

Orthodontics has been at a crossroad since the 1990's

Opinion

Proffit et al.¹ found that the specialty of orthodontics dates back 1,000 BC; they stated, "Crowded, irregular and protruding teeth have been a problem for some individuals since antiquity, and attempts to correct this disorder go back at least to 1000 BC." According to Wahl,² both Hippocrates and Aristotle (500-400 BC) considered ways to straighten teeth, and in the Golden Age of Greek history (500-300 BC), the Etruscans (Roman precursors) buried their dead with dental devices that prevented collapse of teeth and maintained space for the dentition. Orthodontics is the oldest specialty in dentistry, the third oldest specialty of medicine, and has had an outstanding history of innovative techniques and progressive thinking.^{4,17} Since the 1960s, several hundred graduate dentists and senior dental students submit applications for postgraduate orthodontic residency programs in the United States and Canada each year.³ However, since the 1990's, *alea iacta est*, a die has been cast: Issues of reduced faculty recruitment, retention and increased faculty vacancies have emerged in dental education, impacting people, communities and society.⁵ Because this situation has been an ongoing problem for two plus decades,⁵ it has progressed into critical importance when viewed through the eyes of educational leadership and from a social justice stand point; it has also led to a daunting outlook for the future of orthodontic education.⁷ Over the past three decades, full-time faculty attrition has progressively gone from bad to worse. Valachovic, Weaver, Sinkford, and Haden et al.⁶ noted that since 1990, dental school deans have acknowledged difficulty in attracting and recruiting full-time faculty members into general dentistry and the specialties. Initial reasons given for recruiting difficulties and the rise of full-time faculty vacancies included (a) student indebtedness, (b) substantially higher incomes in private practice, and (c) markedly lower incomes in academics.⁸

According to Valachovic et al. between the 1980s and early 1990s, two trends emerged: First, all American dental schools experienced a decline of full- and part-time faculty members with each dental school averaging 257 faculty members. Second, full-time faculty vacancies that were budgeted for approximated 400. As more faculty members retired, the resultant shortages increased. In 1990, the faculty vacancy rate was six percent. In 1993, an American Association of Orthodontists (AAO) survey showed that 171 full-time faculty positions were funded but 20 of these positions remained unfilled, leaving a vacancy rate of 12 percent. In 1997, the vacancy rate increased to 42 percent. In 2002, 300 full-time faculty positions remained unfilled, ultimately requiring an addition of 200 to 600 new faculty members every year thereafter.⁹ By years 2003-2004, Weaver, Chmar, Haden, and Valachovic (2005) estimated that an average of 241 full-time and 55 part-time vacant faculty positions existed at each one of the 56 U.S. dental schools. These issues of faculty recruitment, retention and replacement (vacancy positions) have created a major impediment for the future of the postgraduate orthodontic residency programs, educational institutions, as well as the specialty itself.³ These problems have not been limited only to dentistry or orthodontics, but have generated an unequivocal negative impact on administrative planning, practical economics and especially human

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Dennis J Tartakow

Department of Orthodontics, T.M.D. and Health Care, USA

Correspondence: Dennis J Tartakow, Department of Orthodontics, T.M.D. and Health Care, 4712 Admiralty Way, 895, Marina Del Rey, CA, 90292, USA, Tel (310) 848-5355, Email dtartakow@mac.com

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resources. Turpin stated that orthodontics was at an educational and professional turning point; full-time faculty members were critical to orthodontic education and with continued faculty attrition, the future of postgraduate orthodontic programs would be in jeopardy. "As it becomes more difficult to recruit full-time orthodontic faculty in the future, [postgraduate orthodontic] programs will need to rely more heavily on help from half-time or part-time faculty.¹⁰ Most half-time and part-time faculty members volunteer their time, services and expertise without any income.

