NRMP
National Resident Matching Program

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Charting Outcomes in the Match

Characteristics of Applicants Who Matched to Their Preferred Specialty in the 2005 NRMP Main Residency Match

A collaborative project of the National Resident Matching Program and the Association of American Medical Colleges

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Introduction

An important step in the development of a medical career is the selection of a residency, a program of clinical training following graduation from medical school and a prerequisite for an unrestricted license to practice medicine. Appointments to the most sought after residencies are often quite competitive, and the process of selection by both applicants and program directors is facilitated by the National Resident Matching Program (NRMP). For the most competitive specialties, not all applicants can be accommodated, and an applicant may not be able to obtain training in his or her first-choice specialty.

For some time now, students and their advisors have been asking the Association of American Medical Colleges (AAMC) and the National Resident Matching Program (NRMP) for data casting some light on how applicant qualifications such as performance on Step 1 of the United States Medical Licensure Examination (USMLE) affect match success. Other characteristics of interest include membership in the medical student honor society Alpha Omega Alpha, the existence of applicant-authored publications, and research experience. An additional variable, the number of programs ranked by the applicant, also is known to be a factor in match success.

Combining data from the NRMP, the database of AAMC's Electronic Residency Application Service (ERAS), and USMLE scores made available by the National Board of Medical Examiners (NBME) and the Educational Commission for Foreign Medical Graduates (ECFMG), it is possible to provide information on these five variables. NBME and ECFMG have given permission to use USMLE scores, and the National Resident Matching Program and the Association of American Medical Colleges have collaborated to produce this report.

In the following sections, we summarize the process of medical education after graduation from medical school, called graduate medical education or GME, and we compare characteristics of applicants for each of the major specialties on each of the five variables. The remainder of the document consists of separate graphic displays for each of the seventeen specialties included in the report.

The Transition from Medical School to Residency

In order to practice medicine in the United States, one must not only graduate from a recognized medical school, but one also must pass a series of licensure examinations and complete a program of graduate medical education — a residency. The residency provides additional supervised clinical training, usually focusing on one medical, surgical or support specialty. Successful completion of a residency is one of the requirements for licensure and prepares the physician to practice in that specialty. The residency is thus an extremely important step in the preparation of a physician, and students place great importance on securing a position in the specialty of their choice and in a program within that specialty that will meet their needs.

Applicants for residencies include not only graduating seniors from U.S. allopathic medical schools, but also graduating students and graduates of foreign medical schools and of schools of osteopathy. Physicians who graduated in prior years but are seeking a new residency experience also are included. As can be seen in Table 1, the majority of applicants are U.S. senior medical students, but 30 percent are graduates of foreign medical schools. Graduates of schools of osteopathy use the NRMP when they are seeking residencies in programs approved by the Accreditation Council for Graduate Medical Education (ACGME).

Active Applicants in the 2005 Main Match		
	Number	**Percent**
U. S. Allopathic Seniors (U.S. Seniors)	14,719	58.1
Canadian Students and Graduates	85	0.3
U.S. Allopathic Physicians	1,279	5.0
Osteopathic Seniors and Graduates	1,524	6.0
Fifth Pathway	96	0.4
U.S. Citizen Students and Graduates of Foreign Schools	2,091	8.2
Non-U.S. Citizen Students and Graduates of Foreign Schools	5,554	21.9
Total	25,348	100.0

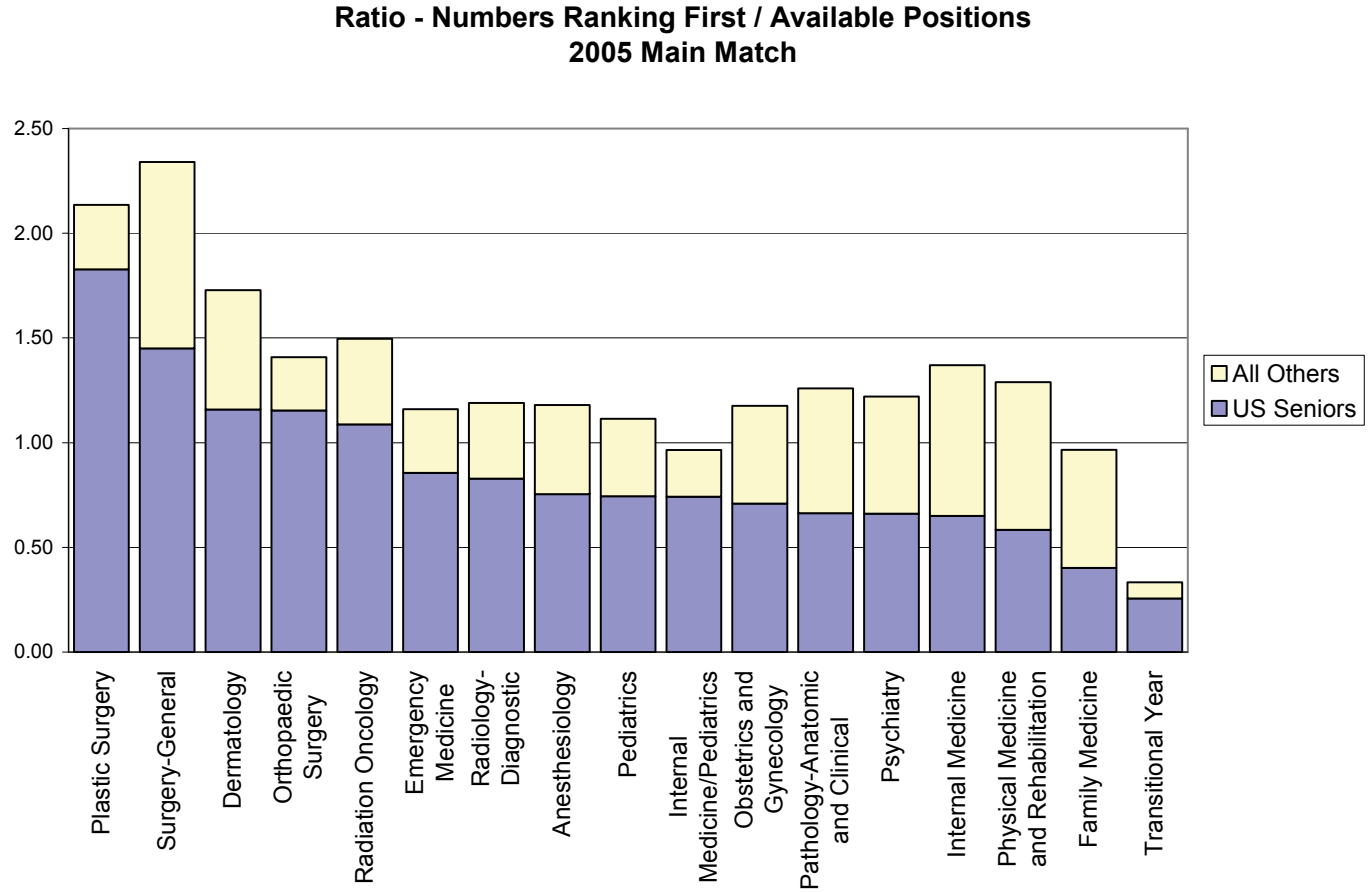
Source: NRMP Data Warehouse

Residency applicants choose a preferred specialty and select programs within that specialty that are attractive to them with the aid of advisors at their schools, various publicly available databases, and online planning resources such as the AAMC Careers in Medicine Program. In the discussion and graphs that follow, applicants who are U.S. allopathic senior medical students are labeled "US Seniors", and applicants who are not U.S. allopathic senior medical students are grouped together and are labeled "All Others".

Applicants apply to the programs of their choice, most often using the Electronic Residency Application Service (ERAS) of the AAMC. Program directors and their selection committees review the applications and select some of the applicants for interviews. Then, based on the interviews and the application materials, program directors decide which applicants they would like to have in their programs, and applicants decide which programs they would like to pursue.

The National Resident Matching Program (NRMP) provides a mechanism for determining the best outcome for both programs and applicants. Most applicants and most programs participate in the NRMP. Each applicant provides a rank-ordered list of desired programs, and each program provides a rank-ordered list of applicants. The matching algorithm assigns each applicant to his or her highest ranked program that also ranked the applicant and has not filled all of the available positions with applicants preferred by that program.[1]

Figure 1



Source: NRMP Data Warehouse

Some specialties have more positions available than candidates seeking entry, while others have fewer. Figure 1 shows the ratio of U.S. senior applicants and of total applicants to each specialty. All specialties except Plastic Surgery, General Surgery, Dermatology, Orthopaedic Surgery and Radiation Oncology have enough positions to accommodate all U.S. seniors who prefer that specialty. Some positions will be filled by well qualified international medical graduates and others, but most programs prefer to fill their positions with graduates of U. S. medical schools, if possible. Only Internal Medicine/Pediatrics, Family Medicine and Transitional Year have enough places for all applicants who prefer those specialties, including both U.S. Seniors and All Others.

[1] For details of the matching algorithm, see `http://www.nrmp.org/res_match/about_res/algorithms.html`.

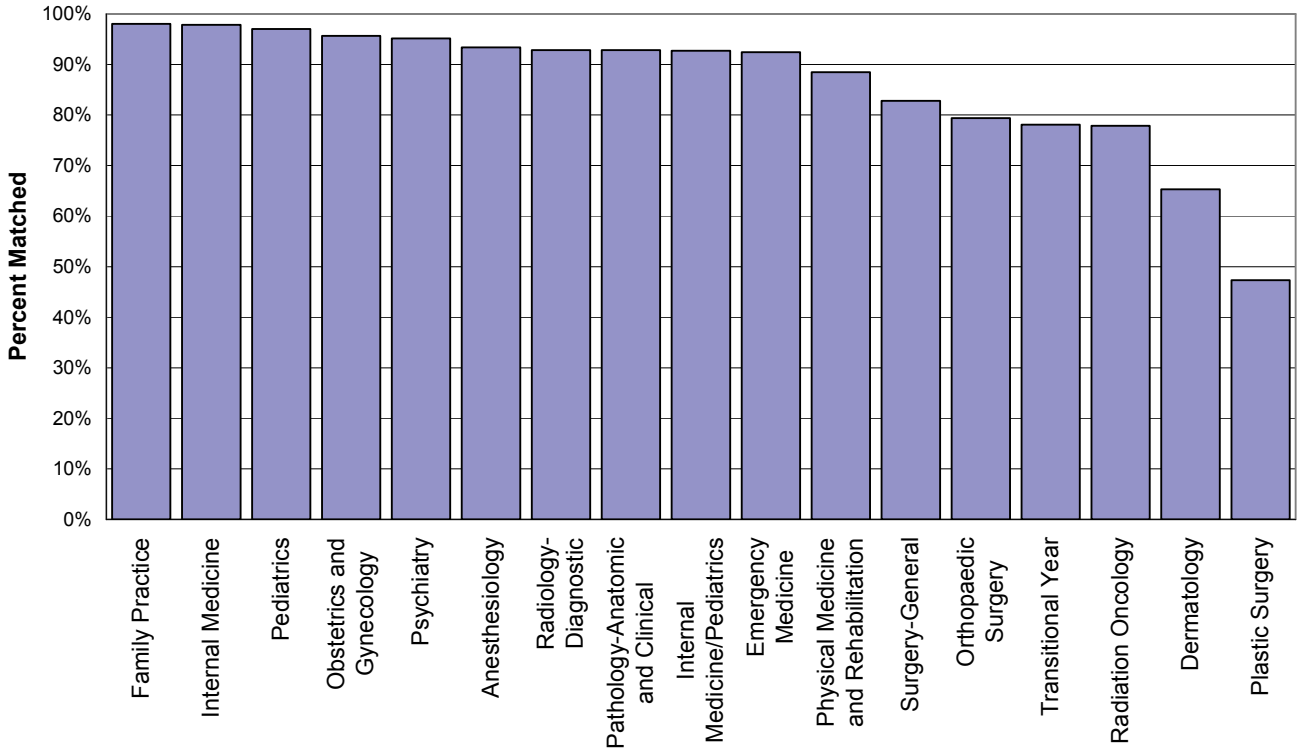
Match Success

For the purposes of this report, we define match success as a match to the specialty of the applicant's first-ranked program, because that is assumed to be the specialty of choice. Lack of success includes matching to some other specialty as well as failure to match at all.

