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Factors Influencing African American/Black Women's Choice in Pediatric Dentistry: Diversity of the Dental Workforce

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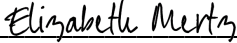
by
Rebecca Renelus

THESIS
Submitted in partial satisfaction of the requirements for degree of
MASTER OF SCIENCE

in

Oral and Craniofacial Sciences

in the

GRADUATE DIVISION
of the
UNIVERSITY OF CALIFORNIA, SAN FRANCISCO

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Factors Influencing African American/Black Women's Choice of Pediatric Dentistry

Rebecca Renelus

Abstract

Introduction

Minoritized providers are more likely to serve low income and underserved communities while individuals from rural or underserved areas are more likely to go back and work in these areas after medical and dental training. Currently African American/Black individuals make up only 3% of the current dental workforce though representing 14% of the nation's population. While the overall dental workforce does not reflect the diversity of the country, pediatric dentistry is on the forefront as the most racially and gender diverse dental specialty. This is in great part due to the increase in African American/Black females pursuing pediatric dentistry. It is important to assess the factors that are leading African American/Black females selecting this career, as an exemplar for other specialties and programs to follow, and as a means to help address the nation's health disparities in healthcare provider diversity.

The purpose of this study was to determine the personal, social, and policy factors influencing African American/Black women's choice to specialize in pediatric dentistry and serve children insured by Medicaid.

Methods

This study is an observational mixed methods study using qualitative and quantitative data. This study consists of two components. The first component is analysis of data collected for a previous research study on minoritized dentists, as well publicly available data sources from the American Dental Association. The second component consisted of interviewing African

American/Black pediatric dentists regarding their lived experiences and their decision to pursue pediatric dentistry and treat children insured by Medicaid, and analyzing the data thematically.

Results

Dentistry is still a male dominated profession overall, but in pediatric dentistry men make up only 48.7% of the specialty. African American/Blacks make up 3.6% of general dentists without postdoctoral training, 5.5% of the pediatric specialist population and only 3.4% of all other dental specialists combined. Among the African American/Black population of dentists enrolled in advanced dental education programs in the 2021-2022 academic year, 58% are female. Of all African American/Black individuals who graduated from an advanced dental education program in 2021, 70% were female.

There are positive factors and negative factors that predict one to pursue pediatric dentistry. Positive predictors include being any race/ethnicity (African American/Black, Asian, Hispanic) besides White and being female. When having white females as the comparison group, African American/Black females are more likely to pursue pediatric dentistry than any other race/gender combination.

In interviews, common themes were mentioned by participants regarding their pursuit of pediatric dentistry. The value of mentorship was a common theme that aided in all steps through one's career. Racial factors and discriminatory events were all common occurrences in dental school and residency, as well as occurring at all stages in one's career. This has led to a constant fear about "being enough" or how one will be perceived in the workforce.

Conclusion

Pediatric dentistry tends to bring in more diversity in regards to both race and gender, with African American/Black females more likely to pursue pediatric dentistry more than any

other specialty. Factors contributing to this positive environment include attending a HRSA

funded program, having a mentor who could aid and support one in the career process, exposure

to underserved communities in childhood and in one's dental education, and being able to relate

to one's patient population and minoritized communities.

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Introduction

In health care underrepresented minorities (URM) are defined as African American/Black, Hispanic/Latinos, and American Indians/Alaskan Natives (Mertz et al., 2016; Sullivan, 2004). These individuals are labeled as such due to their disproportionately low representation within various career fields, such as nursing, health care, and law, compared to their proportion in the nation's population (Mertz et al., 2016; Fitzhugh Mullan Institute for Health Workforce Equity, 2020). The lack of workplace diversity affects quality and access to care on a local and national level (Sullivan, 2004). The number of individuals who identify as a racial or ethnic minority is increasing, to the point that it is projected that non-white populations will soon constitute as the new U.S. majority in this century (Sullivan, 2004). Underrepresented minorities make up over 25% of the nation's population however they constitute for less than 9% of the nation's nurses, 6% of physicians, and 5% of dentists (Sullivan, 2004). The need for the work place in health care to represent the nation's demographics will serve to benefit all individuals and the healthcare system (Sullivan, 2004; Mertz et al., 2017). The provider-patient interaction is a complex dynamic with various factors.

"Patient preferences, cultural beliefs, mistrust of the healthcare system, and past experiences of discrimination" all play a role in the provider-patient interaction and how one receives care and is able to navigate the system (Sullivan, 2004, p.15). Language barriers, access to primary care and specialties, referral systems, also play a role and are factors contributing to the health care disparities seen in the nation. It has been shown that minoritized populations are more likely to suffer from chronic illnesses and diseases and have poorer health outcomes (Sullivan, 2004). Having providers who represent and look like the individuals they are serving or individuals who can provide culturally competent care can help alleviate these factors that

may be weighing down and limiting one's access to care and affecting improvement of overall health (Sullivan, 2004). Many individuals have expressed the desire for their doctors or healthcare workers to be able to either understand and/or speak the language they speak or be able to understand their traditions and cultural values, as it pertains to how one sees health and its value (Sullivan, 2004). It is common for minority patients to feel intimidated by the health care system and not ask questions or even worse, decide not to seek care (Sullivan, 2004; Cooper-Patrick et al., 1999; Doescher et al., 2000). Thirty percent of Americans speaks another language outside of English primarily at home. One in ten households in America are Spanish speaking homes (Sullivan, 2004). At the Sullivan Commission Hearing, Dr. John Nelson, president elect at the time of the American Medical Association stated how he understood why minority providers can be very effective in communities of colors more than a white provider. Dr. Juan Romagoza, Executive Director of La Clinica del Pueblo stated "Latinos are constantly seeking to have access to health care, to be able to go to a place where they can be, where they can feel at home, feel understood, feel unthreatened" (Sullivan, 2004, p.19). For many African Americans/Black patients, there is a historical mistrust of the health care system. Dating back to the infamous Tuskegee experiment or back to the days of slavery where slaves were used for medical experimentation, these all play a role in the cultural beliefs, attitudes, and values of health care and the ability of one to seek care and be able to access it (Sullivan, 2004; Gamble, 1997).

