Original Article

Factors Influencing Applicant Ranking of Orthodontic Programs

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Abstract: Orthodontic programs spend considerable amounts of effort to attract, recruit, and interview the best and brightest applicants. Applicants and programs submit ranked preferences, and resident positions are filled by a computerized matching system (Match). The specific aims of this study were to determine the relative importance of certain factors in applicants' Match ranking of orthodontic programs and differences between orthodontic program directors' perceptions and actual factors cited by applicants influencing their ranking of orthodontic programs. Surveys were mailed to 55 orthodontic program directors and 478 applicants participating in the 2002 orthodontic Match. Forty-nine program director (89%) and 224 applicant (47%) surveys were returned. Rankings and importance of factors cited by applicants in their decision-making process and perceptions of those factors cited by program directors were compared. Applicants' top three factors were: ''satisfied current residents,'' ''multiple techniques taught,'' and ''good quality of clinical facility.'' Program directors' perceived top three factors were: satisfied current residents, ''good program reputation,'' and ''good impression of current residents at interview.'' Comparing program directors' perceptions vs applicants' factors overall, the two groups were statistically different ($P < .0001$). Factors that stood out for their differences included: ''GRE required or emphasized'' ($P < .0002$), multiple techniques taught ($P < .0007$), and ''good location'' ($P < .0008$). Despite these differences, there was generally a high level of overall agreement between program directors' perceptions and factors actually influencing applicants' ranking of orthodontic programs. (*Angle Orthod* 2006;76:84–91.)

Key Words: Education; Match; Residency; Application process

INTRODUCTION

Despite large numbers of qualified applicants, orthodontic programs continue striving to attract and select the top candidates. Each year programs work to attract, recruit, and interview the best and brightest orthodontic applicants.

From the applicant's perspective, the orthodontic application process is a daunting task. Each program's application requires different forms, letters of recommendation, transcripts, and organization. For example, some programs require that the complete application be bundled together, whereas others require that all transcripts and letters be sent individually from schools and references. Applying to as many as 25 schools is challenging and requires adept organizational skills.

A third-party company, the Postdoctoral Application Support Service (PASS), attempts to simplify the process by centralizing the handling of applications. However, not all programs participate in this service. Many programs still require their traditional forms and information in addition to the PASS application. This ends up making the PASS merely another layer of complicated forms to fill out and an additional fee to pay. From the perspective of the programs, PASS may become a source of redundant information that must be sorted and extra applications that must be reviewed.

Orthodontic programs offer widely varying educational characteristics, making it difficult for applicants to choose among them. Contrasting characteristics include the number of residents, which ranges from one

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to 10 or more, and the length of the program, which varies from 24 to 36 months. Some programs charge tuition, whereas others offer a stipend. Some offer a certificate only, whereas others offer a Master's degree. Programs emphasize details such as the techniques they teach and the appliances they use, although applicants at this stage often understand little more than the fact that they want to be orthodontists.

In recent years, steps have been taken to make the selection process more organized. A computer-match system (Match) has made order of the chaos that once characterized the acceptance process. Previously, phone calls or letters of acceptance and rejection were the matching process. Each program set its own day for making their selections. In a rush to ''lock in'' the best candidates, programs could leapfrog each other's acceptance dates. This frequently left the applicant to choose between guaranteed acceptance into a less desired program or gambling for a more preferred one. A mutually agreed-upon common notification date reduced some of these practices, but programs often circumvented the system.

In an attempt to simplify and make the process more equitable for programs and applicants, it was computerized by the Match. Programs that enroll in the Match agree to standardized rules and a mutual acceptance day. With interviews completed, applicants and programs each generate a list prioritized from their first choice to their last. According to the National Matching Services Website:

''The process starts with an attempt to place an applicant into the program that is most preferred on the applicant's list. If the applicant cannot be matched to this first choice program, an attempt is then made to place the applicant into the second choice program, and so on, until the applicant obtains a tentative match, or all the applicant's choices have been exhausted.