For the competitive specialties, some applicants are necessarily disappointed. No applicant is guaranteed success, but those with superior qualifications are very likely to gain entry to their preferred specialty, if not to their preferred program within that specialty. Figures 2 and 3 show

Figure 2

Match Success of U. S. Seniors Ranking Each Specialty First
2005 Main Match



Source: NRMP Data Warehouse

the percentage of U.S. seniors and all others, respectively, who succeed in matching to a program in their preferred specialty. U. S. seniors are highly successful in seeking residencies in most specialties. Only for the most highly competitive specialties — Plastic Surgery, Dermatology, Radiation Oncology and Orthopaedic Surgery — are success rates below 80 percent.[1]

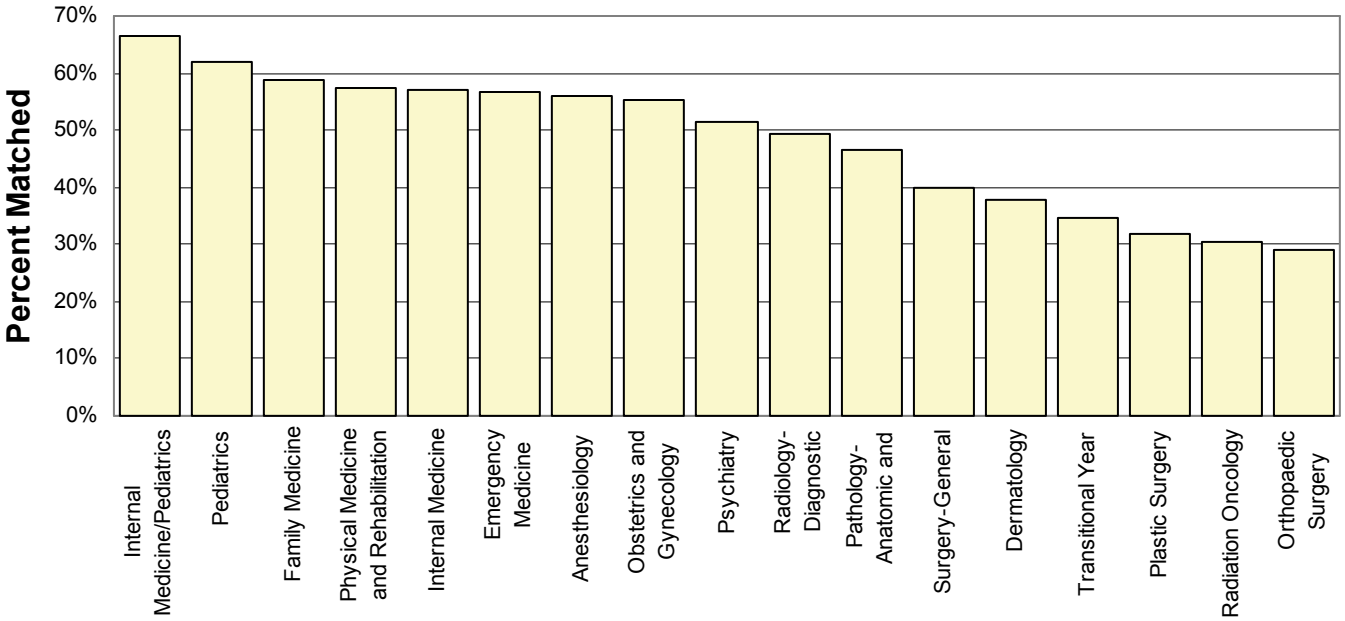
[1] The data on Plastic Surgery do not take into account those applicants who first complete a general surgery residency.

Transitional Year also is shown with less than 80 percent match success, but this is probably due to the behavior of some applicants in interspersing preliminary internal medicine programs with transitional programs, where a transitional program is their first choice. In other words, Transitional Year may not be a firm preference.

Success percentages for All Others are shown in Figure 3.

Figure 3

Match Success of All Others Ranking Each Specialty First
2005 Main Match



Source: NRMP Data Warehouse

In general, applicants who are not U.S. seniors, labeled "All Others" in this work, are less successful in matching to their preferred specialty than are U.S. seniors. They are most successful in matching to Internal Medicine/Pediatrics.

Readers should bear in mind that there also are thousands in the All Others category who are excluded from the tabulations because they did not certify a rank order list. In some cases this may be because they were unsuccessful in gaining serious consideration and an interview from any program. In other cases, the applicant may have accepted an out-of-match appointment prior to the match, an option not available to U.S. seniors.

Applicants to residency programs and their advisors are anxious to have any available information bearing on their probability of matching so that they can tailor their applications and their NRMP rank order lists appropriately. Program directors base their selections on medical school transcripts, particularly clerkship grades, the Medical Student Performance Evaluation (MSPE) or dean's letter, letters of recommendation, research experience, publications, and the personal statement from the ERAS application. They also take into account membership in the medical student honor society Alpha Omega Alpha (AOA) and the interview experience. The only quantitative data program directors can use to compare applicants across schools are scores on the licensure examination, the United States Medical Licensure Examination (USMLE), Step 1 and in some cases Step 2.

Arguably, the licensure examinations and especially Step 1, the basic science examination, are inappropriate for resident selection, but program directors continue to use them because they are quantitative and nationally standardized measures. Program directors might like to have available quantitative and nationally standardized measures of integrity, honesty, sensitivity, cultural competence and other aspects of professionalism, and AAMC is piloting new approaches to quantifying these measures as a part of the Medical Student Performance Evaluation. Since these data do not now exist, however, program directors try to discern these qualities from the non-quantitative information at their disposal.

The seventeen specialties selected for inclusion in this report are those participating in the NRMP Main Residency Match and available to medical school graduates either immediately after graduation or with one preliminary year in a general specialty like Internal Medicine or Pediatrics, or in a Transitional Year program. Only those specialties with a substantial number of positions were included.

The NRMP categorizes residency programs as either Categorical, Preliminary or Advanced. Categorical programs lead to initial certification in a specialty and are available to medical school graduates with no prior graduate medical education. Advanced programs in the Main Match require a preliminary year of general training and are selecting residents to begin a year and a half after the match takes place. Preliminary programs are generally of one-year duration and are intended to satisfy the prerequisites of advanced programs. Some specialties have programs of more than one type. For this work, preliminary programs in all specialties were excluded, except for Transitional Year, where all programs are preliminary programs. No distinction was made between categorical and advanced programs. For example, in Diagnostic Radiology in the 2005 Main Match there were 134 positions in categorical programs and 864 positions in advanced programs. If the applicant's first choice was either type of program, that applicant was taken to have preferred the specialty of Diagnostic Radiology. If the applicant matched to either type of Diagnostic Radiology program, the applicant was judged to have been successful.

Only applicants who certified a rank order list are considered to be active and are included in the tabulations.

All programs included in an applicant's certified rank order list were included, even if one or more of these programs did not certify a rank order list.

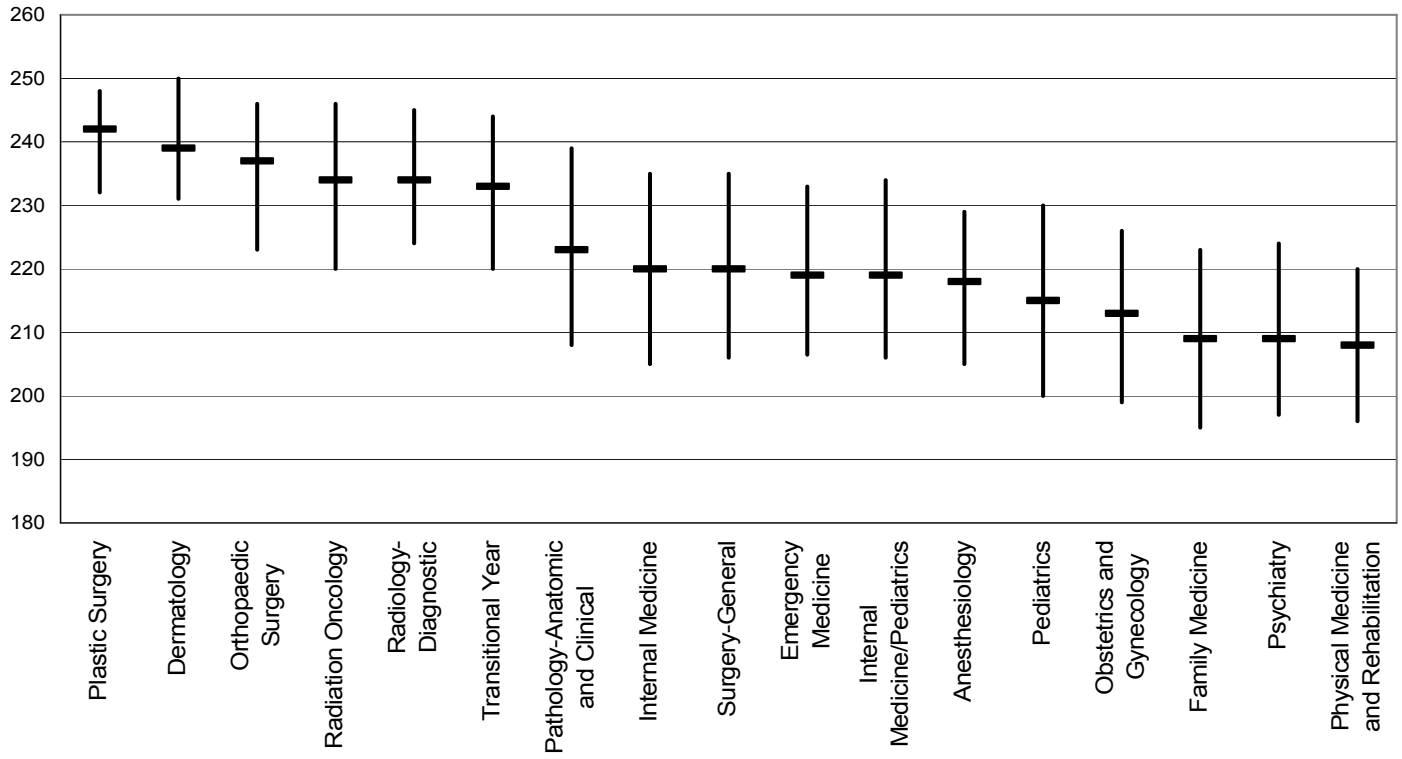
In the sections that follow, graphs are presented comparing seventeen specialties on each of the five dimensions: USMLE Step 1 performance, number of contiguous ranks in the desired specialty, membership in AOA, applicant authored publications and participation in research. The remainder of the report consists of a section for each specialty, displaying the distributions of each of the five variables for successful and unsuccessful applicants, U.S. Seniors and All Others.