Quality health care is a two-way street. The patient and the provider both play vital roles in responsibilities. The provider has a responsibility to provide information in a way for the patient to understand and be able to learn. The patient has a responsibility to ask further questions in order to aid in their understanding. The ability for both patient and provider to do their roles is dependent on many factors, factors regarding race and culture, as well as obvious

and tangible factors such as time constraints and the physical environment. Multiple studies have found that medical providers provide more information to their white patients in comparison to their African American/Black or Hispanic/Latino patients (Sullivan, 2004; Kaplan et al., 19995). Racial concordance is defined as "the theory that minority patients are more likely to seek care from a provider of similar race or ethnicity and experience improved health outcomes as a result"(Mertz et al., 2017, p.2). It was also found that minoritized patients perceived having more respect and better communication with race-concordant patient-provider care (Sullivan, 2004; Cooper & Roter, 2003). Collins et al. (2002) reported that it is not common for minorities to have a physician who shares their same race. It was found that 23% of African Americans, 26% of Hispanics, and 39% of Asian Americans have a physician of their respective race, meanwhile 82% of white Americans have a white physician (Sullivan, 2004; Collins et al., 2002). Lack of a diverse health care system is a factor contributing to negative health outcomes for minorities patients. All the findings from previous research demonstrate the need for race-concordant care and for underrepresented minorities to be present in health care as it can have significant positive effects on the system and help to improve quality of care.

In dentistry the workforce diversity disparity is evident. The current dental workforce does not reflect the diversity of the nation's population. African Americans currently make up only 3% of the dental workforce (Mertz et al., 2017). When analyzing ADA's dental educational enrollment figures, there has been a slow increase in the number of underrepresented minorities students matriculating in nationally accredited dental programs, however it does not even begin to get to parity . African American/Black students made up 7.3% of the 2021-2022 academic year of first year enrollment in dental school. Hispanic/Latino made up 10.7%. This shows a slight increase when comparing from the 2017-2018 academic year where 5.5% of incoming first

year dental students identified as African American/Black and 9.4% were Hispanic/Latino (American Dental Association Health Policy Institute, 2022). Many of the underrepresented minorities dental students are/were attending a select number of schools such as Meharry, Howard, New York University, University of Texas Health Center-San Antonio, Nova Southeastern, Tufts University, and the University of Florida (Sullivan, 2004). These educational centers educate most of the underrepresented minority dentists, which educates them in only select communities. However, one study found when surveying graduating dental students, 69% of African American/Black students, 45% of Hispanic/Latino students, and 35% of Asian/Pacific Islander students were planning on working in an underserved population or community after graduation (Sullivan, 2004; Weaver et al., 2002). This is in comparison to 20% of the White students stating they were going to work in an underserved area (Sullivan, 2004; Weaver et al., 2002).

When looking specifically at African American/Black dentists, it was reported that 53% of active African American/Black dentists were treating and seeing underserved populations and patients (Mertz et al., 2017). Recent studies have found that African American/Black female dentists are more likely than their male counterparts to work in a community clinic or in a safety net (Mertz et al., 2017). African American/Black dentists are more likely to treat a disproportionate share of minority patients and patients covered by public insurances such as Medicaid (Mertz et al., 2017). For African American/Black dentists, most of them have a large African American/Black patient pool with an average of 49% of their patient pool being of the same race as them (Mertz et al., 2017). "Racially concordant patients from the three underrepresented minority groups accounted for 54.1% of underrepresented minority dentists" patient population on average (Mertz et al., 2016). Underrepresented minority patients are twice

as likely to have unmet dental needs and just like in medicine, face many barriers to access to care. Being able to provide racial concordance care can help to meet and address the dental health disparities present in the nation (Mertz et al., 2016).

Though, the overall dental workforce does not reflect the diversity of the country, pediatric dentistry is one on the forefront as the most diverse in gender and race in comparison to the other dental specialties. Throughout all of dentistry, the largest growth of female dentists has been seen within pediatric dentistry over the decade.[14] In 2016, 6.1% of all female dentists worked in pediatric dentistry compared to only 2.8% of male dentists (Surdu et al., 2021). There is an increase in the number of female dentists, and specifically underrepresented minority female dentists, with many of them seeking specialty education in pediatric dentistry. This leads to implications in not only race concordant care but also when it comes to gender. Within the 2021-2022 academic year, there were 52 enrolled African American/Black female pediatric dental residents out of a total of 971 pediatric dental residents(5.4%). This is in comparison to 9 African American/Black female endodontic residents out of a total of 475(1.9%), 12 African American/Black female oral surgery residents out of a total of 1244(1.0%), and 36 African American/Black female orthodontic residents out of a total of 1111(3.2%). Out of the total 226 African American/Black female dentists enrolled in an advanced post-doctorate education, 52(23.0%) of them are in pediatric dentistry (American Dental Association Health policy Institute, 2022). Thus out of all the African American/Black female dentists in the nation enrolled in advanced dental education programs in the 2021-2022 academic year almost one quarter of them are in pediatric dentistry (American Dental Association Health Policy Institute, 2022). This research study sought to understand the factors behind the numbers in order to

explain and understand the large increase in African American/Black female dentists pursuing pediatric dentistry more than any other dental specialty or advanced education option.

The purpose of the study was to determine the personal, social, and policy factors influencing African American/Black women's choice to specialize in pediatric dentistry and serve children insured by Medicaid. This study has two aims. Aim 1 is to evaluate and describe the current dental workforce trends in pediatric dentistry related to race and gender diversity. Aim 2 is to assess the factors that have led to an increase in African American/black females pursuing pediatric dentistry, more than other dental specialties. This is important as it will help to explain the factors that play a role in the representation and diversity of the dental workforce and will help to shed light on how as a nation we can provide race concordant dental care to help address the disparities.

