Benefits of Externships with Pediatric Dentistry Programs for Potential Residents: Program Directors’ and Current Residents’ Perceptions

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Abstract: This study’s goal was to understand the extent, framework, and benefits of externships with prospective residency programs undertaken by predoctoral dental students or dentists interested in applying for a residency program. In 2012, a questionnaire was sent to all pediatric dentistry residents and program directors in the United States (63 percent and 74 percent return rate, respectively). Externships were offered by fifty-seven of the seventy-six programs. Most program directors (95 percent) agreed that externships are beneficial and compensate at least partially for the lack of numerical National Board Dental Examination scores or class rankings. Among the responding residents, 61 percent were female. The top reasons given by residents for choosing to extern with a certain program were its location and perceived reputation. Of the 249 respondents who did an externship, 47 percent externed with their current program. The acceptance rate into the number one choice of program was similar among those who did an externship vs. those who did not (73 percent vs. 75 percent). No relationship was found between gender and externships among the 341 respondents who were accepted into their top choice. Most of the residents (98.8 percent) felt that completing an externship was beneficial, and 88 percent got an increased understanding for the differences between university- and non-university-based residency programs.

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The decision of which program to choose for a pediatric dental residency is not easy because many factors play a role in the decision making process. The websites of the American Academy of Pediatric Dentistry (AAPD) and the American Dental Education Association’s (ADEA) Postdoctoral Application Support Service (PASS) provide a great deal of information. Most individual programs’ websites, however, do not offer sufficient information about the topics that candidates are particularly interested in such as stipend and tuition information or program strengths. There are seventy-six accredited pediatric dentistry residency programs (PDRPs) in the United States, which offer a total of 382 positions for an applicant pool of 9,415. Depending on their physical location, PDRPs are categorized as dental school-based (DS) or non-dental school-based (non-DS). These two types typically differ in several aspects. Hospital-based programs have a smaller class size (4.4 vs. 5.5), their salaries are generally higher, their tuition is lower or non-existent, and their curriculum structure allows for more clinical involvement than in dental school-based programs. The latter, however, have extended basic science curricula and usually offer advanced degrees such as a master’s or Ph.D.

A study published in 2007 reported that non-DS-based programs of two-year duration were preferred by candidates over DS-based programs that offer a master’s or Ph.D. degree. Other important clinically related factors include modern facilities, adequate support staff, and faculty numbers. Geographic location, hospitality and honesty during interviews, and perceived reputation of the program...
were major non-clinical factors. There are also gender differences in the choice of a pediatric dentistry residency program: one study found that women preferred university programs associated with their own dental school and placed more importance on salary than males.6

The specialty of pediatric dentistry attracts a certain personality type that is significantly different from general dentistry and other dental specialties: sensing over intuition, feeling over thinking, and judging over perceiving. Those who prefer sensing have tended to be more clinically involved compared to those who favor intuition.7 Additionally, the relatively small number of residency positions, a dropout rate of 2.5 percent, and the highest percentage of women (62 percent) among all dental specialties8 combined with a high need for pediatric dentists make a successful selection process imperative. Thus, program directors (PDs) and faculty members who participate in the candidate selection process place importance on impressions from interviews, but also value objective criteria such as National Board Dental Examination (NBDE) scores, class rank, dental school grade point averages, and clinical grades in dental school.9

Externships can be of mutual benefit for candidates and programs alike because they give both parties an opportunity to get to know each other. The ability to appraise an applicant personally has become more important with the recent change to a pass-fail scoring system of the NBDE, which has eliminated a preferred criterion for ranking candidates. While many PDs consider letters of recommendation important,8 the inherent subjectivity of evaluators and their ability or willingness to comment clearly on negative aspects of a candidate are limited for various, particularly legal reasons. The ETS Personal Potential Index, a new evaluation and reporting system provided by the Educational Testing Service, which manages the TOEFL and GRE tests, has not yet established a track record in pediatric dentistry.