USMLE Step 1 Scores

USMLE Step 1 scores are a measure of a student's understanding of important basic science concepts and the ability to apply that knowledge to the practice of medicine. Although such knowledge is only one facet of applicant qualifications considered by program directors in their selection process, it is the only one that is comparable across applicants and educational institutions and the only quantitative measure commonly available during the interview season and prior to the NRMP's ranking deadline. Since it is well known that many program directors require and make use of these scores in their selection process, the NRMP and AAMC were asked by program directors, student affairs officers and applicants to make available information on the range of USMLE scores for matched applicants in each specialty.

Figure 4

Median USMLE Step 1 Score for Matched US Seniors
(vertical lines show interquartile range)



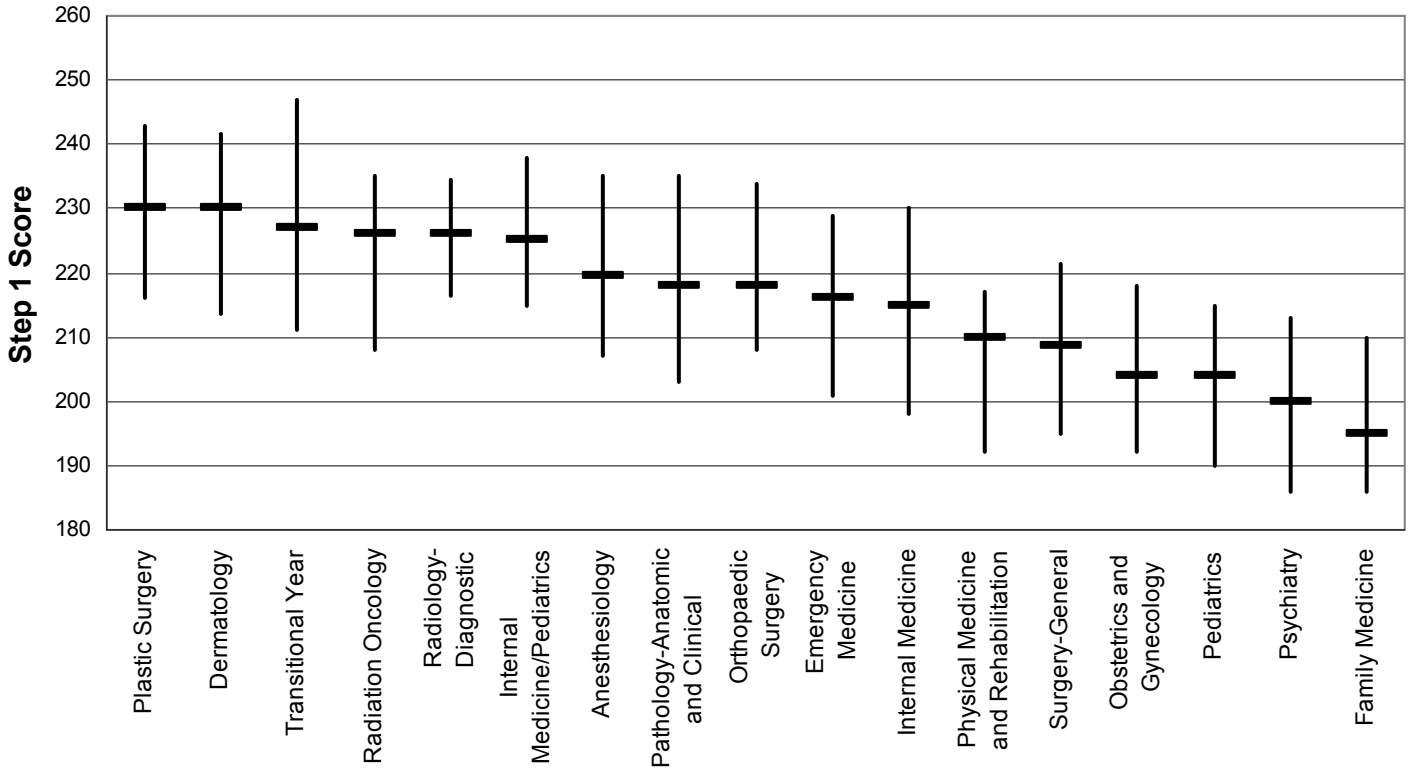
Source: NRMP Data Warehouse and AAMC Data Warehouse. USMLE scores by permission of NBME.

Figure 4 provides the median and interquartile range for each preferred specialty for U.S. Seniors. On this graph, the horizontal bars mark the median value for successful applicants while the vertical lines show the interquartile range, the range of scores for applicants excluding the top and bottom quarters of the distribution. It should not be surprising that scores are generally higher for the more competitive specialties, but it also is clear that there is substantial overlap when specialties are compared. All of these scores are well above the USMLE Step 1 minimum passing score of 182.

Figure 5 provides a distribution for All Others. Like the graph for U. S. seniors, it shows the same pattern of declining median scores as one moves to the less competitive specialties.

Figure 5

Median USMLE Step 1 Score for Matched All Others
(vertical lines show interquartile range)



Source: NRMP Data Warehouse and AAMC Data Warehouse. USMLE scores by permission of NBME and ECFMG.

There are some limitations in the available data for All Others. Osteopathic graduates would rarely take the USMLE, but there also is a serious limitation to available scores for graduates of foreign medical schools. AAMC does not receive these scores until the international medical graduates pass Step 3. As a result, Step 1 scores are missing for more than 5000 applicants in the All Others category. This fact may bias the resulting statistics, because an applicant who already has completed the full set of licensure examinations may not be representative of all applicants in the All Others category.

Number of Contiguous Ranks

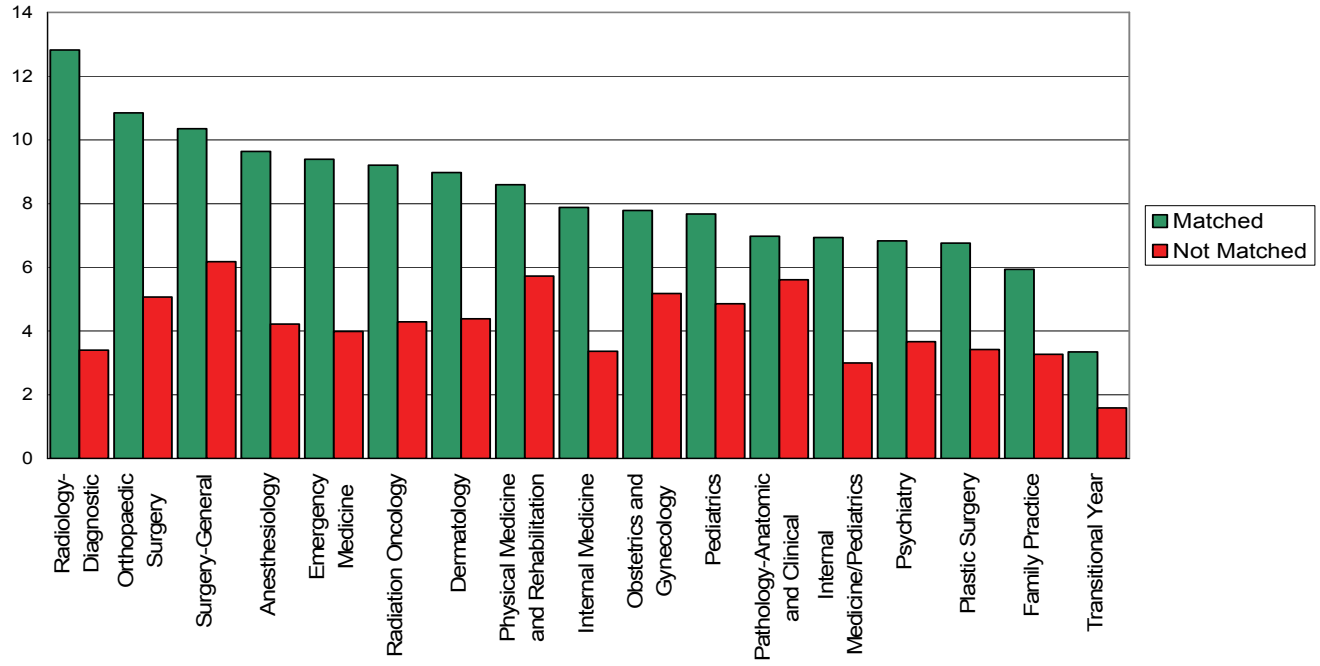
In general, applicants are more likely to be successful if they rank more programs in their desired specialty. To quantify this aspect of applicant behavior, we tallied the number of programs ranked in the first-choice specialty before a program in another specialty appears in the applicant's rank order list.

It is quite common for an applicant to include ranks for programs in second- and even third-choice specialties along with ranks for different programs in the first choice specialty. Usually, all of the ranks for programs in the preferred specialty precede those for programs in other specialties, but occasionally an applicant will intersperse ranks for programs in the first-choice specialty with ranks for programs in other specialties. For example, for those preferring Anesthesiology, 736 applicants ranked only Anesthesiology programs, 207 ranked programs in other specialties only after ranking all desired Anesthesiology programs, and 71 ranked other programs interspersed with Anesthesiology programs. These distributions are different for other specialties.

For the purpose of the tabulations in this report, we consider only the number of contiguous ranks in the first choice specialty.[1] The mean number of contiguous ranks is compared by specialty for U.S. seniors in Figure 6.