Materials/Methods

This study is an observational study using qualitative and quantitative mixed methods design. The quantitative component is analysis of secondary data on the dental workforce, using data from the 2017 ADA Dentist Masterfile . The qualitative component consists of interviews of participants regarding their lived experiences and their decision to pursue pediatric dentistry and treat children insured by Medicaid. African American/Black women pediatric dentists and residents were identified by using the databases from three professional organizations, ADA, NDA, and AAPD. The inclusion criteria included African American/Black female pediatric dentists or dental residents, English speaking, and able and willing to consent to the interview. Exclusion criteria include individuals who do not identify as African American/Black female, are not pediatric dentists or residents, non-English speaking, and unable to complete the interview.

This study was approved by University of California, San Francisco's Institutional Review Board as study #21-34016.

Data Sources

Every year the American Dental Association Health Policy Institute (ADA HPI) publishes demographic data on incoming, current, and graduating advanced dental programs by specialty. This provides the most up to date information concerning pediatric dentistry and all other dental specialties, and advanced post-doctorate programs. Information is provided regarding race and gender and allows for an accurate depiction of the current dental educational climate. This data set was used to determine an estimate of the current dental workforce in training. The statistical analysis data was from the 2012 national sample survey of underrepresented minority dentists in the United States and ADA HPI data (Masterfile) on all dentists in the US. From the ADA Masterfile and the sample survey, and after inclusion and exclusion criteria were applied, a total of 12,481 underrepresented minority dentists were identified. From there, individuals who identified as currently practicing or had practiced pediatric dentistry and selected female as the gender were analyzed in the data set in order to present the statistical analysis.

For the qualitative component of the study, by using ADA Masterfile list, the names and emails of listed pediatric dentists who identified as African American/Black female were obtained. All of these individuals were contacted by email to determine interest in participating in the research study interview. Those who replied were contacted for the 20 minute interview. Participants from the 2012 URM dental workforce survey who denoted they would be open to being contacted further for follow up projects were also contacted by email. Similarly by use of snowball sampling a list of other African American/Black female pediatric dentists were

obtained and also interviewed through the process. One interviewer was used to conduct a semi-structured 20 minute interview concerning the individuals experience through education, barriers they faced, and factors influencing their practice decisions. Interviews were recorded by Zoom or if interviewee selected to not have interview recorded then notes were taken by interviewer. Recordings were uploaded to Rev.com for transcriptions. Participants gave verbal consent for interview involvement. All identities of the individual were classified and de-identified. The original interview script consisted of 21 questions. Questions were open-ended and designed to encourage further discussion and depth if interviewee wanted and allowed. The interview script was designed to focus on potential factors that may have influenced one's decisions. These factors were obtained using the sample survey analysis; factors such as dental educational history and experiences, mentorship, and potential barriers faced were elaborated on during the interview. Follow-up questions were also asked in order to engage in further discussion or to obtain more details. Please see Figure 1 for a copy of the interview questions.

Data Collection

Through the ADA Masterfile list a total of 340 individuals were identified as African American/Black female pediatric dentists. This does not include current pediatric dental residents. An additional 8 individuals were contacted from the 2012 URM dental workforce survey to also participate in the research study. All 348 individuals were contacted by email asking if interested in participating in the research interview. Also by use of snowball sampling other African American/Black female pediatric dentists were identified and contacted for participation in the research study. A total of 29 individuals consented to participate in the research study, and a total of 22 African American/Black female pediatric dentists were ultimately interviewed until saturation was obtained.

Data Analysis

For the qualitative analysis, using the 2012 national sample survey and ADA HPI Masterfile, the primary outcome variable was set to pediatric dentists versus all other dentists. All other dentists were divided into different subheadings such as specialists (all ADA approved dental specialties), primary care with a post-graduate certificate, or primary care with no post-graduate certificate. For individuals who are primary care and attended a post-graduate residency (GPR or AEGD) they are labeled as primary care PGD. For those individuals who are general dentists and have no post-graduate training are referred to as primary care UGD. The independent variables were selected from the data due to potential, theoretical factors that could influence specialization and practice decisions. For example academic factors included if the dental school attended was a Historically Black College or University (HBCU) and if the residency program attended were Health Resources and Services Administration (HRSA) funded. A full list of these factors have been listed in Table 1. Descriptive and multivariate statistical analysis were performed to describe the characteristics of the pediatric dentists versus all other dentists and pediatric dentists versus all other graduate dentists. In order to estimate the strengths of the association between variables ordinary logistic regression models were created. The regression models were exponentiated in order to create odds ratios (OR). Odds ratio values greater than one indicate a positive predictor value to one going into pediatric dentistry, and an odds ratio value less than one indicate a negative predictor value to one choosing pediatric dentistry. All analysis was doing using STATA 14^{TM}. The models were tested for goodness of fit and the p value was set for 0.05.

For the quantitative analysis, after the interviews were transcribed by Rev.com, all documents were uploaded into Dedoose. The transcripts were coded based on themes and

various codes such as mentorship, racial experiences, desire to give back, finances, and family relations. Key themes and codes were compiled, analyzed, and summarized.

Results

Quantitative Results

According to recent data, there is an increase in the number of African American/Black females pursuing pediatric dentistry. Analyses of the 2017 Masterfile shows that 51% of active pediatric dentists were female, with African American/Black individuals making up 5.5% of all pediatric dentists. This is shown in Table 1 found in the Appendix.

Regression Model

Among post-graduate trained dentists (PGD) there were many factors that were statistically significant predictors (positive or negative) to being a pediatric dentist.