An applicant can be tentatively matched to a program in this process if the program also ranks the applicant on its rank order list, and either:

- the program has an unfilled position. In this case, there is room in the program to make a tentative match between the applicant and program.
- the program does not have an unfilled position, but the applicant is more preferred by the program to another applicant who is currently tentatively matched to the program. In this case, the applicant who is the least preferred current match in the program is removed from the program to make room for a tentative match with the more preferred applicant.

Matches are referred to as tentative because an applicant who is matched to a program at one point in this process may later be removed from the program, to make room for an applicant more preferred by the program, as described in the second case above. When an applicant is removed from a previous tentative match, an attempt is then made to rematch this applicant, starting from the top of this applicant's list. This process is carried out for all applicants, until each applicant has either been tentatively matched to the most preferred choice possible, or all choices submitted by the applicant have been exhausted. When all applicants have been considered, the matching process is complete and tentative matches become final.''[1]

With the execution of a computer program, the Match effectively eliminates the time and effort previously taken making phone calls and sending letters of acceptance and rejection. Some violations of Match rules, including verbal and written agreements before Match day, still persist.[2,3] For the most part, however, the system is a success.

With 50 of 55 US orthodontic residencies participating in the Match,[1] much of the guesswork of pairing a program with an applicant has been removed. Programs and applicants with organized approaches to creating rank order lists on the basis of clearly defined criteria are at an advantage.[4]

Incorporating more of the features most desired by applicants can make an orthodontic program more attractive to potential residents. Understanding what applicants are looking for can make a program's efforts to communicate its strengths more effective. Some factors may be important to most applicants, such as having up-to-date facilities and equipment, for example. These could therefore be identified as targets for program improvement. However, individual preferences for other factors may vary. An example of this may be program length, where some applicants may prefer a longer and others prefer a shorter program. Although many factors about a program are not under the direct control of the program director (location, for instance), others may be more amenable to change.

Although little information is currently available regarding the factors considered specifically by orthodontic residents during the selection process, many studies have investigated applicants' preferences for other dental and especially medical residencies. These studies have shown various and sometimes conflicting results.

Keith and Proffit[5] in 1994, reported a survey of 168 orthodontic residents conducted at a national meeting. They questioned residents on a wide variety of topics pertaining to their residencies. A small section of their survey asked residents about factors that influenced their ranking of orthodontic programs. Reasons for ranking a program favorably, from most to least frequently cited, were: reputation, location, clinical con-

tent, cost, head of the department, research, and teaching.

National reputation and personalities of the current residents and attending staff were the top factors cited by oral and maxillofacial surgery candidates in ranking programs, according to a study by Marciani et al.[6] They found that geographic location, along with salary, the presence of a medical school, and the ability to ''moonlight,'' were considered by applicants as secondary factors. Laskin et al[7] similarly found that the two most important factors cited by applicants in ranking oral and maxillofacial surgery residencies were good relationships among current residents and good relationships between residents and attending doctors. These interpersonal factors scored higher than academic content and scope of clinical training.

Although there is considerable disparity among studies of applicants in varying fields of medicine and dentistry, certain similarities are evident. Program reputation was at or near the top of the list of factors in several studies in all fields of medicine and dentistry.[6,8–11] Satisfaction of current residents with the program was another common positive influence.[9,11–16] Program location was a factor often mentioned in studies as a reason for a high ranking by applicants,[10–12,14,17] although at least two studies showed that location was unimportant.[8,13] In multiple studies, salary was found to be an unimportant factor.[7,9,10,13–15] Other studies showed that spousal or partner input was highly influential.[18,19] The lack of perceived importance of research opportunities was common among many studies of professional residency programs.[7,10,12,13,17,20]

The current study was designed to incorporate many of the most interesting and useful methods gleaned from the previously cited studies. The specific aims of this study were:

- To determine the relative importance of certain factors in applicants' ranking of orthodontic programs.
- To determine differences between orthodontic program directors' perceptions and actual factors cited by applicants to rank orthodontic programs.

MATERIALS AND METHODS

Analogous surveys were developed for applicants and program directors, and institutional review board approval was received. Demographic information was requested of each survey recipient. Applicants were asked about the influences on their ranking of programs. Program directors were asked about their perceptions regarding factors applicants used in making their program rankings. Each subject selected from a list the top five most important factors, in order, used to rank programs. Lastly, each subject rated the desirability of each factor in the list from one (very desirable) to five (very undesirable).