Figure 6

Mean Contiguous Ranks by Specialty Ranked First and Contiguously
U. S. Seniors 2005 NRMP Main Match



Source: NRMP Data Warehouse

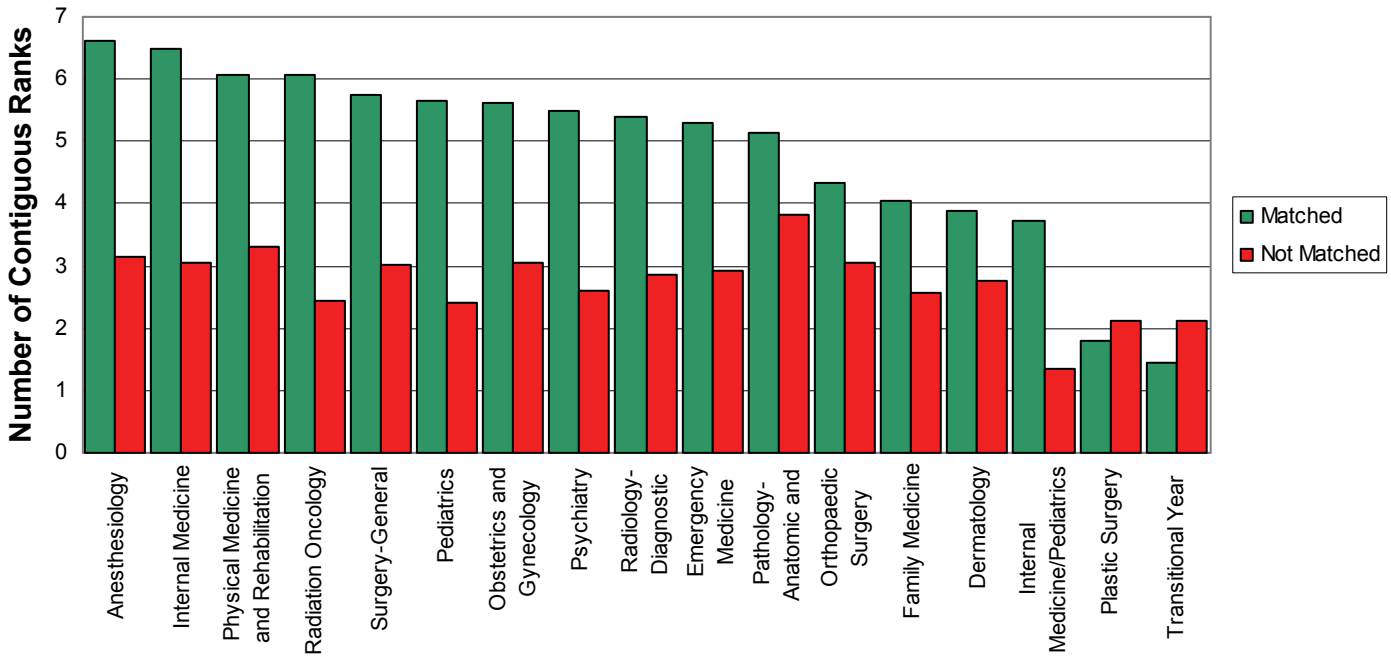
[1] When tabulating number of contiguous ranks in rank order lists, the appearance of a preliminary program in the list is considered to end the set of contiguous ranks, even if the preliminary program is in the same specialty as the program ranked first.

The principal message of this graph is that applicants with longer rank order lists are more successful than those with shorter ones. The NRMP has been recommending longer lists for many years, but many applicants apparently do not heed the advice. Others may have shorter lists because they found only a few programs willing to entertain their applications or because they could not afford a large number of interview trips.

Figure 7 shows the number of contiguous ranks in the preferred specialty for All Others. As for U.S. Seniors, All Others with longer rank order lists are more successful . The results for Plastic Surgery may be anomalous because less than half of Plastic Surgery programs are in the

Figure 7

Mean Contiguous Ranks by Specialty Ranked First and Contiguously
All Others 2005 NRMP Main Match



Source: NRMP Data Warehouse

NRMP Main Match. Transitional Year may be anomalous on this graph because applicants who prefer it often rank other preliminary programs as well.

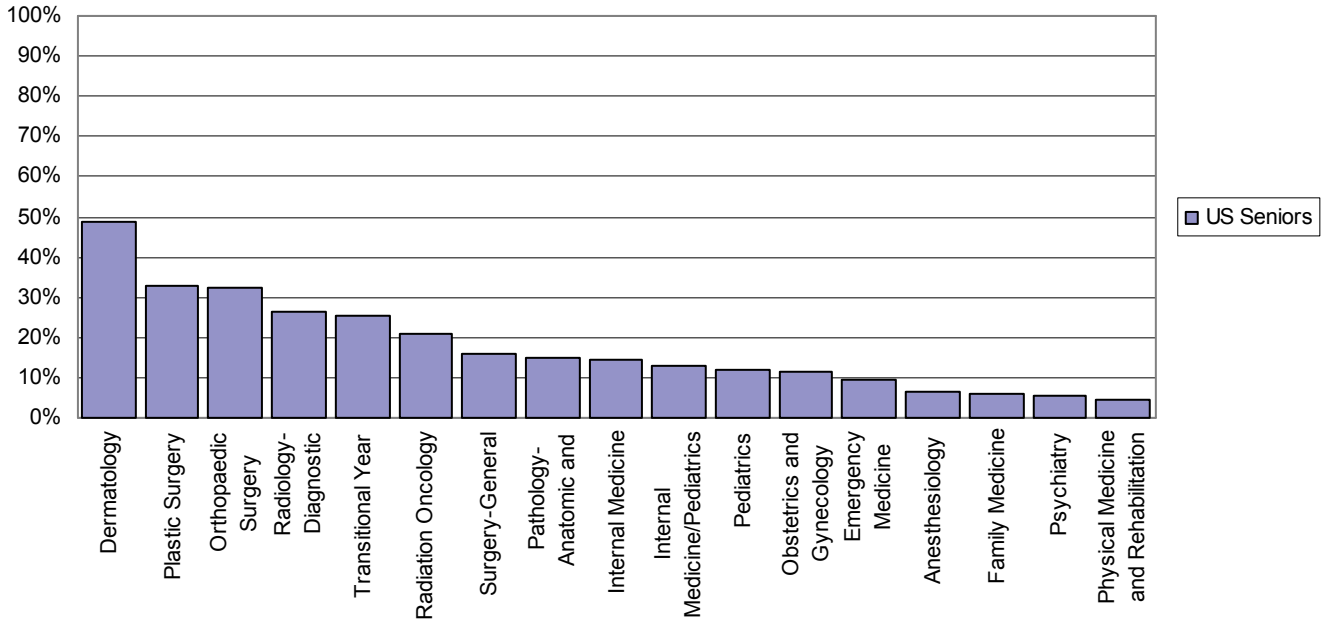
AOA Membership

Membership in Alpha Omega Alpha (AOA), the national honor medical society, is an honor reserved for excellent students. Clearly, it is a credential valued by program directors as an indication of diligence and learning.

AOA membership is limited to students in medical schools that sponsor an AOA chapter. Most but not all allopathic schools in the U.S. and Canada participate, and there is one foreign chapter in Beirut. Among the applicants reported as All Others, only graduate U.S. physicians, Canadians and a small number of others could legitimately claim membership. For that reason, AOA status for each specialty is reported in Figure 8 only for U.S. seniors.

Figure 8

Percent with AOA Membership - Ranked Specialty First and Matched - 2005 NRMP Main Match



Source: NRMP Data Warehouse and AAMC ERAS Data Warehouse

Data on AOA membership are self-reported on the ERAS application. Even for U.S. seniors, however, an analysis of its effect on success in the Match is limited by the relatively small number of applicants who are members, by the fact that some schools do not have AOA chapters, and by the fact that other schools elect AOA members too late in the academic year for it to be considered in the application process.

As for the other dimensions, the most competitive specialties are able to attract the greatest number of AOA members. For Dermatology, the fraction with reported AOA membership approaches 50 percent. All specialties attract some AOA applicants, but for most specialties AOA members account for fewer than one in four successful applicants. As will be seen in the graphs for individual specialties, AOA members are usually successful in matching to a program in their preferred specialty.

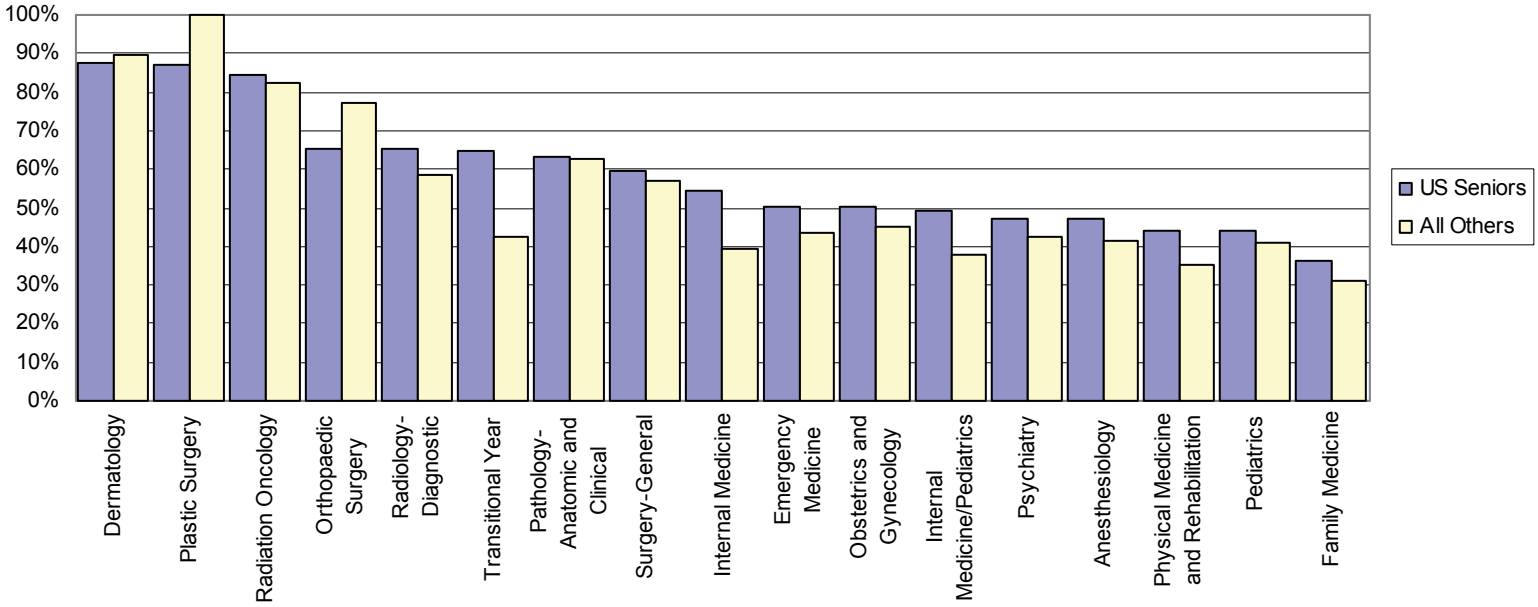
Publications

The ERAS application permits applicants to list their publications. These are self-reported data and may include abstracts, poster sessions and invited national or regional presentations. It is likely that the publications vary widely in quality and significance. Some residency programs may independently verify and even review publications for applicants in whom they have an interest, but most probably do not.

Many applicants report publications, sometimes dozens or even hundreds. In the individual specialty sections, we distinguish between no publications, 1-5 publications, and more than five publications. For Figure 9, we report the percent of applicants preferring each specialty who report at least one publication.