Individual factors

With female as the reference group, being male was a significant negative predictor factor for one choosing pediatric dentistry (OR = 0.39, SD 0.37-0.42). When interacting both race and gender, being a white male compared to a white female was a negative predictor factor (OR = 0.37, SD 0.34-0.4). Being a racial minority was found to be a significant positive predictor factor for one going into pediatric dentistry across all races (OR = 1.2 African American/Black, 1.3 Hispanic, 1.15 Asian). Being female also revealed to be a strong positive predictor towards pediatric dentistry. Being an African American/Black female was a strong positive predictor factor to one going into pediatric dentistry with white female as the reference group (OR = 1.19, SD 0.98-1.43). This is displayed in Table 3.

Organizational Factors

Attending a private dental school or a HBCU for dental school were negative predictors for going into pediatric dentistry (OR = 0.83, SD 0.78-0.88 and 0.61, SD 0.49-0.75 respectively). Significant positive predictor factors include attending a HRSA funded post-doc program (OR = 2.04, SD 1.92-2.18). Due to the aim and mission of HRSA, further statistical analysis was done to compare individuals who attended HRSA sponsored residencies and those who did not. Findings include that females made up 54% of HRSA sponsored pediatric dentistry programs while only making up 45.6% of non-HRSA sponsored programs. Similarly, of all the African American/Black individuals who attended a pediatric dental residency program, 73.2% attended a HRSA sponsored program compared to 26.8% who attended a non-HRSA sponsored program. When comparing HRSA funded and non-HRSA funded pediatric dentistry programs, HRSA funded programs showed to be more diverse with race and gender. Most of the study population, knowingly or unknowingly, attended HRSA funded programs. This may be due in part to the similarity in values and mission of HRSA and programs that are funded by HRSA, thus attracting and retaining a diverse resident population, specifically African American/Black women. This data is shown in Table 2.

Policy/Environment Factors

Other factors that were tested that were found to be positive predictors included attending dental school in a small metro/non-metro/rural area (OR = 1.2, SD 1.03-1.38). Other factors that were tested that were found to be negative predictor factors included age at graduation (OR = 0.99, SD 0.98-1.00), attending a program being affiliated with an academic medical center (OR = 0.9, SD 0.8-1.01), and living in a state that requires residency for licensure (OR = 0.58, SD 0.52-0.65) .

Qualitative Results

From the interviews, multiple similar themes were noted and analyzed. Key themes and quotations were pulled out and separated to help with analysis.

Childhood

Childhood influences played a large part in how Black female pediatric dentists viewed their own responsibility "to give back" as well as their own successes. Many participants grew up in a lower income community and had a desire to represent in their careers, an aspect they did not have growing up. Many did not have an African American/Black doctor in their childhood memories. For those that did, they report being encouraged by said individuals to pursue medicine or dental and higher education. Many of the participants expressed the desire as a child for belonging and wishing they could relate to their pediatrician or family dentist, thus leading them to pursue pediatric dentistry and place themselves in a community where they can be an role model for kids in ways they either had, or did not have.

"It goes back like personally, me growing up, I was that kid. So I take it a little bit more personally and I don't want any kid to experience what I did or that I had to experience as a kid. I had cavities. I remember having an abscess on a tooth and it's not fun. And although I did have a great dentist, it's like, well, what if a child doesn't? I just want to make sure that there's great oral care that's being provided for every kid. I make it relatable. I've had quite a few parents come in and their child has a lot of decay and they feel embarrassed. They don't understand how it got that far. And so we just talk. We talk about home care and diet and I'm like, "Look, I was the kid and the most important step is today. You're here. That the most important step that you can make and we're going to fix it. We're going to get right back. We're going to get on track and that's going to be that."

Family Influence

Many of the participants were the first-generation to get a college education. Past experiences from family members affected one's perception of dental care and dentistry as a career. The concept of social mobility also played a role and the desire to be an example and achieve for one's family. Participants who did come from educated or middle-class families

reported being encouraged and knew of possibilities for further education. Both family

influences and backgrounds provided the participants with the drive to "become something" not

only for their family but also for their communities.

"I'm the first on my mother's side, I'm the first generation college graduate. So they didn't really know much about what it was. So it was me pretty much doing all of the research. I mean, they helped what they could do, but for the most part, it was all right, I need to figure out what I need. Google was like my best friend."

Dental School Experiences

All participants reported facing hardship in dental school and feelings of isolation and/or

not belonging. For those participants who did not attend HBCUs, the lack of diversity in their

dental class, dental faculty, and administrators was universally noted. This played a role in

individuals having negative feelings and experiences. One interviewee stated that she has now

blocked all negative memories associated with dental school in regards to race due to the many

occurrences. However one aspect that did present itself in this theme was the concept of

mentorship and having an ally. Allies and mentors provided support and a safe zone for

interviewees throughout their dental school matriculation. This helped to encourage individuals

to continue and to finish the process. Allies and mentors encouraged and aided interviewees to

pursue pediatric dentistry though feeling isolated in dental school. Mentors provided constant

encouragement in the application process and even when interviewees wanted to give up along

the way, mentors prevented such from happening, and instead provided a safe environment for

interviewees to vent, express their feelings and frustrations, and uncertainties/insecurities about

being enough. Afterwards many of the participants have stated the desire to do the same for the

younger generation, provide a sense of support and comfort in a hard and isolating environment.

Pediatric Dental Residency

Many participants faced racial harassment and hardship in their pediatric dental residency. The hardships faced within the 2-3 years of residency discouraged and affected the mood of the individuals. One interviewee stated she would go home crying fairly often due to the racial and sexist workplace environment from fellow co-residents and pediatric dental faculty. Another stated she was ready and prepared to drop-out of residency and had her resignation letter drafted. For many however, what was a positive of their residency experience was having a supportive residency class and co-residents. For those who did have faculty support, that was a tremendous aid. For those not attending an HBCU, many were the only African American/Black pediatric dental resident in their program. Though hard, this served as motivation to be an example for fellow African American/Black individuals and to help the community.