The American Association of Orthodontists and National Matching Services granted permission to use the names and addresses of orthodontic Match applicants. In late November 2002, 478 surveys were mailed to orthodontics applicants living in the United States. Applicants from foreign countries were excluded. The mailing was timed such that applicants would have a one-week period to respond to the survey before the announcement of the Match results.[2,21]

Return envelopes were coded so that nonrespondents could be identified for a second mailing. Immediately on receipt of a returned survey, the coded envelope and the survey were separated from each other to maintain anonymity. A follow-up mailing was sent to 327 nonrespondents in early 2003. Because the Match results became available on December 9, 2002, all respondents from the second mailing completed their surveys after the results were known. The pre-Match and post-Match surveys were kept separate to analyze the data for significant differences between those two groups.

Surveys were mailed to 55 directors of orthodontic programs in the United States. Again, return envelopes were coded to identify nonrespondents, and these Program Directors received a subsequent mailing.

The data from each survey were entered twice on different occasions to prevent data entry errors. The same person performed all data entry. A logical comparison of the two data entry sheets was performed using Excel (Microsoft Corp, Redmond, Wash). Any discrepancies in the data entry were identified and corrected using the original, numbered surveys.

The applicant vs program director differences and the importance of factors were compared by mixed-model repeated-measures analysis of variance (ANOVA) followed by Tukey's honest significant difference (HSD) multiple comparison post hoc testing. Analyses of the data were performed using JMP software (SAS Institute Inc., Cary, NC). Significance was determined at alpha = 0.05. Because of the large number of factors in the survey, it was probable that some factors would be statistically different between applicants and program directors merely by chance. A Bonferroni correction was applied as a more stringent test to show which factors had clear differences.

RESULTS

A total of 478 surveys were mailed to applicants and 224 were returned (46.9%). Two of the surveys were returned blank. Program directors returned 49 of 55 (89.1%) of the surveys.

TABLE 1. Description of the Applicants (n = 222)

Characteristic	n		
Female	76		
Male	146		
Single	117		
Married	105		
Dependents: 0	164		
1	23		
2+	34		
	Mean	SD	Range
Age	28.5	3.9	23–47
Dental grad year	2000.9	3.50	1982–2003
Number of:			
Applications	12.80	8.60	1–41
Ranked	4.65	3.95	0–23
Debt	n		
$<50K	68		
$50K–100K	50		
$100K–150K	64		
$150K–200K	16		
$>200K	15		

Applicants

The demographic characteristics of the applicants are shown in Table 1. Because of the timing of sending out the questionnaires, 158 of the applicants returned the survey before the Match occurred and 66 returned the survey afterward. These two groups of applicants were compared on all the characteristics shown in Table 1 and the factors listed in Table 2 and were found to be not different ($P > .30$) except for the number of programs ranked. Those applicants returning the survey pre-Match ranked more programs (mean = 5.0) than those returning the survey post-Match (mean = 3.7; $P = .02$). Thus, the data from the two groups were combined for all further analysis.

The results of the applicant survey, with factors ordered from most to least desirable, are given in Table 2. Repeated-measures ANOVA was used to determine whether responses were related to demographics and to determine whether the desirabilities of items were different. The results showed that gender, age, marital status, number of dependents, dental school graduation year, and debt level were not significantly related to factor desirability ($P > .09$). However, there were clear differences between the factors ($P < .0001$).

The most desirable factor was ''satisfied current residents.'' ''multiple techniques taught'' and ''good quality of clinical facility'' tied for second. Work after hours and an emphasis on the Graduate Record Examination (GRE) were clearly the least desirable program characteristics cited by applicants.

Program directors

Table 3 shows the characteristics of the program directors responding. Program directors rated what they perceived the residents' responses would be. Those results, ranked from most to least desirable, are shown in Table 4. Not all questions were answered on all returned surveys.