Figure 9

Percent with Publications - Ranked Specialty First and Matched
2005 NRMP Main Match



Source: NRMP Data Warehouse and AAMC ERAS Data Warehouse

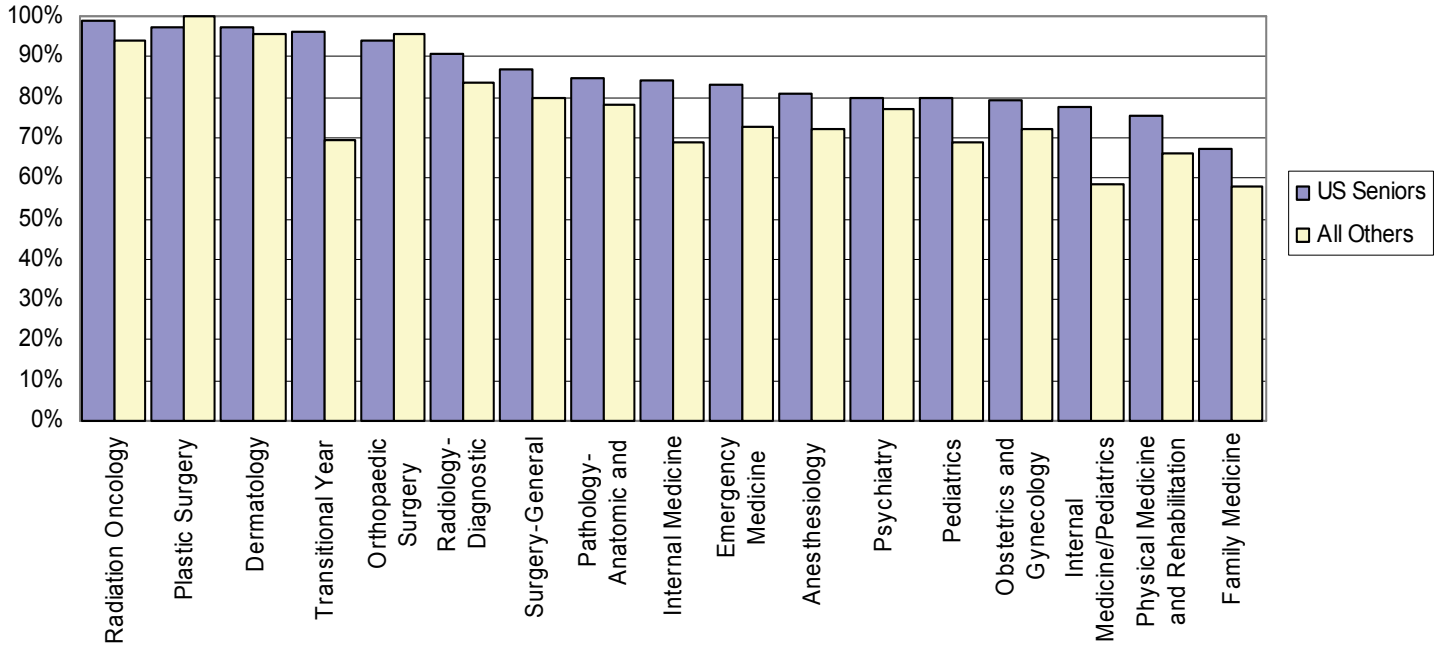
Applicants in the All Others category are about as likely to report publications as U.S. Seniors. As one would expect, the percentages are higher for the more competitive specialties.

Research Projects

The ERAS application also allows applicants to report their participation in research projects. As with publications, these are not verified or evaluated and may vary greatly in quality.

Figure 10

Percent Participating in Research Projects - Ranked Specialty First and Matched
2005 NRMP Main Match



Source: NRMP Data Warehouse and AAMC ERAS Data Warehouse

The same specialties continue to stand out with the highest proportion of applicants with this added qualification. High proportions of applicants in both the U.S. Seniors and All Others category report participation in research projects.

Graphs for Individual Specialties

In the following sections data are presented for each of the seventeen specialties included in this report. Tables and graphs show statistics and distributions on each of five dimensions: USMLE Step 1 scores, length of contiguous rank order list for the preferred specialty, AOA membership, publications and participation in research projects.

Some general observations apply to the graphs for all of the individual specialties.

The distributions of USMLE Step 1 scores show clearly that program directors are looking at other qualifications in addition to scores on that examination. A high score is not a guarantee of success. Even in the most competitive specialties there are a few individuals with the most impressive scores who are not successful. Neither is a mediocre score a bar to success. Applicants with scores lower than 190 — barely passing — often do not match in the most competitive specialties, but some do. In the less competitive specialties, U.S. Seniors with barely passing scores usually match to their preferred specialties. It may be surmised that many of those who prefer a competitive specialty and fail to match in that specialty nevertheless match in their second choice of specialty.

These data also are reassuring because they indicate that at least some programs do not employ an arbitrary cutoff or refuse to consider applicants with less than excellent test performance.

The data on length of rank order list validate the long-standing advice of the NRMP to applicants to rank a substantial number of programs. Of course, success depends on how many of the programs on the list are highly competitive, but other things being equal, a longer list is more likely to produce a successful match. The information on AOA status, publications, and participation in research projects, not surprisingly, show an association with success in matching to the preferred specialty.

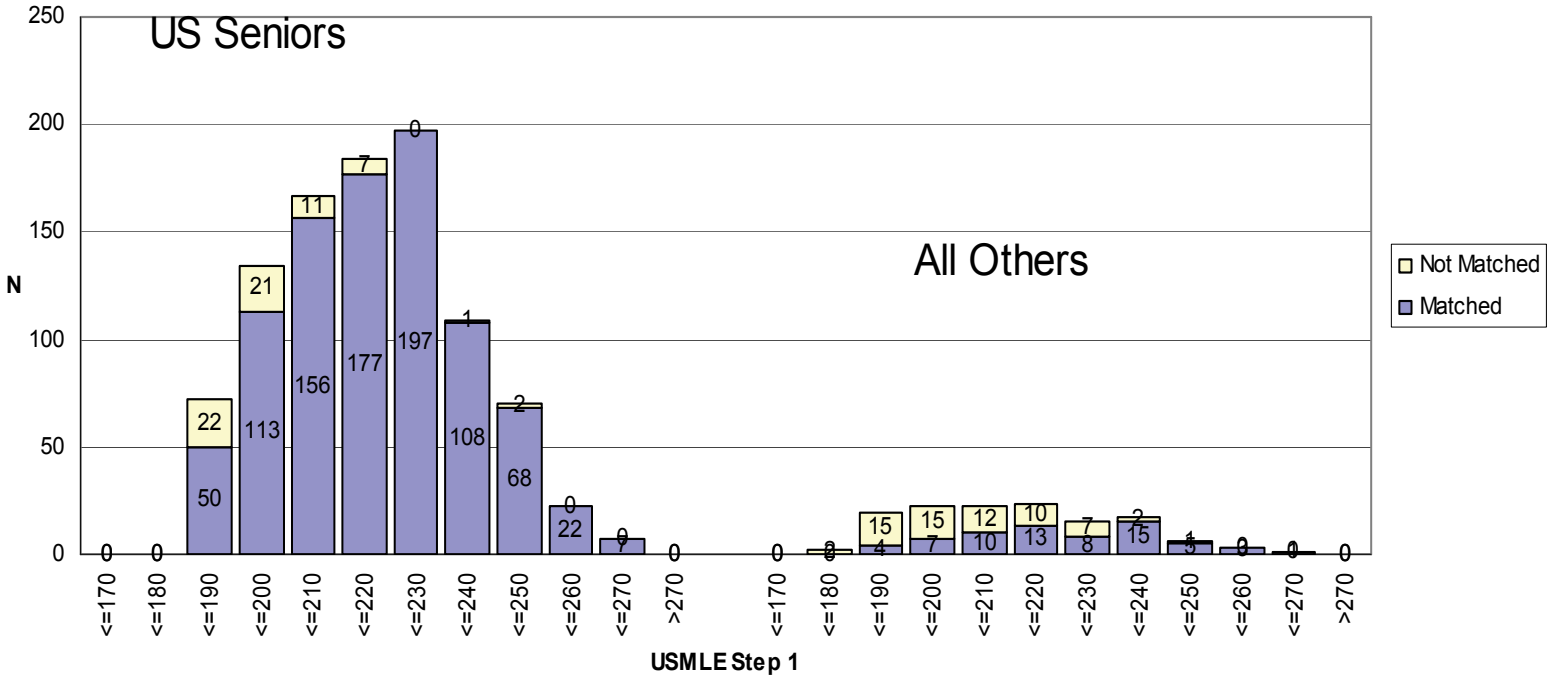
The advice one should give to an applicant is straightforward.

> Rank all of the programs you really want, without regard to your estimate of your chances with those programs.
>
> Include all of the programs on your list where the program has expressed a interest in you and where you would accept a position.
>
> Have a Plan B. If you are applying to a competitive specialty, and if you would want to have some residency position in the event you are unsuccessful in gaining acceptance to a program in your preferred specialty, rank also your most preferred programs in an alternate specialty.
>
> Include all of your qualifications in your application, but know that you do not have to be AOA, to have the highest USMLE score, to have publications, and to have participated in research projects to successfully match.

Program directors and applicants will find graphs for the specialty of their particular interest in the pages that follow.

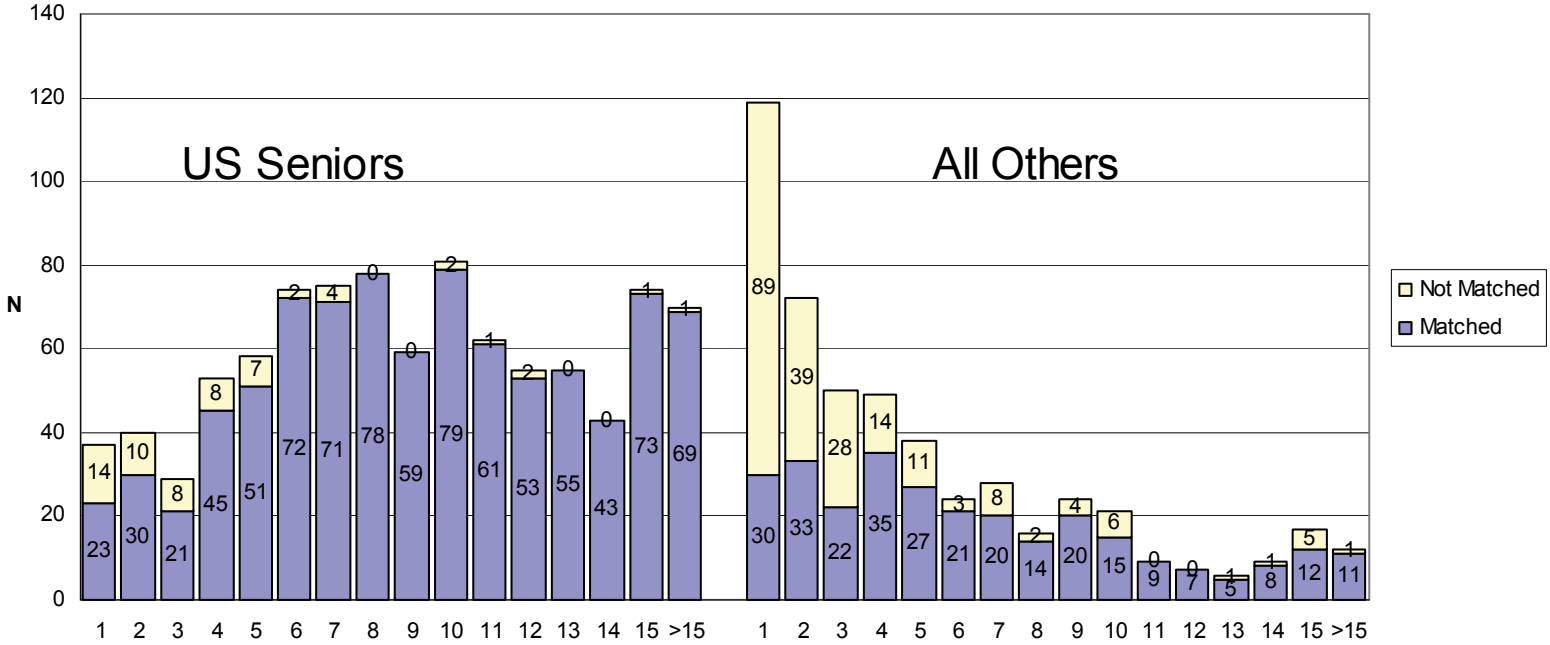
Anesthesiology		
	U.S. Seniors	All Others
Number of Applicants	965	544
Applicants per position	0.75	0.42
Mean USMLE Step 1 Score	216	213
Mean Contiguous Ranks	9.6	6.6
Percent AOA	6	1
Percent with publications	47	41
Percent with research projects	81	72
Number of Positions in Main Match	1283	