"In my class I was the only one. So I'm like, "Wow." There's not many black pediatric dentists. From that moment, then I realized like, I need to do this I need to do this for like even back home where there is barely even a dentist, let alone any black dentists, it's like, I have to do this to help my community to let them see "Hey, you can do this. I did it.""

Barriers Faced

All participants faced barriers throughout their pursuit towards pediatric dentistry. Many were not unique experiences, but all common comments and feelings. Many stated they had negative thoughts and fears such as the feeling of being the "token black student" during interviews and the need to prove oneself, whether in school or out in practice. For those practicing as an associate, many expressed the hardship in finding a job in a non-diverse community.

"So it's a lot of in my head anyway, going back and forth and just trying to be the best that I can be. It's almost like I have to prove myself, which does get tiring. Just prove myself that I am capable just as much as any other pediatric dentist."

One common comment that was noted in the barriers one faced, was the idea and fear of institutions not accepting two or more African American/Black residents, thus the view of seeing other members of the race as competitors.

"So I think when you're applying as a minority the concern is, are they going to accept multiple? So you feel like you're competing against other people that look like you when you're at interviews, especially when you go to predominantly white institutions, you feel like there's going to be one, and I don't think they're going to admit two if there's only four or five people in the program. And so it's like, you're looking to the right and you're looking to left and you care, but you also know this is your competition, and I don't think that they're going to admit more than one of me. So that's how you kind of feel."

Community Engagement

The experiences and being able to relate to African American/Black patients and lower income families gave the interviewees a sense of purpose and drive. Many interviewees stated a significant positive experience was when a African American/Black pediatric patient was happy and proud to have a provider who looked like them and could relate to them. All participants had an experience where an African American/Black family expressed gratitude in having representation in the health care. For many of the participants this served as motivation to mentor and be an example to the younger African American/Black generation and wanting to serve underserved groups.

"But what really warms my heart is when little kids come in and their parents are like, she looks like you."

"I love the fact that the office that I'm at has a predominantly black population. And it's also very rewarding whenever I hear parents say, "Oh, we're so happy to see you. It's been a while since we've seen a black dentist." And it makes you feel good, and I feel like there's a lot of studies that show that people do appreciate having healthcare workers who look like them, because that's just instill a trust when you have someone who you can relate to, that is giving you advice. So, it's really nice and rewarding to have that and also to hear it from patients and parents."

Mentorship

The value of mentorship was very significant for all interview participants. Mentorship was a common theme throughout all aspects and seasons of one's career. Mentors aided individuals in dealing with racial hardships and barriers, the pediatric dental residency application, and in helping one find a job and network. At the very core, mentors provided the interviewees a sense of support in a career or institution where they felt isolated and as if they did not belong. For those who did not have a mentor, the idea was still present and served as motivation to be a mentor for individuals, in a way they did not have or experience. Many stated they have a desire to be a mentor in the African American/Black community and aid the younger generation in their educational pursuits.

"You don't have to be my patient. But if you need anything, if you want to come and shadow me. If you're interested in dentistry, hygiene, assisting, anything, I'm here, I can be your mentor. I can do whatever you need like that. Just know that I'm here. You don't have to come and see me. And like you said earlier, or you asked me earlier about the mentor, I want to be for someone that I didn't have. although I made it, thank God. But I just feel like I would want to be a mentor to someone if needed."

"I did have a lady that reached out to me. She works at the dental school, that reached out to me and she was pretty much all four years of dental school, whatever I needed. Her door was always open. We always confided in her. And I say we because it was just a few minorities in my class. So all of us pretty much confided in her with whatever the situation may have been. Her and then there was an actual, another doctor that was in the actual pediatric department. Both of them. They were reading our personal statements. Making sure we submitted our applications on time. So really on top of it, even giving recommendations where needed."

Negative Race Factors

All participants faced discrimination and racism throughout their career. These events occurred at all stages, from dental school to residency, and even in their practicing fields and networking circles. From underlying bias to unfair treatment and blatant racism from patients, faculty, or fellow students, the research participants all faced barriers and hardships that their

white counterparts did not have to face and endure. Many stated occurrences where they were

questioned and not believed whether by patient families or by faculty and employees.

"I remember in residency, walking in, we had an OR case, we were in the OR every week, and walking in, going through my spiel and the mom's like, okay, okay, yep, I get it, I get it, yep, I understand, tentative treatment plan, and I go back, it's like you start in the OR so early, so I go back, I'm getting my stuff together, and the nurse comes up to me and she's like, so the mom's saying that she wants to talk to the doctor. She said that no one came to talk to her. The doctor didn't come to talk to her. I was like, I definitely talked to her and she's like, I know I saw you in there. I don't think it clicked for her. And so I went back in and every time, I know I look really young, especially when my face is covered, and I was like, I know I look really young, so I was like, okay, maybe it's just, it didn't compute for her. So I was like, hi, Dr. X again, they were telling me that you wanted to talk to the doctor. She's like, yeah, yeah, I mean like the real doctor. I was like, I'm the dentist that's doing the treatment. I am a real doctor, it's not like a fake thing. She's like, yeah, I mean the one that's the real one. And my faculty had been called by the nurse and was like a white male, Dr. Y, and I wanted to just hug him after this. And he goes, Dr. X is the best doctor you could have treating your child. She is a real doctor. And I am so honored to be able to be the attending while she is doing the work. And the mom was like, oh, oh, I'm so sorry, I mean I understand you're a real doctor" but it was clearly a racial thing. The nurse was white, my faculty was white, the child was white, the mom was white, and this is also Oregon, a formally white's only state, and my faculty was kind enough to not just step in, but also affirm me in stepping in and to also call the mom out in a way that didn't prevent her from trusting me but actually he told her this is someone both trustworthy and competent and you're wrong in using this language of a real doctor."