Lattie Coor, past president of Arizona State University stated, "We will not be able to convince young graduates to go into teaching until financial support is at least 75% of what they can earn in private practice".³ At the heart of the problem was the theoretical argument that an increase of faculty vacancies was directly related to social justice inequities, including ethical procedures and social justice principles of individual choice as procedural fairness, community obligation, close attentiveness to others and social transformation.¹¹ Rogér¹² urged the AAO leadership to take greater decisive steps to encourage qualified orthodontists to consider full-time careers in teaching. Turpin³ suggested that the most critical and urgent problems facing orthodontics were attracting more qualified individuals for careers in orthodontic education to replenish the many full-time faculty vacancies. The political and administrative AAO leaders had already begun addressing this dilemma but were unable to reverse the declining number of full-time faculty members. With faculty vacancies on the rise, it created a universally negative impact on (a) orthodontic education, (b) the future of the profession, (c) healthcare in general, and (d) educational resources for the public and society.⁹ University chairs, hospital administrators, and AAO leaders would have to consider changing the structure of educating orthodontists in order to accommodate fewer full-time faculty members.

Recruitment, retention and replacement of qualified orthodontic faculty members soon became the most important and challenging

topic of discussion at every orthodontic conference.¹¹ Orthodontic education was at a crossroads for its survival and according to Peck¹⁰ it was in a state of flux. The creation of an environment that would be attractive for both academe and research as a reasonable career choice was needed in order that the specialty retain its high standards and continue to flourish.³⁻¹³ Orthodontics has always been the most sought after specialty in dentistry, attracting the highest number of individuals per year. Typically, the best dental graduates applied for specialization in orthodontics, with a large number of these applicants having an interest in teaching and research as a career.⁵ In 2008, the results of an AAO Task Force study were published by its leading investigators that included orthodontic educators, members of the AAO Board of Trustees and dental school deans. According to the Task Force Chair and AAO Past President Dr. Donald Joondeph¹⁶ "We are beginning to realize our goal of putting realistic and lasting solutions in place to address orthodontic faculty recruitment and retention, a crisis we share with dentistry as a whole. We know many are called to teach, and we are laying the groundwork to help these important educators answer that call." Joondeph added, "Progress is being made, and we are encouraged. The future of the orthodontic specialty is at stake. We are dedicated to its preservation through attracting and retaining gifted educators who have so much to offer as orthodontic faculty." According to Conley¹³ faculty recruitment, retention and vacancies remain as significant a problem today as they did prior to the twenty-first century. Clearly there is no simple fix or solution and the key issues at play for orthodontics are no different than for any other field of education however, the following are just a few of the salient, influencing factors that have led to this crisis in orthodontics:

- I. Senior faculty members have been leaving academics mainly due to retirement without being replaced by younger orthodontists.
- II. There is an economic and financial crisis existing in the world today.
- III. Faculty salaries have been reduced.
- IV. Departmental budgets have also been reduced, creating additional financial issues.
- V. Student educational loans have increased.
- VI. Graduating orthodontists have huge, overwhelming educational debts. The list goes on and the AAO can only do so much towards resolving these issues. It has, however, implemented many new and innovative solutions such as an Academic Leadership Program, AAOF Grants, Faculty Recruitment and Retention Task Force, and various other programs and proposals in an attempt to rectify the crisis.

Interestingly, for the past few years there has been an increase of foreign-born and foreign-trained orthodontists immigrating to America who are replacing the retiring faculty members. These foreign-trained orthodontists are from impoverished countries around the world. They often earn higher incomes here in America than they did in their native country and might just be looked upon as saviors for the future of orthodontic education. Many bring with them a great respect for academics, holding education in high regard because of their cultural upbringing; many also have a work ethic that runs circles around some Americans. Hindsight so often provides an unequivocal opportunity for reflection on successful and unsuccessful decisions. The essence of the problems in orthodontic education can be summed up by a quotation from Larson:⁵ "There is no doubt that dedicated orthodontic educators have been critical to the development of the specialty. The

question is whether the faculty will be there in the future to continue this history of strong education." Johnston¹⁵ concluded that there was no market for a career in orthodontic education. So today, the question still remains...Why would a graduating orthodontist forego the incentives of private practice (specifically higher salaries) to accept a position in academics when (a) it is often an unrewarding struggle and existence, (b) there is no income incentive, (c) he or she has been primarily trained to treat patients clinically? Until American-born orthodontists can glean higher salaries from a career in education, they will not be financially able to even consider academics as a career choice and the supply of full-time teachers and researchers will remain critically low. Until academe is looked upon with greater value by the specialty as a whole, orthodontic education will continue to present a daunting outlook as a career opportunity.

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Conflicts of interest

The author declares there are no conflicts of interest.

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