Anesthesiology - USMLE Step 1 Scores



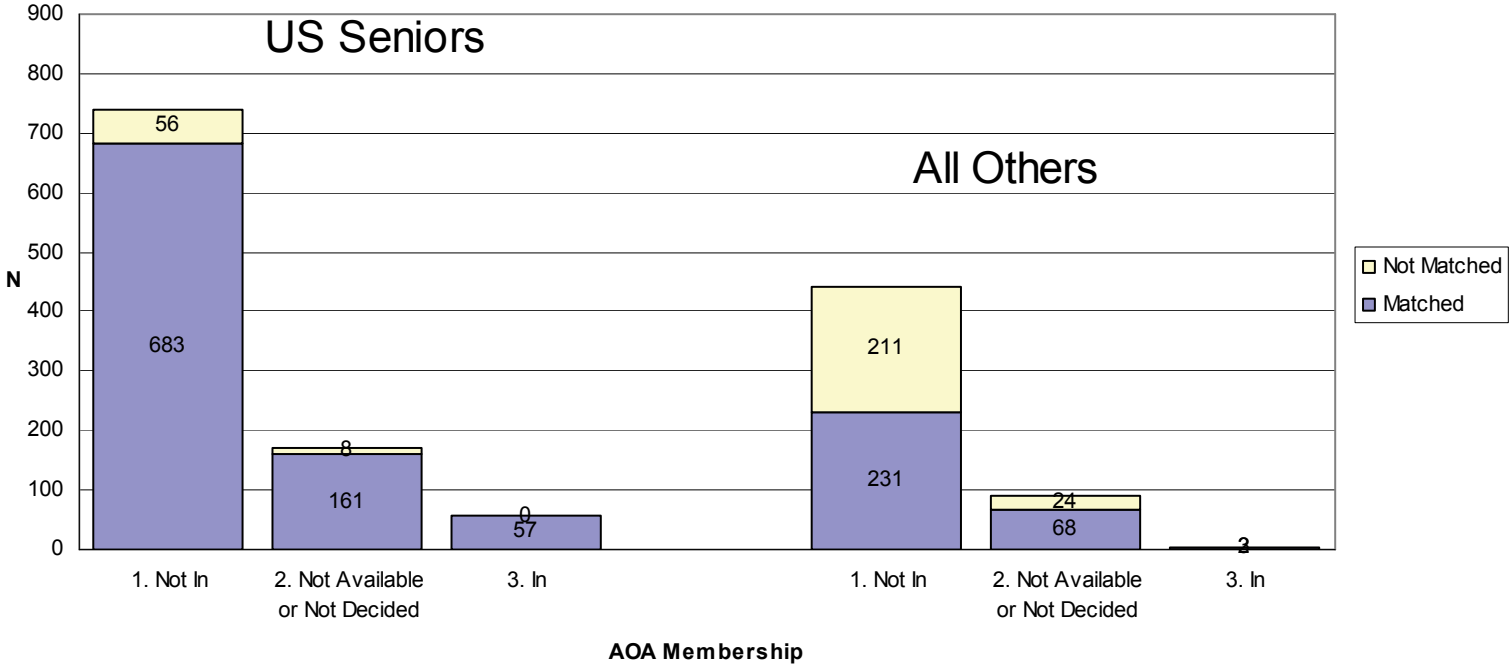
Source: NRMP Data Warehouse and AAMC USMLE Data Warehouse. USMLE scores by permission of NBME and ECFMG.

Anesthesiology - Length of Contiguous Rank-order List



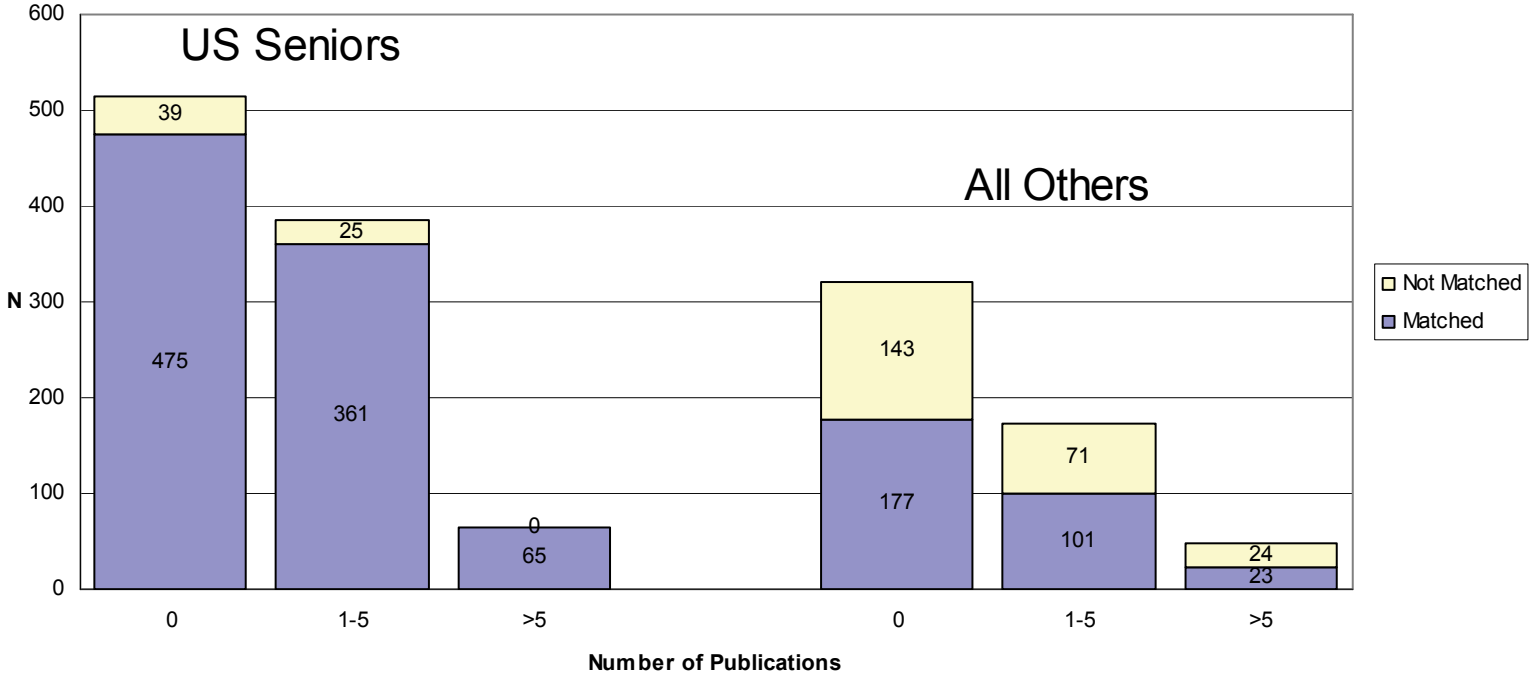
Source: NRMP Data Warehouse Data Warehouse

Anesthesiology - Membership in AOA



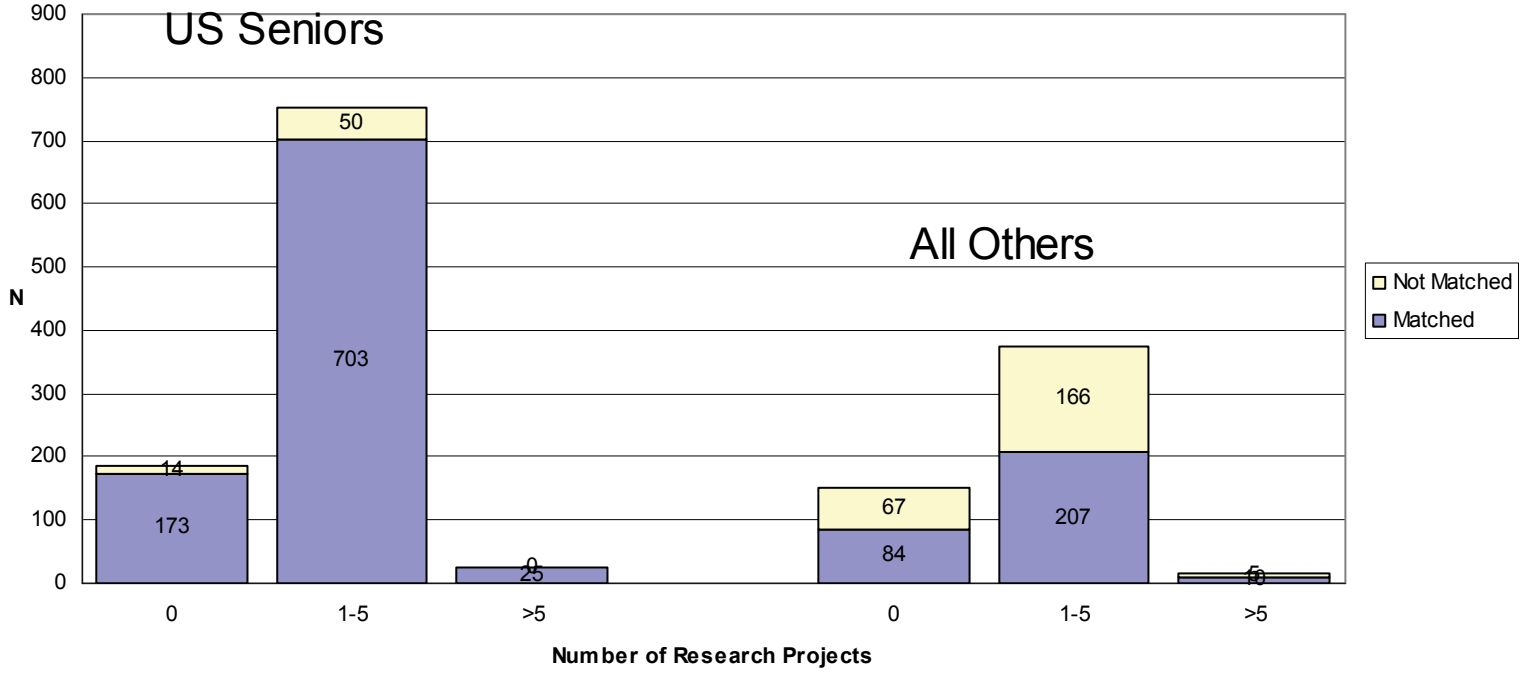
Source: NRMP Data Warehouse and AAMC ERAS Data Warehouse

