

## ABSTRACT

**Purpose of study:** The purpose of this study was to evaluate national and regional trends in age, gender, and race/ethnicity of dental school faculty and provide scientific evidence to inform dental loan repayment programs to aid dental schools with recruiting newly-graduated dental residents, fellows, or students to faculty positions.

**Methods:** This study analyzed data describing US dental school faculty for 10 academic years (2005-2015). The faculty data included demographic characteristics (age, gender, race/ethnicity) and was obtained from the national survey of dental schools conducted annually by the American Dental Education Association. The temporal distribution of dental faculty was analyzed using descriptive statistics and linear regression to estimate the annual change nationally and regionally. Statistical significance was defined as  $P < 0.05$  using 2-tailed tests. Analyses were conducted using SAS v9.4.

**Key Findings:** Nationwide, over the 10-year period, there was a significant ( $P < 0.001$ ) increase in median age (0.4 years of age each year) and the proportion of women (0.6% each year) on faculties. Over the period, the median age of dental faculty progressed from 53 to 56 and at the 75<sup>th</sup> percentile moved from 61 to 65 years. The mean and median age of faculty in dental schools in the South (56 and 58 years) were higher than in all other regions and nationwide. Dental school faculty in the West were younger on average and at median (53 and 54 years) than in other regions or in the US.

Between academic years 2005-2006 and 2014-2015, the percentage of female faculty members increased nationally, on average by 0.6% each year ( $P < 0.001$ ). Nationwide, in the academic year 2005-2006, 26.9% of faculty was female; in 2014-2015, 32.3% of US dental school faculty was female. Regional variation in gender was small with proportionally more women in the Midwest.

Trend data over the most recent 6-year period showed a decrease of White faculty (1.2% each year,  $P < 0.05$ ) and an increase of Asian faculty (1.0% each year,  $P < 0.01$ ) with variation by region. Between academic years 2009-2010 and 2014-2015, the percentage of Hispanic or Latino faculty increased from 5.3% to 8.1%, while the percentage of faculty who were Black or African American decreased slightly from 4.3% to 4.1%; however, the findings were not statistically significant. The percentage of dental school faculty who were Asian was higher in the West region (17.6%) than in other regions or nationally. Dental school faculty in the South were more frequently Hispanic or Latino (12.8%) and Black or African American (7.2%) than faculty in other regions or nationally. Dental school faculty were more frequently White in the Midwest (83.0%) than in other regions or nationally (75.0%).

**Implications:** The dental school faculty workforce is aging and is more gender and racially/ethnically diverse due to an increase in women and Asians on faculties. However, racial minorities remain underrepresented. Implementation of regional strategies to recruit younger, more diverse faculty would benefit dental schools, ensure sustainability of programs, and improve the cultural competence of the workforce to meet the oral health care needs of a diversifying US population.

## CONTACT

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## OBJECTIVE

- The Oral Health Workforce Research Center at the Center for Health Workforce Studies in Albany, NY was asked by the US Health Resources and Services Administration to evaluate the dental school faculty workforce.<sup>1</sup>
- The objective of this study was to evaluate national and regional trends in age, gender, and race/ethnicity of dental school faculty.

## METHODS

- This study analyzed data on the US dental school faculty for 10 academic years, from 2005-06 to 2014-15.
- Data was obtained from the national survey of dental schools conducted annually by the American Dental Education Association.<sup>2</sup>
- The temporal distribution of dental faculty was analyzed using descriptive statistics and linear regression to estimate the annual change nationally and regionally.