The term “externship” is not clearly defined. It is often used for extended proctored rotations of dental students as part of their overall clinical curriculum. In this study, we defined externships as observational visits of dental students or dentists to PDRPs of their interest prior to formally applying for a residency position through ADEA PASS. Externships can vary from shorter one- to five-day observational only visits to extended practical experiences that are only feasible if official education agreements exist among institutions.

Time as well as money is a precious resource for candidates and programs, and externships strain both. Candidates incur expenses for long-distance travel and lodging when visiting a program. The time away from school during official breaks is an additional limitation. For programs, externs pose significant logistical problems. Heightened security concerns of institutions and HIPAA privacy rules require complicated “onboarding” procedures and limit the observational exposures a candidate may have. Additionally, externs ideally deserve due attention as guests, which requires allocation of resident and faculty resources.

For residents, the benefit of a perfect match is acceptance to their program of choice; for programs, the benefit is to enroll residents with the best fit for the residency. Greater satisfaction with the Postdoctoral Dental Matching Program (www.netmatch.com/dentres/) outcome is beneficial for both parties. In business, happy employees are more productive.8 For residency programs, a good fit in a residency engenders greater overall educational success since more satisfied residents are likely to be higher performers. Increased success in this context translates into better clinical performance, improved customer service ratings, and/or better examination scores in classroom instruction, which results in higher rankings in national comparisons such as the AAPD In-Service Exam or American Board of Pediatric Dentistry examinations. For residents, it could mean a better education because they are more motivated when providing patient care or attending classes.

The purpose of this study was to learn more about the context, efforts, and potential benefits of short-term observational externships for candidates as well as programs. A survey was mailed in 2012 to residents and program directors of all accredited PDRPs in the United States to assess whether 1) the experiences and impressions a candidate may gain from an externship are worth the time and efforts he or she needs to expend on it and 2) if programs do indeed learn more about the personality of candidates to justify the resources for externships.

Materials and Methods

After the study received approval from the Colorado Multiple Institutional Review Board (#12-0114), questionnaires were mailed in spring 2012 to the seventy-six accredited PDRPs in the United
States. A total of 763 pediatric dentistry residents and their PDs were asked to participate. The list of PDRPs and their corresponding contact person was compiled from the AAPD website. Any programs whose contact information could not be verified were excluded from the study.

Each program was contacted in order to request participation in the study as well as to obtain the number of residents currently enrolled. Programs that agreed to participate in the study were mailed a package that contained a cover letter describing the survey, its intent, and privacy issues; a self-addressed prepaid return envelope; privacy envelopes for completed surveys; and a $5.00 Starbucks gift card as an incentive for participation (sent to the program’s contact person). The packages were delivered through FedEx with delivery tracking.

We asked the contact person from each program to distribute the surveys to all residents and the program director and to mail them collectively back to us. After one month, a second package containing an updated cover letter and additional surveys was sent to nonresponding programs. We aimed to reduce the number of nonrespondents and partially completed surveys by using the following methods: 1) contacting the programs prior to mailing the surveys, 2) including monetary incentives ($5.00 Starbucks gift card) with the initial package for the contact person, 3) sending the initial package with recorded delivery, 4) including stamped self-addressed return envelopes, 5) including labeled privacy envelopes for respondents to enclose their completed surveys, and 6) making follow-up phone calls, emails, or mailing additional surveys to programs that did not respond or had lower response rates.

Excel 2007 (Microsoft, Redmond, WA, USA) was used to enter and store data once all surveys were returned. Direct comparisons of dichotomous proportions such as externship by gender were made using Fisher’s exact test. Comparisons of dichotomous proportions, which were made in the context of a third dichotomous variable such as externship by gender or controlling for DS versus non-DS, were made using the Cochran-Mantel-Haenszel test. SAS Proprietary Software 9.2 (SAS Institute Inc., Cary, NC, USA) was used to perform all statistical tests.

