology Quarterly, 244, 291-300.

Sealey-Ruiz, Y. 2007. Wrapping the Curriculum Around their Lives: Using a Culturally Relevant Curriculum with African American Adult Women. Adult Education Quarterly, 58(1), 44-60.

Solorzano, D., Ceja, M., & Yosso, T. J. 2000. Critical Race Theory, Racial Microaggressions, And Campus Racial Climate: The Experiences Of African American College Students. The Journal of Negro Education, 691/2. 60-73.

Sue, D. W., Capodilupo, C. M., & Holder, A. 2008. Racial Microaggressions in the Life Experience of Black Americans. Professional Psychology: Research and Practice, 393, 329-336.

Sue, D. W., Capodilupo, C. M., Torino, G. C., Bucceri, J. M., Holder, A.

M. B., Nadal, K. L., & Esquilin, M. 2007. Racial Microaggressions in Everyday Life: Implications for Clinical Practice. The American Psychologist, 624, 271–286.

Sue, D. W., Lin, A. I., Torino, G. C., Capodilupo, C. M., & Rivera, D. P. 2009. Racial Microaggressions And Difficult Dialogues On Race In The Classroom. Cultural Diversity and Ethnic Minority Psychology, 152-183.

Taub, D. J. & McEwen, M. K. 1992. The Relationship of Racial Identity Attitudes to Autonomy and Mature Interpersonal Relationships in Black and White Undergraduate Women. Journal of College Student Development, (33), 439-446.

Wagener, U. and Nettles, M. T. 1998. It Takes a Community to Educate Students. Change, 30, 18-25. Retrieved From Http:// Search.Proquest.Com/Docview/2080545 10?Accountid=11308

Wlodkowski, R. J. and Ginsberg, M. B. 1995. Diversity and Motivation: Culturally Responsive Teaching. Jossey-Bass Higher and Adult Education Series. San Francisco, CA: Jossey-Bass Inc.

Yosso, T. J., Smith, W. A., Ceja, M., & Solorzano, D. G. 2009. Critical Race Theory, Racial Microaggressions, and Campus Racial Climate for Latina/O Undergraduates. Harvard Educational Review, 79(4), 659-691.

Zamani, E. M. 2003. African American Women in Higher Education.

New Directions for Student Services, (104), 5-18.