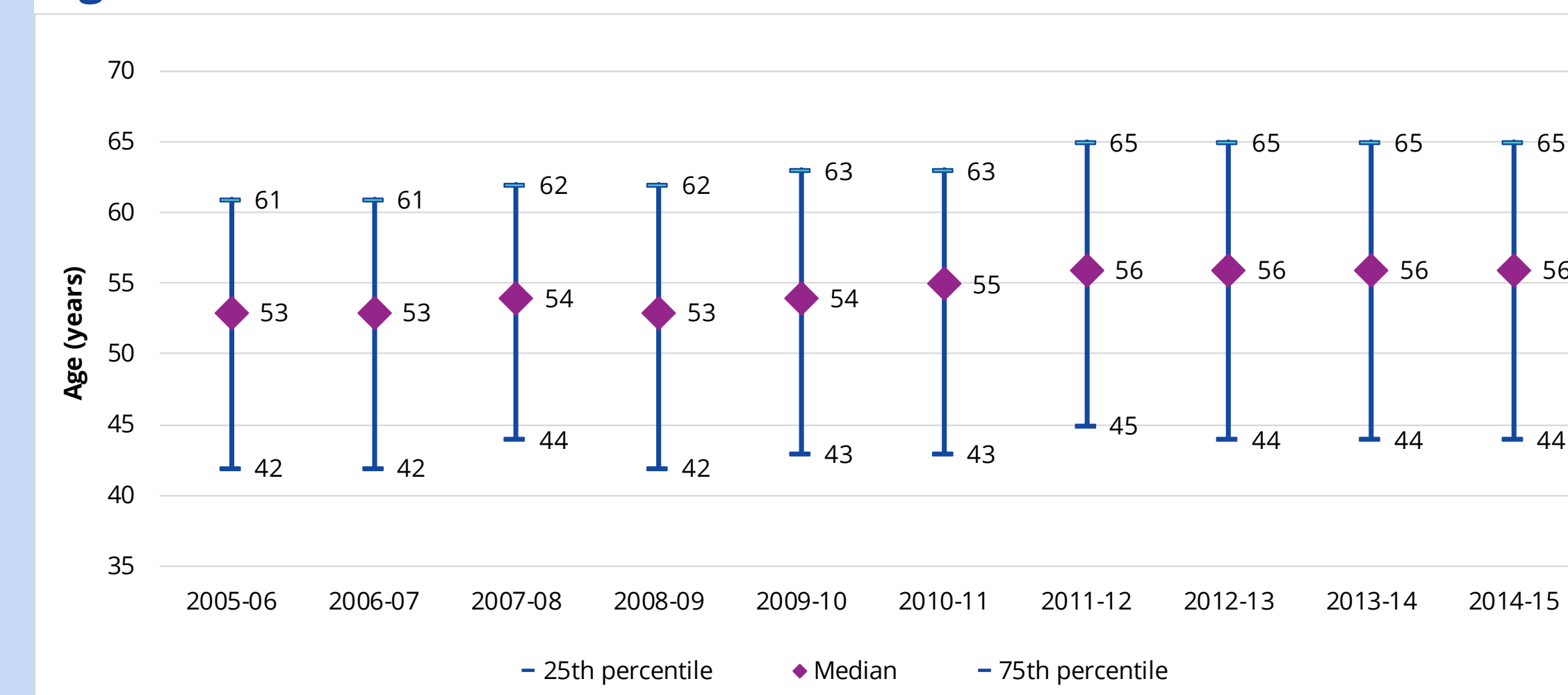
## RESULTS

In the academic year 2014-15, the national average age of dental faculty was 55 years. Half of all faculty members were 56 years or older, while 25% were more than 65 years old.

The 10-year trend analysis indicated a significant increase ( $P < .001$ ) in dental faculty age nationally. Median age increased on average by 0.4 and the 75<sup>th</sup> percentile increased by 0.5 years each year.

There was only slight variation in faculty age by region. Faculty in dental schools in the West were somewhat younger (median age=54) while faculty in the South were slightly older (median age=58).