Anesthesiology - Publications



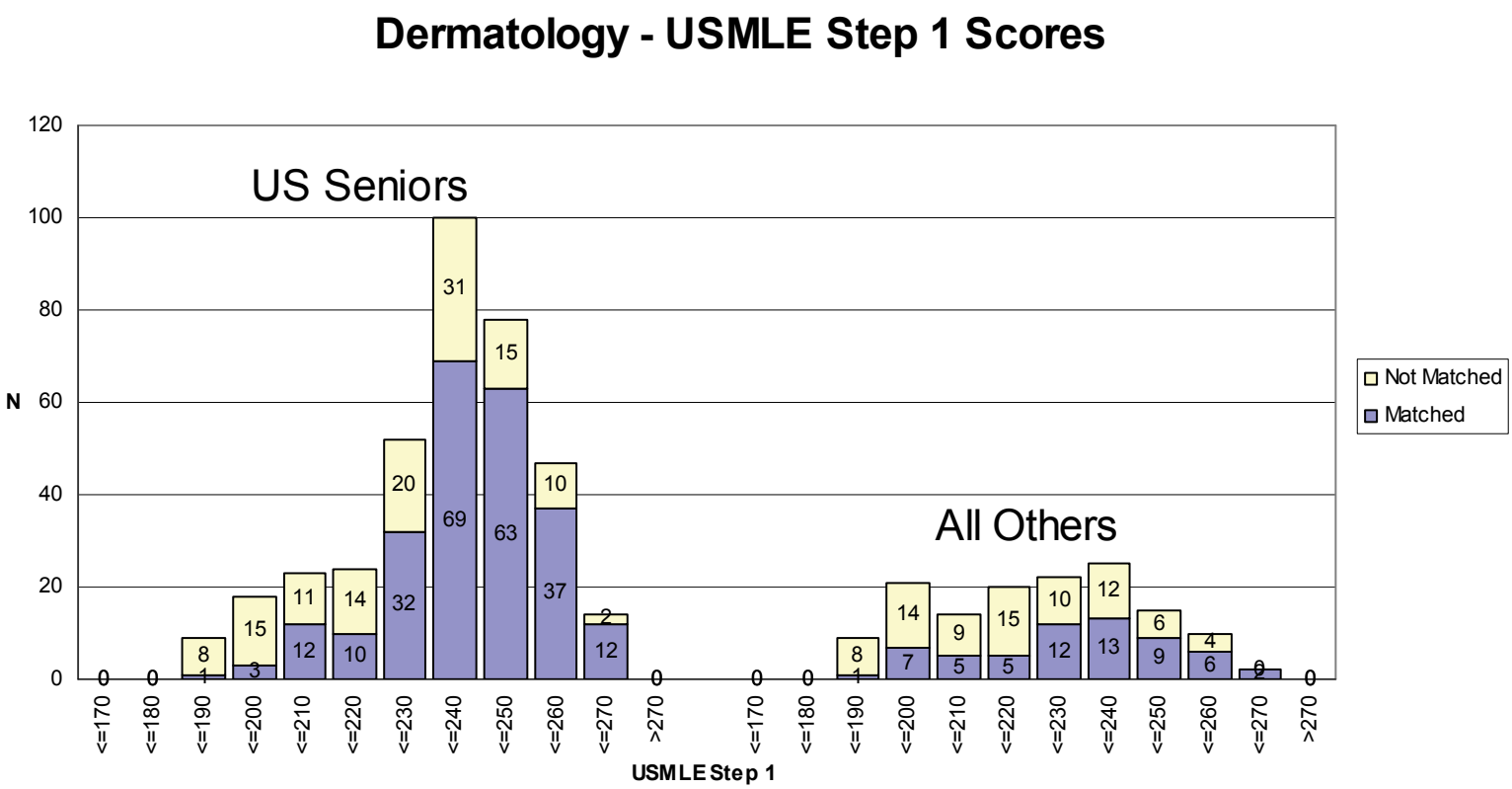
Source: NRMP Data Warehouse and AAMC ERAS Data Warehouse

Anesthesiology - Participation in Research Projects



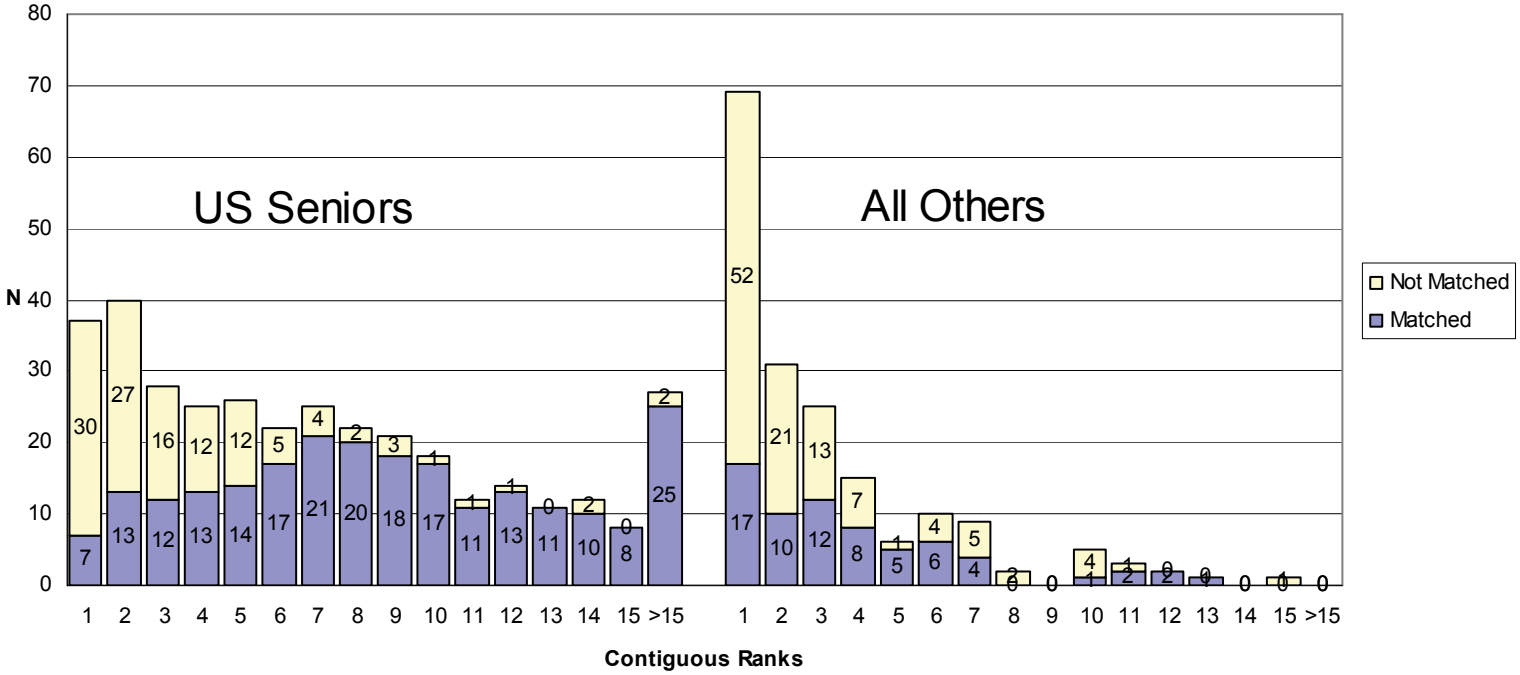
Source: NRMP Data Warehouse and AAMC ERAS Data Warehouse

Dermatology		
	U.S. Seniors	All Others
Number of Applicants	366	180
Applicants per position	1.16	0.57
Mean USMLE Step 1 Score	233	222
Mean Contiguous Ranks	9.0	3.9
Percent AOA	49	38
Percent with publications	80	80
Percent with research projects	95	92
Number of Positions in Main Match	316	



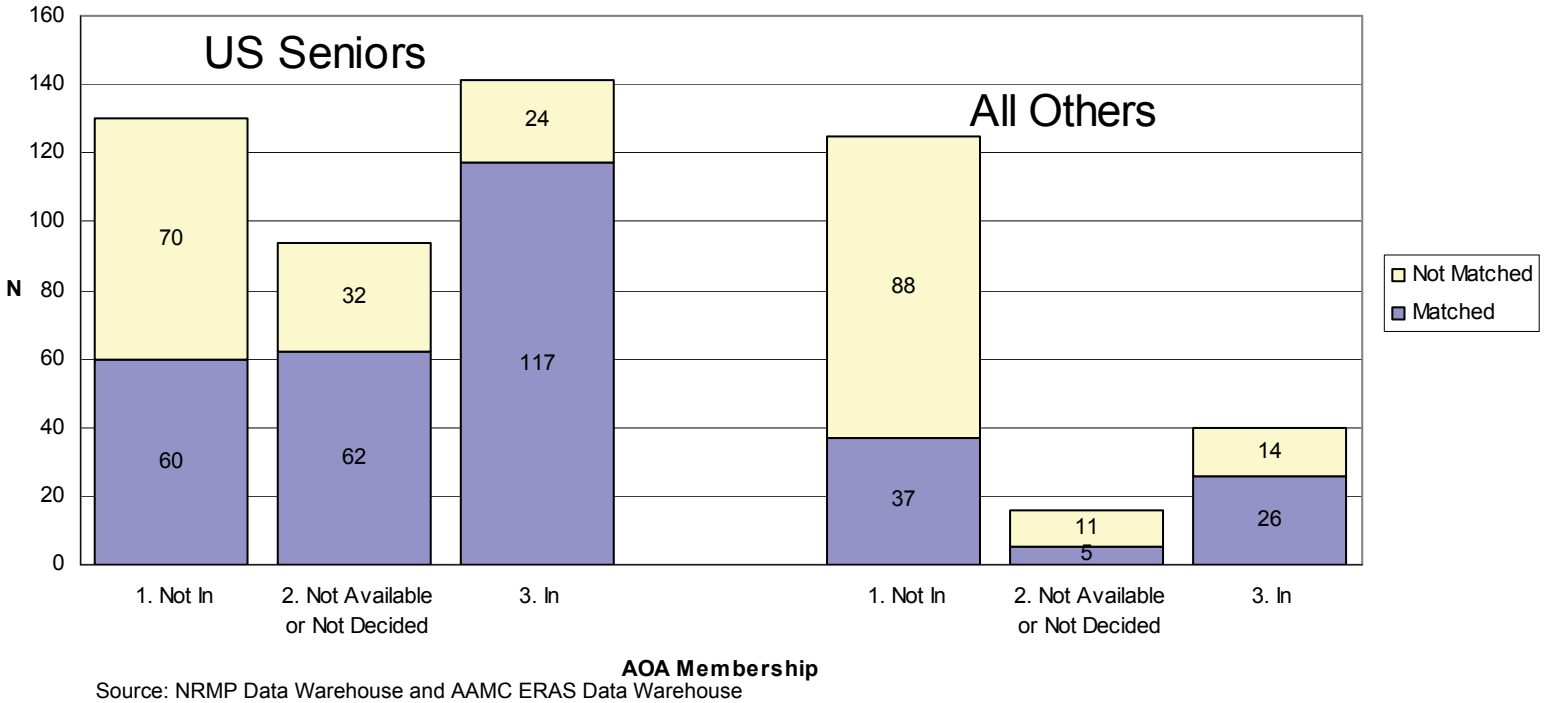
Source: NRMP Data Warehouse and AAMC USMLE Data Warehouse. USMLE scores by permission of NBME and ECFMG.