"When I was talking to a faculty about a cement used for anterior crowns and the faculty comes up and says "I don't know what they teach you in the Bahamas but here we don't use this cement" and so I said "all my training is in the U.S. so I don't know what they do in the Bahamas"

"Some attendings definitely had preferences and you're always wondering if there is possibly some underlying racial bias or if it's people gravitating toward those with whom they're more comfortable culturally, racially. So, I definitely always thought about that."

"We would definitely get some looks. You could tell when white people came in office, if they were looking around like, oh my God, where am I? But then that was my challenge to turn them around and I would say that I think most of them we turned around. So, yeah. So even when you finish school, there's still that subtle racism going on. Although it's a whole lot better now."

Medicaid

All of the interview participants either are accepting or had accepted Medicaid in their

career. Many expressed the desire and commitment to their own cultural community as a factor

in accepting Medicaid and having it be a large portion of their patient pool. Many noticed that families on Medicaid tended to be more underrepresented minorities. Thus they saw it as an opportunity to serve and be a mentor to the patients they were treating. For others, they had a desire to correct the misperception regarding patients enrolled in Medicaid and the quality of care one can expect to receive when on Medicaid. A common comment that was mentioned in several interviews was the low reimbursement rates of Medicaid and how that hindered their practice abilities and decisions. Also noted was the disparities seen and faced when working in an office that accepts Medicaid when no one else in the area does. For those practicing pediatric dentists who are no longer accepting Medicaid in the office, they continue to have a presence in the Medicaid population by continually doing pro bono work or having designated days where they can serve low income and underserved individuals in their communities.

"It's probably one of the reasons that I wanted to become a pediatric dentist, is to help those that ... access to care is so horrible, especially if you have Medicaid, so I just want to alleviate any of that."

"I know that everything we're doing is within guidelines and I just do my best for the patient with the materials that we're provided. But I would say that is one thing that is hard because I know, with patients that are on Medicaid and underserved populations, that it's frequency and we're trying to see as many patients as we can and that is a general practice. Philosophy, but you still want to do your best for the patients. So, that is what I do, given what I have available to me."

Personal Factors

It was commonly expressed that pediatric dentistry offered interviewees a comfortable lifestyle and a good work life balance along with the ability to serve and help underserved and low income populations and be able to be an active member of one's community. This was something that they found to be unique to the dental specialty that other specialties could not provide.

"I have always wanted to make sure that I have at least some part of my career dedicated to serving underserved population. So yes, those from a low socioeconomic status or

underprivileged in general. I've always thought about that as, not necessarily a focal point, but it needed to be some part of my career. I needed to serve that population in some way."

"When I was in high school I used to work as a lifeguard in, what do you want to call it? In "the projects" or section 8 housing neighborhoods, and so I was already used to working with that population and everything, and knowing how to communicate with them, and learning some of the barriers that they might encounter. And so I felt like I would be able to connect more with my patients because I already had that knowledge."

Discussion

Previous studies have documented the increase in diversity of the dental workforce in general, but none have explained why the increase is happening, specifically for African American/Black females pursuing pediatric dentistry. This study highlighted some of the common factors that are influencing African American/Black females to pursue pediatric dentistry as well as some of the barriers and obstacles they faced.

Many of the common individual factors that influenced this population to see pediatric dentistry as a viable career path was childhood exposure to lack of diversity. Many of the participants saw pediatric dentistry, compared to other specialties, as an opportunity to do what they love within dentistry while also being able to connect to one's community and give back in a significant way. Many also expressed their interest in the pediatric procedures rather than those of the other dental specialties. For the interviewees, pediatric dentistry offered them the perfect balance and flexibility to give back and serve communities they may have grown up in, in a significant and impactful way, more than what orthodontics or general dentistry for example could offer. Many of the study's population set identified as first generation or having grown up in a lower income area. Though this brought many challenges, a positive factor that is apparent throughout the stories of all the participants was the desire to give back to one's own cultural community and to be a mentor to the younger generation of underrepresented minorities. All individuals wanted to be a positive influence and for the community they identify with. Studies

have shown that individuals who come from underserved or lower income areas are more likely to go back and work in those types of communities (Sullivan, 2004; Mertz et al., 2016). This has shown itself to be true in this study as many of the participants identified with lower income populations and families and when deciding where to work in the beginning, all made serving underserved areas a priority. This intrinsic motivation was the main factor in why AA/B women dentists chose to pursue pediatric dentistry.

An organizational factor that we found to be significant was the impact of one attending a HRSA funded program. HRSA is an agency within the US Department of Health and Human Services. Its mission is to improve health outcomes and address health disparities through access to quality services, a skilled health workforce, and innovative high value programs (Oral Health Workforce Projections, 2022). One of the ways it carries out its aim and mission is by funding many post-graduate dental programs, specifically those in primary care which includes general practice residency, advanced education in general dentistry, pediatric dentistry, and dental public health (Oral Health Workforce Projections, 2022).

Regardless of the internal motivation and policy structures that were positive factors, all of the participants faced challenges in their academic matriculation towards pediatric dentistry. Many of these factors and themes noted are negative such as racial factors or negative thoughts and fears. However one positive factor that has shown itself to be common throughout all of the participants' stories is the influence and value of mentorship. Not every participant had a minority mentor or any mentor whatsoever to help them in the process, however all acknowledged the influence and power mentorship can be when navigating through as a minority. For those who received mentorship in dental school or in their pediatric dental residency training, all expressed how invaluable the support and guidance was, especially in

times of hardship and doubt of own's abilities. Many attest that they would not be where they are now or would have been able to finish dental school or residency if it were not for their mentor. The power of such support and safety has led all of the research participants to express their own desires to be a mentor for those younger than them, attempting to navigate through higher education.