**Figure 1. Ten-year Trend of Dental Faculty in US Dental Schools by Age Nationwide, Academic Years 2005-06 to 2014-15**



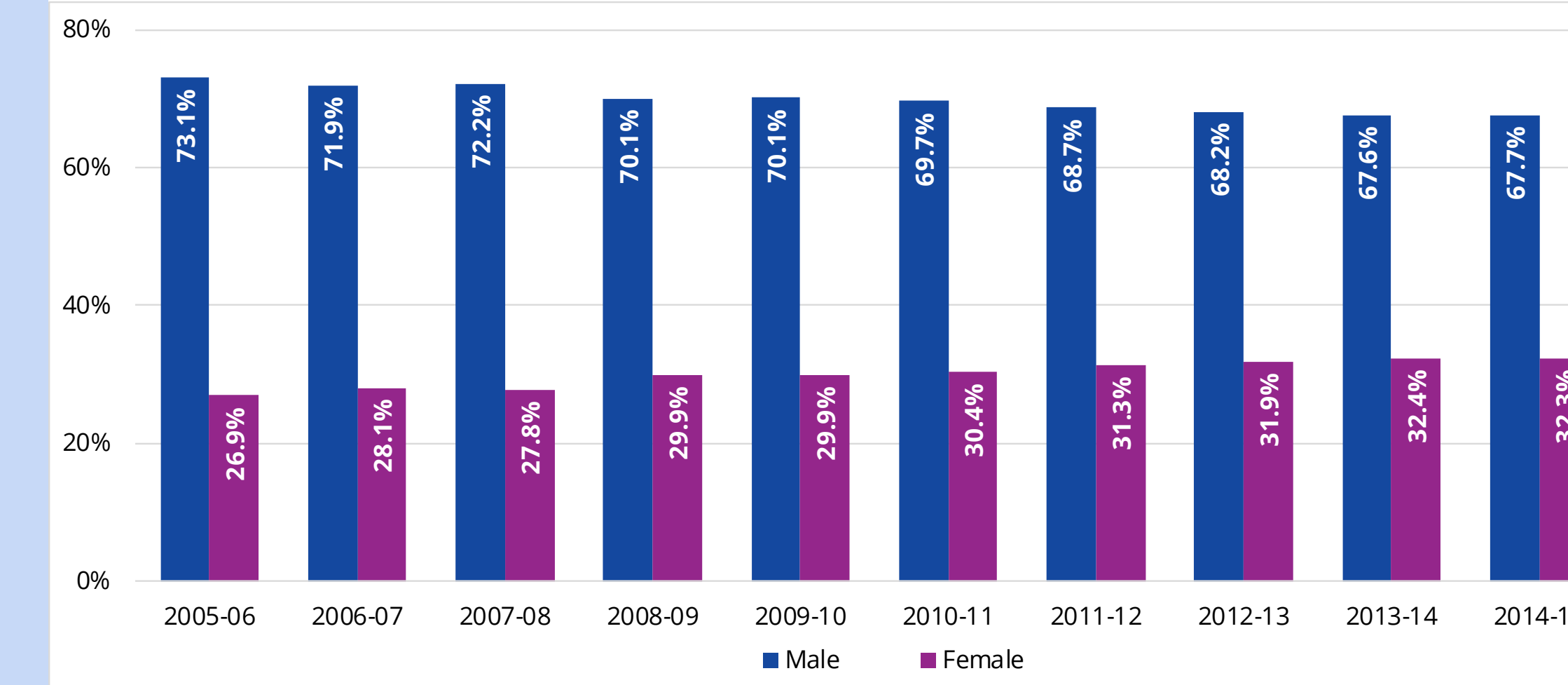
Nearly one-third (32.3%) of faculty in US dental schools in the academic year 2014-15 were women.

Over the decade, there was a significant increase in the proportion of female dental faculty from 26.9% in 2005-06 to 32.3% in 2014-15 nationwide (increasing on average by 0.6% each year,  $P < .001$ ).

## RESULTS (cont.)

In 2014-15, the gender mix among dental faculty was similar across regions. Dental schools in the Midwest reported slightly more faculty women (33.7%) than nationally.