Results

We were able to contact and obtain approval for participation from seventy-three of the seventy-six accredited PDRPs in the United States. This represented 729 (95.5 percent) of the 763 total residents.

Program Director Surveys

PDs (49 percent female; 51 percent male) from thirty-two DS and twenty-two non-DS programs returned the surveys (overall response rate=74 percent). Half of these PDs had tenure of up to five years, a third between six and ten years, and the remainder eleven years or more years. The race/ethnicity percentages for these respondents were as follows: 70 percent white, 20 percent Asian or Pacific Islander, 4 percent Hispanic, 5 percent black, and 1 percent American Indian or Alaska Native.

Externships were offered by 75 percent of the programs, and almost half of them emailed additional information about the program to externs before their visit. The number of annual externships offered ranged from one to five (39 percent), six to ten (31 percent), eleven to fifteen (13 percent), to more than fifteen (17 percent). The major reasons for not offering any or more externships were a complicated onboarding process, increased time and effort associated with hosting externs in general or supervising them, and a disruption of residents’ and faculty members’ workflow. These PDs were not concerned about associated costs or a belief that externships may not be valuable. Although externs were unable to work directly on patients in the majority of programs (77 percent), many of the PDs wished that they could have given externs opportunity for patient treatment. All externs were able to tour the facilities and speak freely with current residents.

Most of the PDs (85 percent) agreed that the personal contact with externs makes up at least partially for the lack of numerical NBDE scores or class rankings and helps them to select suitable candidates. A similar percentage reported spending extra time with each extern for debriefing. Almost all of the PDs (95 percent) agreed that the personal impression gained during the externs’ visits either deters or entices the PD from inviting the candidate for an interview if the extern applies. Many PDs commented that externships provide “a good preview of prospective candidates” and allow the PD to gauge an extern’s personality, intellectual curiosity, motivation, and communication skills. Interaction with current residents is another parameter to assess whether candidates are a “strong match” and “fit with us.” Although rarely feasible, many PDs would like to see externs treating patients to make
the externship more meaningful and to assess their clinical skills.

**Resident Surveys**

From the 729 mailed questionnaires, a total of 467 were returned, 460 of which were usable for analysis (Table 1). This number represents a return rate of 63 percent. Of the responding residents, 60 percent attended a DS program. The gender distribution of respondents from DS programs (39 percent male/61 percent female) was similar to that from non-DS programs (40 percent male/60 percent female) and to the overall gender distribution in the study (39.6 percent male/60.4 percent female). The ethnicity breakdown for these respondents was 57.1 percent white, 5.6 percent black, 13.3 percent Hispanic, 1.1 percent American Indian, and 22.9 percent Asian/Pacific Islander. Since not every question was answered in all surveys, the totals for the individual questions varied slightly from 456 to 460. Among the respondents, 250 were first-year, 203 were second-year, and seven were third-year residents. Their ages were from twenty-four to thirty years (66 percent), thirty-one to thirty-five years (26 percent), and thirty-six years and over (8 percent).

Prior to applying to a residency program, 249 respondents (54 percent) had completed an externship: 149 with a DS program and 100 with a non-DS program. A Fisher’s exact test found no statistically significant relationship (p=0.233) between gender and choice of one of the two types of program. In 2010-11, 64 percent of all residents were enrolled in DS programs and 36 percent in non-DS programs, while the proportions of our respondents were 61 percent and 39 percent, respectively.

Of the 249 respondents who did an externship, seventy-three (49 percent) had externed with their current program, and for sixty-three (42 percent) their current program was also their number one choice. Virtually the same percentage of those who did an externship versus those who did not (73.5 percent vs. 74.8 percent) gained acceptance into their first choice. However, the probability of being accepted into one’s first choice was significantly correlated with having completed an externship with that program: of the 117 who externed with their current program, 87 percent (102/117) were accepted into their first choice compared to 69 percent (293/343) of the 343 who did not. A Fisher’s exact test of equality of probabilities yielded a p-value of <0.0001, which supports the conclusion that there is strong evidence of an association between externing with one’s first choice of program and being accepted into that program. Among the 341 respondents who were accepted into their first choice of program, we did not find a relationship between gender and externships, even when controlling for DS versus non-DS programs. A Cochran-Mantel-Haenszel test of the relationship between gender and externship, controlling for school, resulted in a non-significant p-value of 0.721.