There was a significant difference among the perceived desirability of the 31 factors considered ($P < .0001$). ''Satisfied current residents,'' ''good program reputation,'' and ''good impression of current residents at interview'' were perceived to be the top three factors by program directors. ''Heavy emphasis on research time'' was near the bottom of the list, with ''lots of work required after regular hours'' perceived as least desirable.

Comparison between applicants and program directors

The mean desirability of the factors studied was significantly different between applicants and program directors ($P < .0001$). The desirability of factors for applicants and the perceptions of program directors are compared in Table 5. There were clear differences on three items (Bonferroni corrected $P < .05$). These were: ''GRE required or emphasized,'' for which the applicants were more negative than program directors, and ''good location'' and ''multiple techniques taught,'' for which applicants indicated more desirability than program directors. There were also differences for seven other factors as shown (uncorrected $P < .05$). There were no differences for the remaining 21 items.

DISCUSSION

The 46.9% response rate for applicants was considerably higher than some previous studies.[6,7] The program directors responded at a very high rate of 89.1%. This probably reflects their desire to contribute to orthodontic research as well as an interest in this particular topic.

The most desirable factor identified by applicants was clearly satisfied current residents. This is consistent with several other studies surveying the preferences of residents in other disciplines.[9,11–16] Next were multiple techniques taught and good quality of clinical facility. The strong influence of techniques was somewhat surprising because previous studies have shown that residents in other specialties place lesser importance on specific educational content.[7,12,15] The high desirability of a good clinical facility might make a relatively easy target for improvement for orthodontic programs.

Financial factors fell in the middle of the importance

TABLE 2. Average Applicant Response[a]

Factors	n	Mean[b]	SD	Percentage					# Top 5 Rank					
				VD	D	N	U	VU	1	2	3	4	5	Total
Satisfied current residents	215	1.39	0.57	65.6	30.2	4.2	0.0	0.0	16	13	9	9	5	52
Multiple techniques taught (straight-wire, etc.)	215	1.52	0.64	56.3	35.8	7.9	0.0	0.0	4	10	7	12	10	43
Good quality of clinical facility	210	1.52	0.56	51.0	46.7	1.9	0.5	0.0	2	5	5	4	10	26
Good program reputation	217	1.54	0.62	53.0	40.1	6.9	0.0	0.0	26	13	7	6	5	57
Good impression of current residents at interview	214	1.55	0.65	53.7	38.3	7.5	0.5	0.0	4	8	5	8	3	28
Good impression of faculty at interview	213	1.62	0.62	45.5	47.4	7.0	0.0	0.0	7	3	7	12	2	31
Heavy emphasis on clinic time	215	1.62	0.58	43.3	51.6	5.1	0.0	0.0	8	5	8	11	10	42
Low cost (tuition and expenses)	213	1.63	0.74	50.2	38.0	10.3	0.9	0.5						
Use of new technology in the clinic	215	1.65	0.62	42.8	49.3	7.9	0.0	0.0	2	5	5	7	7	26
Good location (hometown, inexpensive, fun)	213	1.65	0.71	47.9	39.4	12.2	0.5	0.0	21	7	4	9	10	51
High number of cases treated	213	1.72	0.69	40.8	47.4	10.8	0.9	0.0	4	7	10	5	5	31
Good reputation of full-time faculty	213	1.73	0.64	37.1	52.6	10.3	0.0	0.0						
High stipend or salary	213	1.80	0.75	39.4	41.3	18.8	0.5	0.0	4	9	10	5	7	35
High participation of part-time faculty	212	1.94	0.70	25.9	55.7	17.0	1.4	0.0						
Program length <30 months	211	1.95	1.01	44.5	23.7	24.6	6.2	0.9	4	7	14	7	9	41
Extensive interdisciplinary care training	214	2.05	0.71	22.0	52.3	24.8	0.9	0.0						
High number of assistants/auxiliary staff	212	2.07	0.67	18.9	55.7	25.0	0.5	0.0						
High number of full-time faculty	213	2.09	0.68	18.3	55.4	25.4	0.9	0.0						
Lab fabricates appliances (vs resident)	210	2.17	0.86	24.8	38.1	33.3	2.9	1.0					8	8
Positive spouse, family, or peer input	213	2.18	0.88	24.4	38.5	33.3	2.3	1.4						
Dental school–based program	212	2.30	0.80	16.0	42.0	38.7	2.4	0.9						
Masters offered/required	213	2.40	0.84	15.0	36.2	43.7	3.8	1.4	1	2	3	2	3	11
Class size >4	211	2.82	0.71	6.6	15.2	67.8	10.0	0.5						
Class size ≤4	210	2.84	0.76	5.7	18.6	64.3	9.0	2.4						
Heavy emphasis on class time	212	2.89	0.85	3.8	28.3	45.8	19.8	2.4						
Certificate only offered (no degree)	211	3.21	0.91	4.7	10.4	52.1	24.6	8.1						
Non–dental school based (i.e. hospital based)	212	3.26	0.77	1.9	6.6	62.7	21.2	7.5						
Heavy emphasis on research time	211	3.31	1.00	3.8	15.6	38.4	29.9	12.3						
Program length ≥30 months	210	3.39	1.04	6.2	9.5	37.1	33.3	13.8						
Lots of work required after regular hours	212	3.81	0.90	1.4	5.2	27.4	42.9	23.1						
GRE required or emphasized	210	3.82	1.01	3.3	3.3	31.4	31.9	30.0						