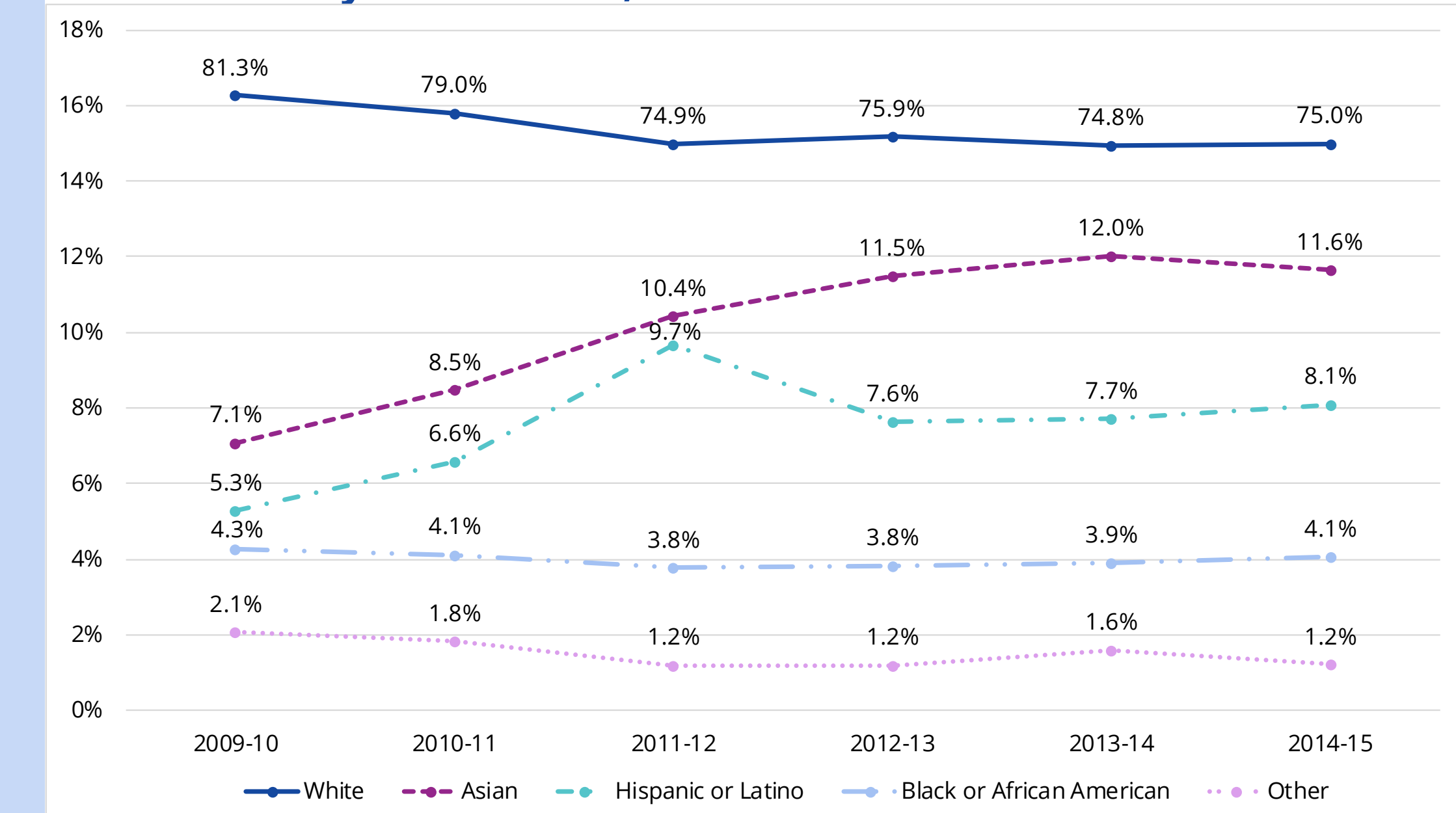
**Figure 2. Ten-Year Trend of Dental Faculty in US Dental Schools by Gender Nationwide, Academic Years 2005-06 to 2014-15**



In the academic year 2014-15, the race/ethnicity distribution of dental faculty was mainly Non-Hispanic White, followed by Non-Hispanic Asian.