Almost half of the externs (42.9 percent) said they were unable to work directly on patients during the externship, while 37.7 percent had “some” opportunity and 19.4 percent had none. Most (98.8 percent) reported feeling that completing an externship was beneficial because they gained valuable information about the program, while 88 percent said they got an increased understanding for the inherent differences between university-based and non-university-based residencies.

### Table 1. 2010-11 program statistics and externship response data

<table>
<thead>
<tr>
<th></th>
<th>Dental School N (%)</th>
<th>Non-Dental School N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total resident enrollment in 2010-11</td>
<td>489 (53%)</td>
<td>279</td>
</tr>
<tr>
<td>Number of programs</td>
<td>43</td>
<td>33</td>
</tr>
<tr>
<td>Average number of residents in program</td>
<td>11.4</td>
<td>8.5</td>
</tr>
<tr>
<td>Responses to survey</td>
<td>279</td>
<td>181</td>
</tr>
<tr>
<td>Responses/program</td>
<td>6.5</td>
<td>5.5</td>
</tr>
<tr>
<td>Completed an externship</td>
<td>149 (53%)</td>
<td>100 (55%)</td>
</tr>
<tr>
<td>Was accepted into #1 program choice</td>
<td>106 (71%)</td>
<td>77 (77%)</td>
</tr>
<tr>
<td>Externed with current program</td>
<td>73 (49%)</td>
<td>44 (44%)</td>
</tr>
<tr>
<td>Externed with current program, which was #1 choice</td>
<td>63 (42%)</td>
<td>39 (39%)</td>
</tr>
<tr>
<td>Did NOT complete an externship, yet was accepted into #1 choice</td>
<td>96 (74%)</td>
<td>62 (77%)</td>
</tr>
<tr>
<td>Did NOT complete an externship, nor was accepted into #1 choice</td>
<td>34 (26%)</td>
<td>19 (23%)</td>
</tr>
</tbody>
</table>
Virtually all the residents who had externed (98 percent) agreed that it was easy to set up the visit and reported that 81 percent of programs provided them with information before the visit. One-third of them had applied to six to ten programs, and one-third to eleven to fifteen programs; one-sixth applied to one to five programs, and another one-sixth to >15 programs. Virtually all (99.6 percent) said they felt welcomed by the faculty of the host program and all were able to tour the facilities and speak freely to the current residents. Most (94 percent) were able to spend some time with the program director and agreed that this meeting was beneficial.

The impressions gained during the externship influenced the decision making of 93 percent of the respondents who did externships: 17.4 percent did not apply to every program they visited because they realized they would not fit in or were otherwise not compatible with the program, the externship was less than positive, or they did not like the program type (university vs. non-university). Most (83 percent) believed that the externship increased their chances of getting accepted into a specific program.

When residents were asked to rank reasons for choosing to extern with a certain program (Figure 1), its location and perceived reputation topped the preference list. Next in order were university- vs. non-university-based programs, recommendation by faculty/peers, salary, input from family members, and duration of the program. The option of whether residents could obtain an advanced degree vs. certificate only ranked least.

The number of externships that these individuals completed varied among one (35.9 percent), two (30.5 percent), three (19.9 percent), four (5.5 percent), five (5.9 percent), and six (2.3 percent), with an almost even distribution among university-based, non-university-based, or both types (34.8 percent, 34 percent, 31.6 percent, respectively). Most externs (72.2 percent) stayed between three and five days with their host department, 18.7 percent for longer than one week, and 9.2 percent for one to two days. For each externship, the resident expended $250-$500 (59.8 percent), $501-$750 (22.4 percent), $751-$1,000 (10.4 percent), or over $1,000 (7.5 percent). Only one program reported that it reimburses externs for their expenses (no data if partially or full).