[a] Abbreviations: VD indicates very desirable; D, desirable; N, neutral; U, undesirable; VU, very undesirable; and GRE, Graduate Record Examination.

[b] Scale: 1 = VD, 2 = D, 3 = N, 4 = U, 5 = VU.

TABLE 3. Description of Program Directors (n = 49)

Characteristic	n		
Female	5		
Male	40		
	Mean	SD	Range
Age	56.3	9.7	37–81
Dental grad year	1973.3	11.00	1947–1997
Ortho grad year	1978.1	10.40	1953–1997

scale, being neither very desirable nor undesirable. However, between the inception of the survey and the time of this writing, a significant change has occurred which potentially has a large effect on these results. In many programs, classes starting before 2004 could rely on Graduate Medical Education funding either as direct scholarships or in the form of tuition waivers. This funding was discontinued for most orthodontic programs beginning with the class entering in 2004. This dramatic change in financial arrangements could lead to a change in desirability of factors related to money.

The requirement of taking the GRE was clearly un-

TABLE 4. Average Program Director Response[a]

Factors	n	Mean[b]	SD	Percentage					# Top 5 Rank					
				VD	D	N	U	VU	1	2	3	4	5	Total
Satisfied current residents	45	1.24	0.48	77.8	20.0	2.2	0.0	0.0	5	3	5	2	1	16
Good program reputation	45	1.30	0.50	71.1	26.7	2.2	0.0	0.0	10	3	3	2	10	18
Good impression of current residents at interview	45	1.42	0.54	60.0	37.8	2.2	0.0	0.0			3	2	2	7
Low cost (tuition and expenses)	45	1.58	0.54	44.4	53.3	2.2	0.0	0.0						
Good quality of clinical facility	45	1.67	0.64	42.2	48.9	8.9	0.0	0.0			2	2	2	6
Good impression of faculty at interview	45	1.67	0.67	42.2	51.1	4.4	2.2	0.0		3	1	1	2	7
Good reputation of full-time faculty	45	1.71	0.59	35.6	57.8	6.7	0.0	0.0						
High stipend or salary	45	1.76	0.80	46.7	31.1	22.2	0.0	0.0	6	5		1	3	15
Use of new technology in the clinic	45	1.84	0.67	31.1	53.3	15.6	0.0	0.0				1	2	3
Heavy emphasis on clinic time	45	1.93	0.72	24.4	62.2	8.9	4.4	0.0		2	3	3		8
Multiple techniques taught (straight-wire, etc.)	45	1.93	0.62	22.2	62.2	15.6	0.0	0.0						
High number of cases treated	45	1.98	0.66	20.0	64.4	13.3	2.2	0.0		1			1	2
High participation of part-time faculty	44	2.00	0.75	25.0	52.3	20.5	2.3	0.0						
Positive spouse, family, or peer input	45	2.07	0.75	22.2	51.1	24.4	2.2	0.0						
Good location (hometown, inexpensive, fun)	45	2.07	0.72	20.0	55.6	22.2	2.2	0.0	1		2	1	1	5
Dental school–based program	45	2.09	0.76	24.4	42.2	33.3	0.0	0.0						
Masters offered/required	44	2.13	0.62	13.6	59.1	27.3	0.0	0.0			1	1	1	3
High number of full-time faculty	45	2.18	0.68	15.6	51.1	33.3	0.0	0.0						