Multiple studies have shown the influence and impact of having a diverse medical or dental workforce can be in addressing access to care. However diversity of the workforce continues to be a non-priority for many dental institutions (Weaver et al., 2002). Though pediatric dentistry is the most diverse with race and gender there are still significant barriers and prejudices that make it harder for African American/Black individuals to succeed in the career path. There are significant positives to having a diverse dental workforce especially for the lower income and Medicaid populations, as race concordant care has shown to help in patient satisfaction as well as improving communication between provider and patient. By having a diverse dental workforce, improvements can be done in public health sectors in improving care for underserved populations and communities.

Conclusion

This study aimed to assess the personal, social, and policy factors influencing African American/Black females to pursue pediatric dentistry. The quantitative analysis e identified both positive and negative predictors of dentists going into pediatric dentistry. The qualitative component helped to address and understand how these factors came into the population's decision process and what influence it had. Overall mentorship revealed to be a significant factor for African American/Black females pursuing pediatric dentistry as well as the desire to give back to one's community. Pediatric dentistry allowed them the flexibility to be able to live a

comfortable lifestyle while also being able to give back and be impactful in one's community and with underrepresented minorities. There is a need for practitioners to see children insured by Medicaid and to work and treat children in underserved areas. These communities are often significantly affected more by dental caries than others. In order to address this health care disparities, there is a need to assess what kind and type of providers are more likely to go in underserved areas and treat children insured by Medicaid. Accepting dental students from lower income and disadvantaged areas can serve as a way to close the gap on oral health care disparities and can also help to diversify the dental workforce. The results of this study reveal and show the great impact and role African American/Black female pediatric dentists have in addressing the nation's health disparity and seeing underserved populations and low income children. Therefore, dental institutions should do more to make the experience satisfying and supportive for African American/Black females rather than providing additional barriers for which they need to overcome.

Appendix

Figure 1: interview questions

1. Tell me about yourself?

2. Can you tell me where you went to dental school and where you did your pediatric dental training and the years of graduation?

3. As an African American/Black female, what influenced you to pursue pediatric dentistry as a career more than other specialties?

4. Did you have a mentor, an underrepresented minority (URM) or not, who encouraged to pursue pediatric dentistry as a career option?

5. If so, what impact did they have for you throughout the application process, residency, and in your career as a pediatric dentist?

6. What specific barriers have you faced as an African American/Black female in your pursuit towards pediatric dentistry as a career?

7. How did you deal with and overcome the barriers you faced?

8. How was your pediatric dental residency environment, what was your experience of your training and overall culture?

9. What contributed to the positive and negative factors in your residency training experience?

10. What are ways to improve the environment throughout the training process (dental school or in residency)?

11. Do you serve/treat underserved populations and/or children insured by Medicaid?

12. If yes, what led you to choose to serve underserved populations and/or children insured by Medicaid?

13. If no, what discouraged or hindered you from choosing to serve underserved populations and/or children insured by Medicaid?

14. How do you manage your practice in order to make it viable to see children insured by Medicaid?

15. For you, what is the personal cost for seeing underserved populations and children insured by Medicaid?

16. How have finances and educational debt influenced your practice decisions and the populations you serve and treat?

17. Did you have to take out loans in order to finances your education? If so, how much?

18. Did you have other contributions (family, spouse, scholarships) to help finance your education?

19. How did the desire to serve your own cultural community play a role in your decision of where to practice and what populations to serve?

20. How do you think you are perceived in the community? How do other black women navigate through that?

21. Is there anything about this topic that you think I should have asked or did not ask about? Is there something you want answered?