![Figure 1. Residents’ reasons for choosing to extern with a particular pediatric dentistry residency program, by number of respondents](image-url)
Discussion

Each PDRP has its distinct “flavor” that can range from a strong scientifically oriented curriculum catering to residents seeking advanced education such as a Master’s or Ph.D. degree to a heavy clinically oriented program with a large, diverse, and challenging patient pool that offers a plethora of clinical experiences. Both types of programs produce competent pediatric dentists who can meet the ultimate national benchmark of attaining diplomate status with the American Board of Pediatric Dentistry by successfully passing both the qualifying and the oral clinical examinations. However, information on programs’ websites or the standardized program descriptions on the AAPD or ADEA PASS websites can convey these specifics only to a certain degree. Likewise, the limited information gleaned during an official interview will not allow all candidates to appreciate these fundamental differences. As a result, a partial or complete mismatch of residents’ and programs’ expectations might occur, which can lead to dissatisfaction among all parties. Externships can bridge this information gap because they allow for mutual observation and interaction for an extended period under everyday conditions. This insight is reflected in responses such as these by the residents in our study: “my externships allowed me to see huge variations among programs”; “the atmosphere and feelings of the residents greatly affected my decision to apply or not”; “some I did not rank after externship”; “I did not enjoy the hospital-based programs”; and “one experience impressed me; the other put it at the bottom of my list.”

The upcoming reduced availability of numerical test scores from the NBDE, dental school class ranks, or composite GPA requires PDs and other faculty members involved in the selection process to search for new means of comparing applicants to their programs. A similar quest for clear predictors of success was reported for the search process for medical residents. A review of correlative studies concluded that no one medical student factor can be used to predict performance in residency and that, for most performance measures, the results were inconsistent. However, a “multiple mini-interview” successfully helped program directors assess noncognitive variables in applicants to physical medicine and rehabilitation training programs. It is possible that a structured composite candidate evaluation at the end of an externship could help PDs to assess these important qualities in applicants for pediatric dentistry residency programs and complement the findings of the written application and the typical interview.

In our study, we received responses from a representative sample: our gender distribution of 39 percent male and 61 percent female is basically identical to the ADA-reported numbers of 38 percent and 62 percent, respectively, for pediatric dentistry residency programs. Similar congruence was found for the ethnic distribution: white 57.1 (our study) vs. 55.3 percent (ADA), black 5.6 vs. 5.1 percent, Hispanic 13.3 vs. 10.5 percent, American Indian 1.1 vs. 0.8 percent, and Asian/Pacific Islander 22.9 vs. 20.9 percent.

A study published in 2007 about candidates’ reasons for choosing a pediatric dentistry residency program found that attractive geographic location and perceived reputation topped the preference list. Next in order were DS vs. non-DS programs, recommendation by faculty/peers, salary, and duration of the program. The option of whether residents can obtain an advanced degree vs. certificate only ranked least. Our data show the same pragmatic preferences. Despite significant expenses for externships (82 percent spent between $250 and $750 per visit) and only one program offering cost reimbursement, 30.5 percent of the externs in our study visited two programs and one-third visited three or more. Additional challenges included extensive paperwork, need for additional insurance coverage, waitlists, limited dates, and letters of recommendation. These externs had no specific predilection for a specific type of program: approximately one-third each chose a DS, non-DS, or both types for their externship. We did not find a gender preference for DS vs. non-DS programs.