Extensive interdisciplinary care training	45	2.22	0.64	11.1	55.6	33.3	0.0	0.0						
Program length $<$30 months	45	2.27	0.78	13.3	53.3	26.7	6.7	0.0		1	1	2	1	5
High number of assistants/auxiliary staff	45	2.38	0.58	2.2	60.0	35.6	2.2	0.0						
Lab fabricates appliances (vs resident)	45	2.53	0.73	11.1	26.7	60.0	2.2	0.0				1		1
Class size $\leq$4	45	2.73	0.65	2.2	31.1	57.8	8.9	0.0						
Class size $>$4	45	2.98	0.62	0.0	20.0	62.2	17.8	0.0						
Heavy emphasis on class time	45	3.00	0.83	2.2	24.4	46.7	24.4	2.2						
Program length $\geq$30 months	45	3.13	0.89	2.2	22.2	40.0	31.1	4.4						
Non–dental school based (i.e. hospital based)	45	3.32	0.56	0.0	4.4	57.8	37.8	0.0						
GRE required or emphasized	45	3.36	0.93	4.4	8.9	42.2	35.6	8.9						
Certificate only offered (no degree)	45	3.44	0.69	0.0	6.7	46.7	42.2	4.4						
Heavy emphasis on research time	45	3.53	0.79	0.0	11.1	31.1	51.1	6.7						
Lots of work required after regular hours	45	3.80	0.89	0.0	11.1	17.8	51.1	20.0						

[a] Abbreviations: VD indicates very desirable; D, desirable; N, neutral; U, undesirable; VU, very undesirable; and GRE, Graduate Record Examination.

[b] Scale: 1 = VD, 2 = D, 3 = N, 4 = U, 5 = VU.

popular among applicants. A comparable factor in studies of other specialties could not be found. In agreement with previous studies was the low ranking of the importance of research.[7,10,12,13,17,20] The undesirability of lots of work required after regular hours also was consistent with previous studies regarding long hours and on-call schedules.[2,10,13]

Program directors correctly perceived that satisfied current residents would be the most influential factor in the decision-making process for applicants. Second on their list was good program reputation, the applicants' fourth factor. This was followed by good impression of current residents, the applicants' fifth choice. This trend of accurately predicting applicants' desires continues, with a few exceptions, throughout the list of factors.

Program directors differed most from applicants on the factor GRE required or emphasized. Not surprisingly, applicants were more negative than the program directors on this subject. For many applicants, taking the GRE may seem like just another obstacle unrelated to their qualifications for an orthodontic residency.

For the items good location and multiple techniques taught, applicants indicated more desirability than program directors. In a number of studies, location was cited by applicants as important in their ranking pro-

TABLE 5. Comparison of Desirability[a]