Table 1: Descriptive Statistics

Foreign trained providers excluded.		Primary Care (UGD)			Pediatric (PGD)			Primary Care (PGD) and Specialist (PGD)		
		row %	col %	N	row %	col %	N	row %	col %	N
Gender	F	59.3	23.8	23691.0	6.6	51.3	2644.0	34.0	28.8	13594.0
	M	67.7	76.2	75897.0	2.2	48.7	2512.0	30.0	71.2	33637.0
	#Totals			99588			5156			47231
Race	White	66.8	65.9	65635.0	2.9	55.9	2880.0	30.3	63.0	29760.0
	African American/Black	59.2	3.6	3608.0	4.7	5.5	284.0	36.1	4.7	2201.0
	Hispanic	64.5	2.9	2906.0	4.7	4.1	211.0	30.8	2.9	1386.0
	Asian	64.1	9.9	9830.0	4.1	12.2	628.0	31.8	10.3	4879.0
	Other	62.4	1.0	1031.0	5.0	1.6	82.0	32.6	1.1	538.0
	Not Reported	63.5	16.6	16578.0	4.1	20.8	1071.0	32.4	17.9	8467.0
	#Totals			99588			5156			47231
Institutional Type	Public	65.3	53.8	53621.0	3.7	58.9	3037.0	31.0	53.9	25437.0
	Private School	66.3	44.1	43963.0	3.0	38.4	1980.0	30.8	43.2	20414.0
	HBCU	56.9	2.0	2004.0	3.9	2.7	139.0	39.2	2.9	1380.0
	Foreign									
	#Totals			99588			5156			47231
Undegrad HRSA program (binary / No includes unknown status)	No	68.0	51.9	51641.0	3.3	47.9	2471.0	28.8	46.3	21846.0
	Yes	63.1	48.1	47947.0	3.5	52.1	2685.0	33.4	53.7	25385.0
	#Totals			99588			5156			47231
Undegrad HRSA program (unknown status separated)	No	67.2	45.7	45495.0	3.4	45.1	2326.0	29.3	42.0	19841.0
	HRSA Sponsored	63.1	48.1	47947.0	3.5	52.1	2685.0	33.4	53.7	25385.0
	Unknown HRSA Status	74.1	6.2	6146.0	1.7	2.8	145.0	24.2	4.2	2005.0
	#Totals			99588			5156			47231
HRSA Post-doc program	No	79.8	100.0	99588.0	1.3	32.1	1655.0	18.9	50.0	23620.0
	HRSA Sponsored				12.9	67.9	3501.0	87.1	50.0	23611.0
	#Totals			99588			5156			47231
Rurality	Large Metro	65.5	96.2	95835.0	3.4	95.5	4922.0	31.2	96.6	45644.0
	Small Metro/Non-metro	67.3	3.8	3753.0	4.2	4.5	234.0	28.5	3.4	1587.0
	#Totals			99588			5156			47231
AFFILIATED WITH ACADEMIC MEDICAL CENTER	NO	72.6	10.4	10388.0	2.8	7.7	395.0	24.6	7.5	3524.0
	YES	64.8	89.6	89200.0	3.5	92.3	4761.0	31.7	92.5	43707.0
	#Totals			99588			5156			47231
Residency to gain licensure *in states that require residency?*	Not Required	66.6	70.6	70283.0	3.4	70.1	3613.0	30.0	67.0	31646.0
	Optional	70.1	22.5	22436.0	3.2	19.7	1016.0	26.7	18.1	8545.0
	Required	47.6	6.9	6869.0	3.7	10.2	527.0	48.8	14.9	7040.0
	#Totals			99588			5156			47231
Rural (RUCA/ZIP) *From rural areas or attended schools in urban areas?*	Urban	64.6	91.0	90015.0	3.5	95.8	4874.0	32.0	95.3	44553.0
	Rural	78.6	9.0	8904.0	1.9	4.2	214.0	19.5	4.7	2215.0
	#Totals			98919			5088			46768
Medicaid Dental Benefits	No Benefits/Emergency o	66.1	28.3	28201.0	4.1	33.7	1739.0	29.8	26.9	12698.0
	Limited	69.5	29.6	29520.0	2.8	23.1	1189.0	27.7	24.9	11763.0
	Extensive	62.6	42.0	41867.0	3.3	43.2	2228.0	34.1	48.2	22770.0
	#Totals			99588			5156			47231
Expanded Medicaid by September 30, 2017	No	67.0	33.8	33648.0	3.8	36.8	1896.0	29.2	31.1	14681.0
	Yes	64.8	66.2	65940.0	3.2	63.2	3260.0	32.0	68.9	32550.0
	#Totals			99588			5156			47231
Practice Type	OWNER	70.3	74.6	74297.0	2.6	53.5	2758.0	27.1	60.6	28604.0
	EMPLOYEE/ASSOCIATE	59.8	12.5	12433.0	5.3	21.4	1101.0	34.9	15.3	7247.0
	IND. CONTRACTOR	62.2	2.2	2188.0	3.9	2.7	138.0	33.8	2.5	1190.0
	UNKNOWN	48.5	10.7	10670.0	5.3	22.5	1159.0	46.3	21.6	10190.0
	#Totals			99588			5156			47231

Table 2: HRSA Funded Post-Doc Program

		HRSA Post-doc program					
		No			HRSA Funded		
		row %	col %	N	row %	col %	N
Gender	F	28.6	45.6	755.0	71.4	54.0	1889.0
	M	35.8	54.4	900.0	64.2	46.0	1612.0
	#Totals			1655			3501
Race	White	36.1	62.8	1040.0	63.9	52.6	1840.0
	African Ameri	26.8	4.6	76.0	73.2	5.9	208.0
	Hispanic	28.9	3.7	61.0	71.1	4.3	150.0
	Asian	24.0	9.1	151.0	76.0	13.6	477.0
	Other	37.8	1.9	31.0	62.2	1.5	51.0
	Not Reported	27.6	17.9	296.0	72.4	22.1	775.0
	#Totals			1655			3501

Table 3: Predictors of Pediatric Specialty among Post-Graduate Trained Dentists in the US (2017)

	Model group 1: Pediatric Specialty vs. all other grad dentists | PGD with GPR	
	Model with Race and Gender Separate	**Model with Race and Gender Interacted**
Constant	0.24*** [0.18, 0.33]	0.25*** [0.18, 0.35]
Age at graduation	1.00 [0.99, 1.00]	0.99 [0.98, 1.00]
Gender - Male (ref. Female)	0.39*** [0.37, 0.42]	
Race:African American/Black (Ref. White)	1.20* [1.02, 1.41]	
Hispanic	1.30*** [1.12, 1.52]	
Asian	1.15** [1.04, 1.26]	
Other	1.34* [1.05, 1.70]	
Race Not Reported	1.21*** [1.12, 1.31]	
White Male (Ref. White Female)		0.37*** [0.34, 0.40]
AA Female		1.19+ [0.98, 1.43]
AA Male		0.44*** [0.34, 0.56]
Hispanic Female		1.25* [1.02, 1.53]
Hispanic Male		0.50*** [0.39, 0.63]
Asian Female		1.08 [0.95, 1.22]
Asian Male		0.46*** [0.39, 0.53]
Other Female		1.44* [1.04, 1.94]
Other Male		0.44*** [0.29, 0.64]
Female - no r/e reported		1.10+ [0.98, 1.23]
Male - no r/e reported		0.49*** [0.44, 0.55]
Affiliated with Academic Medical Center	0.90+ [0.80, 1.01]	0.90+ [0.80, 1.01]
Private School (ref. Public)	0.83*** [0.78, 0.88]	0.83*** [0.78, 0.88]
HBCU	0.60*** [0.48, 0.75]	0.61*** [0.49, 0.75]
Small Metro/Non-metro/Rural (ref. Large or Medium)	1.20* [1.04, 1.39]	1.20* [1.03, 1.38]
GME $100k per slot	0.79*** [0.73, 0.86]	0.79*** [0.73, 0.86]
Optional Residency Requirement for Licensure (ref. No Req.)	0.89** [0.83, 0.96]	0.89** [0.83, 0.96]
Required Residency for Licensure	0.58*** [0.52, 0.65]	0.58*** [0.52, 0.65]
HRSA Beneficiary (post-doc)	2.05*** [1.92, 2.18]	2.04*** [1.92, 2.18]

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