Almost all the externs commented that their externship experience was very valuable to them. It helped them to understand resident life and to see how much was expected at different programs; some even noted different philosophies among East Coast, Midwest, and West Coast programs. They appreciated the opportunity to experience programs from the “inside” and to understand how satisfied current residents were. Highly qualified candidates know that they can almost “pick and choose.” They want to maximize their potential by seeking the best learning opportunities by directly appraising a program’s patient pool, the expertise of its faculty, the lecture schedule, and the facility itself.
All these externs were allowed to tour the main facilities and were only occasionally unable to visit off-site locations such as hospital operating rooms or sedation facilities. All were able to speak freely to residents and to assess “how happy they are and how well they got along,” as one resident put it. They described residents as consistently friendly, providing useful first-hand information, and the applicants considered the residents’ input as very influential. Insights from an externship clearly influenced most candidates’ decision making: 17.4 percent said they did not apply to every program they visited because the externship was less than positive, they did not like the type of program, or they recognized they were not a good fit.

Accounts of the externs’ interaction with the PD were mixed: while only 7 percent indicated that they could not meet with the PD, 46 percent could spend “some” time with the PD, and 47 percent had a more formal meeting, which some considered a pre-interview either with a detrimental or positive outcome. A negative experience or the PD’s unwillingness to meet made a number of externs less interested in the program. Our study showed a higher percentage (51 percent) of female PDs compared to the 43 percent reported in 2009, as well as a higher rate of directors with tenure of less than five years (51 percent vs. 39 percent) and between six and ten years (34 percent vs. 27 percent), but a decrease in those who had been in this position for longer than ten years (15 percent vs. 34 percent). The racial proportions also changed with the percentage of whites decreasing from 81 percent to 68 percent, Asian/Pacific Islanders increasing from 14.4 percent to 20 percent, Hispanics increasing from 2 percent to 4 percent, and 6 percent blacks for the first time.

A positive interaction with current residents was important for the externs. They believed not only that they could get first-hand information from them, but they also sensed that a negative assessment by them could derail their application. This is in line with a report that the composite input of the PD, program faculty, and current residents were instrumental in the selection process of prosthodontic residents.

The total number of applicants for pediatric dentistry residents enrolled in 2010-11 in U.S. programs had completed an externship. Of those who had done externships, 64 percent visited two or more programs, and 72 percent spent between three and five days with their host program. The top reasons for choosing to extern with a certain program were geographic location, reputation of program, recommendations of friends and/or faculty, and the type of program (DS vs. non-DS), whereas whether a program offered a certificate only or advanced degrees (M.S., Ph.D.) was ranked least important. Virtually all the residents who had been externs stated that they had obtained valuable information about the program and were satisfied with the extra insights and personal contacts they gained during an externship.

Conclusion

The main findings from our study were as follows. Slightly more than half (54 percent) of all pediatric dentistry residents enrolled in 2010-11 in U.S. programs had completed an externship. Of those who had done externships, 64 percent visited two or more programs, and 72 percent spent between three and five days with their host program. The top reasons for choosing to extern with a certain program were geographic location, reputation of program, recommendations of friends and/or faculty, and the type of program (DS vs. non-DS), whereas whether a program offered a certificate only or advanced degrees (M.S., Ph.D.) was ranked least important. Virtually all the residents who had been externs stated that they had obtained valuable information about the program and were satisfied with the extra insights and personal contacts they gained during an externship.
Most (83 percent) believe that these experiences increased their chances of gaining acceptance into a specific program.

Our study suggests that participation in an externship does not increase a candidate’s overall chances of getting accepted into a residency program. In fact, 74.8 percent of the applicants who did not extern at all gained acceptance into their top choice of program compared to 73.5 percent who did an externship. However, externing with one’s number one choice of program increased applicants’ chances of being accepted into that program from 69 to 87 percent. Most program directors (85 percent) said they spend time with externs for debriefing and agreed that the personal contact externs have with faculty and residents compensates at least partially for the lack of numerical scores; these visits help them and other faculty members to select suitable candidates for the program. Our data did not reveal a gender preference for DS vs. non-DS programs nor any relationship between gender and probability of acceptance into an applicant’s first choice of program.

REFERENCES