Factors	Applicants		Program Directors		
	Mean[b]	SD	Mean[b]	SD	*P* value
Satisfied current residents	1.39	0.57	1.24	0.48	.2636
Multiple techniques taught (straightwire, etc.)	1.52	0.64	1.93	0.62	.0007**
Good quality of clinical facility	1.52	0.56	1.67	0.64	.2200
Good program reputation	1.54	0.62	1.30	0.50	.0558
Good impression of current residents at interview	1.55	0.65	1.42	0.54	.3300
Good impression of faculty at interview	1.62	0.62	1.67	0.67	.6532
Heavy emphasis on clinic time	1.62	0.58	1.93	0.72	.0105*
Low cost (tuition and expenses)	1.63	0.74	1.58	0.54	.6782
Use of new technology in the clinic	1.65	0.62	1.84	0.67	.1135
Good location (hometown, inexpensive, fun)	1.65	0.71	2.07	0.72	.0008**
High number of cases treated	1.72	0.69	1.98	0.66	.0330*
Good reputation of full-time faculty	1.73	0.64	1.71	0.59	.8934
High stipend or salary	1.80	0.75	1.76	0.80	.7314
High participation of part-time faculty	1.94	0.70	2.00	0.75	.5833
Program length $<$30 months	1.95	1.01	2.27	0.78	.0098*
Extensive interdisciplinary care training	2.05	0.71	2.22	0.64	.1491
High number of assistants/auxiliary staff	2.07	0.67	2.38	0.58	.0121*
High number of full-time faculty	2.09	0.68	2.18	0.68	.4554
Lab fabricates appliances (vs resident)	2.17	0.86	2.53	0.73	.0028*
Positive spouse, family, or peer input	2.18	0.88	2.07	0.75	.3818
Dental school–based program	2.30	0.80	2.09	0.76	.0944
Masters offered/required	2.40	0.84	2.13	0.62	.0272*
Class size $>$4	2.82	0.71	2.98	0.62	.2004
Class size $\leq$4	2.84	0.76	2.73	0.65	.4288
Heavy emphasis on class time	2.89	0.85	3.00	0.83	.3392
Certificate only offered (no degree)	3.21	0.91	3.44	0.69	.0541
Non–dental school based (i.e. hospital based)	3.26	0.77	3.32	0.56	.5858
Heavy emphasis on research time	3.31	1.00	3.53	0.79	.0692
Program length $\geq$30 months	3.39	1.04	3.13	0.89	.0421*
Lots of work required after regular hours	3.81	0.90	3.80	0.89	.9596
GRE required or emphasized	3.82	1.01	3.36	0.93	.0002**

[a] Abbreviations: VD indicates very desirable; D, desirable; N, Neutral; VU, very undesirable; and GRE, Graduate Record Examination.
[b] Scale: 1 = VD, 2 = D, 3 = N, 4 = U, 5 = VU.
* Applicant mean significantly different than program director mean, uncorrected *P* value $<$ .05.
** Applicant mean significantly different than program director mean, Bonferroni corrected *P* value $<$ .05.

cess.[10–12,14,17] However, this seems to vary by specialty, because at least two other studies showed that location was unimportant.[8,13] It is possible that the number and distribution of programs in a given specialty may contribute to these differences. Regarding multiple techniques taught in orthodontic programs, no direct correlation in previous studies could be found. ''Clinical content'' was found to be unimportant to oral surgery applicants[7] but was important to orthodontic residents.[5] Whether or not clinical content is the same as ''techniques taught,'' in this study, it is clear that applicants want to learn a wide variety of orthodontic techniques. This may be related to the unique and somewhat mysterious emphasis placed on ''treatment philosophy'' in orthodontics.[22]

The statistical analysis of the data showed significant differences between the applicant and program director responses. In contrast, DeLisa et al[16] found no significant differences between the factors cited by applicants to physical medicine residencies and the perception of program directors and faculty members. Because of the design of this study, the odds against applicants and program directors producing identical results were great. Aside from the notable and interesting differences described above, applicants' responses and program directors' perceptions were remarkably similar for the majority of factors considered during the orthodontic application process.

CONCLUSIONS

- Applicants' top three factors were: satisfied current residents, multiple techniques taught, and good quality of clinical facility.
- Program directors' perceptions of the applicants' top three factors were: satisfied current residents, good program reputation, and good impression of current residents at interview.
- Comparing program directors' perceptions vs applicants' factors overall, the two groups were statisti-

cally different ($P < .0001$). Factors that stood out for their differences included: GRE required or emphasized cited as more negative by applicants ($P < .0002$), multiple techniques taught cited as more positive by applicants ($P < .0007$), and good location cited as more positive by applicants ($P < .0008$).

- However, there was generally a high level of overall agreement. Thus, it appears that with a few notable exceptions, program directors have a good understanding of what makes an orthodontic residency more desirable to applicants.

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