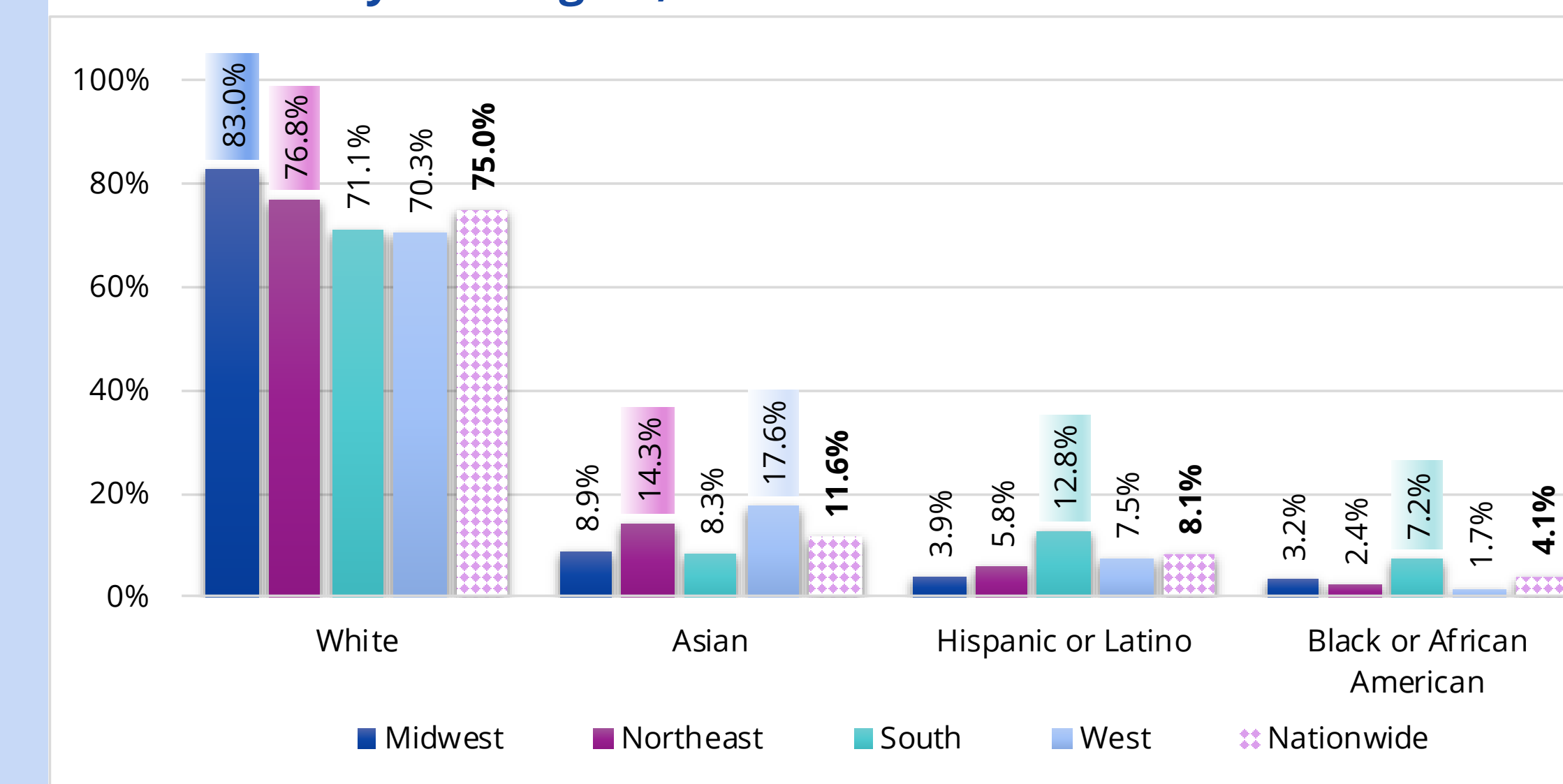
Over the past 6 academic years, the proportion of Asian dental faculty increased on average by 1.0% each year ( $P < .01$ ), while the proportion of White dental faculty decreased on average by 1.2% each year ( $P < .05$ ).

**Figure 3. Six-Year Trend of Dental Faculty in US Dental Schools by Race/Ethnicity Nationwide, Academic Years 2005-06 to 2014-15**



In 2014-15, dental schools in the Midwest reported proportionally more White faculty, the Northeast more White and Asian faculty, the South more Hispanic/Latino and Black/African American faculty, and the West more Asian faculty than nationally.

**Figure 4. Distribution of Dental Faculty in US Dental Schools by Race/Ethnicity and Region, Academic Year 2014-15**



## DISCUSSION

- As with much of the health workforce, dental school faculty are aging. Over the 10-year period examined for this study, the median age of dental faculty progressed from 53 to 56 and the age at the 75<sup>th</sup> percentile moved from 61 to 65 years over the decade.
- Gender diversity among dental school faculty is increasing. Nationally, the proportion of women on dental faculty increased from 26.9% in 2005-06 to 32.3% in 2014-15. Over the decade, more females were accepted to and entered dental education programs than in the past.
- National trend data on race/ethnicity suggest that dental school faculty is now more diverse than in the past. However, diversification has mainly resulted from an increase in the percentage of dental faculty who are Asian and a decrease in those who are White.
- The regional differences in the race/ethnicity of dental faculty might reflect the distribution of the larger population in each region. For instance, 2 historically black colleges and universities are located in the South which would likely affect the proportion of Black/African American faculty in that region.

## CONCLUSIONS

- An emphasis on recruiting younger faculty would benefit dental schools to ensure continuity and sustainability of education programs.
- The increasing trend of women on dental school faculty is consistent with the feminization of dentistry that is occurring currently.
- The proportion of underrepresented racial minorities on dental faculties remains low.
- The study findings suggest a regional rather than national employment market for dental school faculty.

## REFERENCES

- Oral Health Workforce Research Center (OHWRC). Dental School Faculty in the US, Academic Years 2005-2006 to 2014-2015. [Unpublished]
- American Dental Education Association (ADEA). The ADEA Survey of Dental School Faculty. Available at: <http://www.adea.org/publications-and-data/data-analysis-and-research/faculty.aspx>.