Dermatology - Length of Contiguous Rank Order List



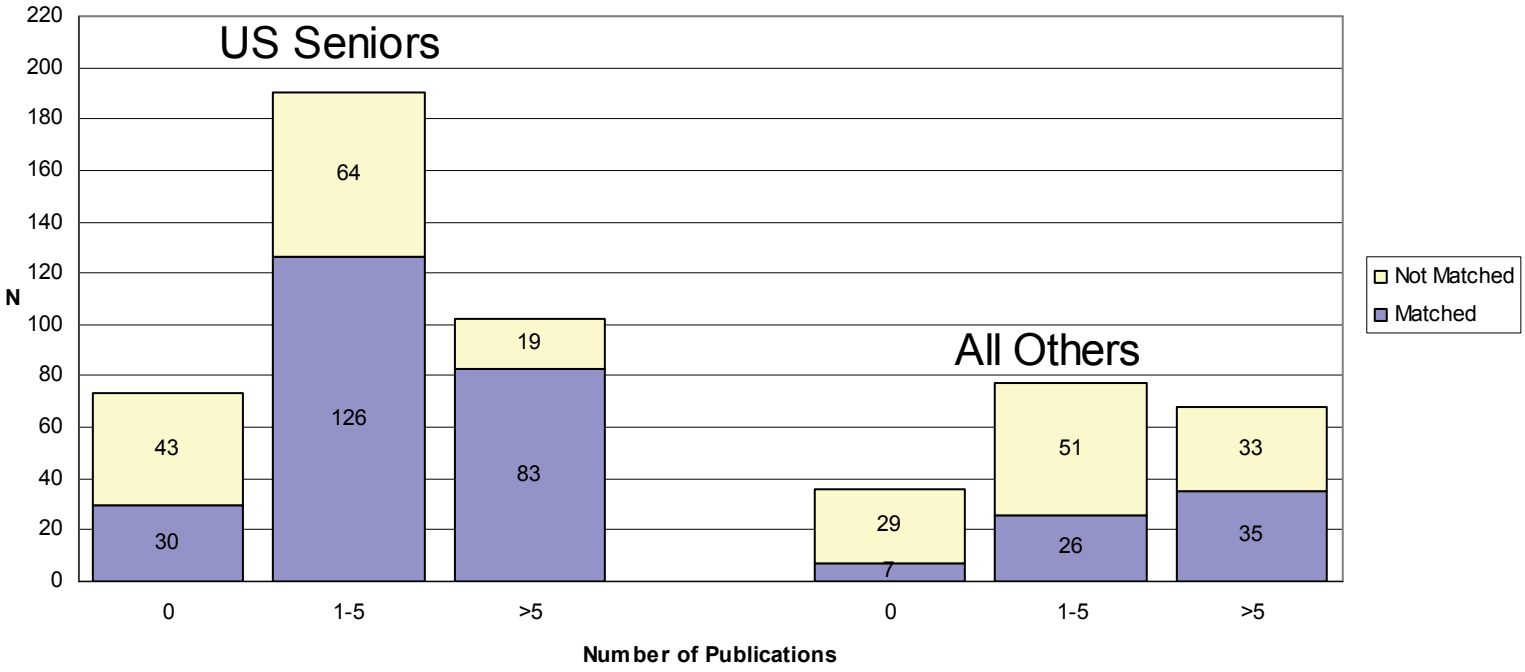
Source: NRMP Data Warehouse Data Warehouse

Dermatology - Membership in AOA



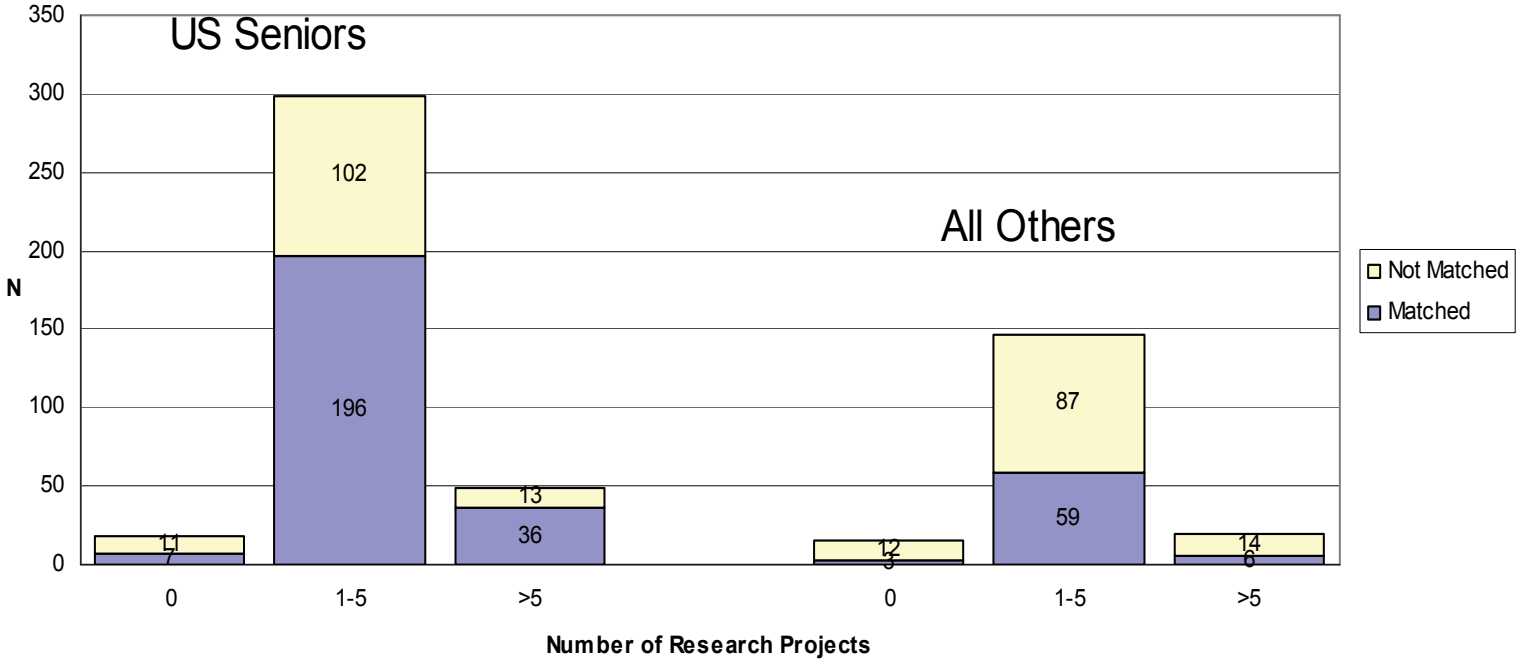
Source: NRMP Data Warehouse and AAMC ERAS Data Warehouse

Dermatology - Publications



Source: NRMP Data Warehouse and AAMC ERAS Data Warehouse

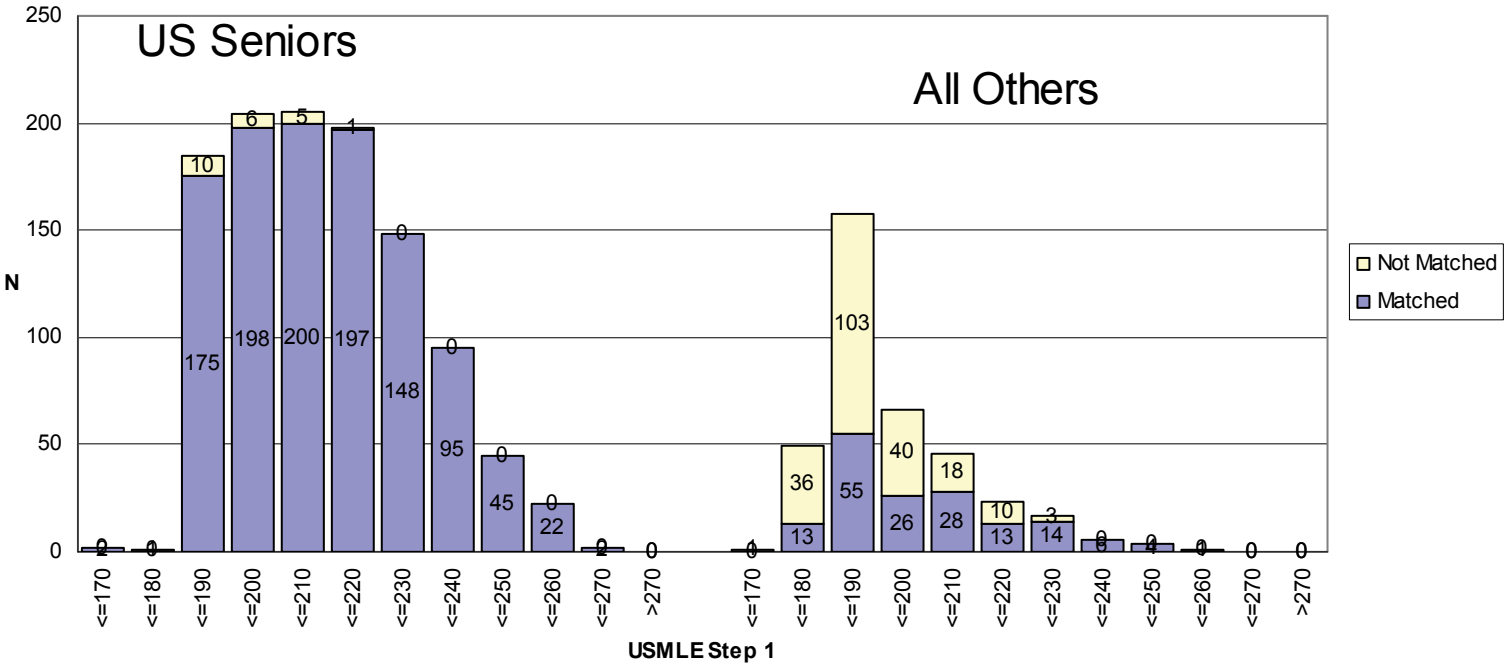
Dermatology - Participation in Research Projects



Source: NRMP Data Warehouse and AAMC ERAS Data Warehouse

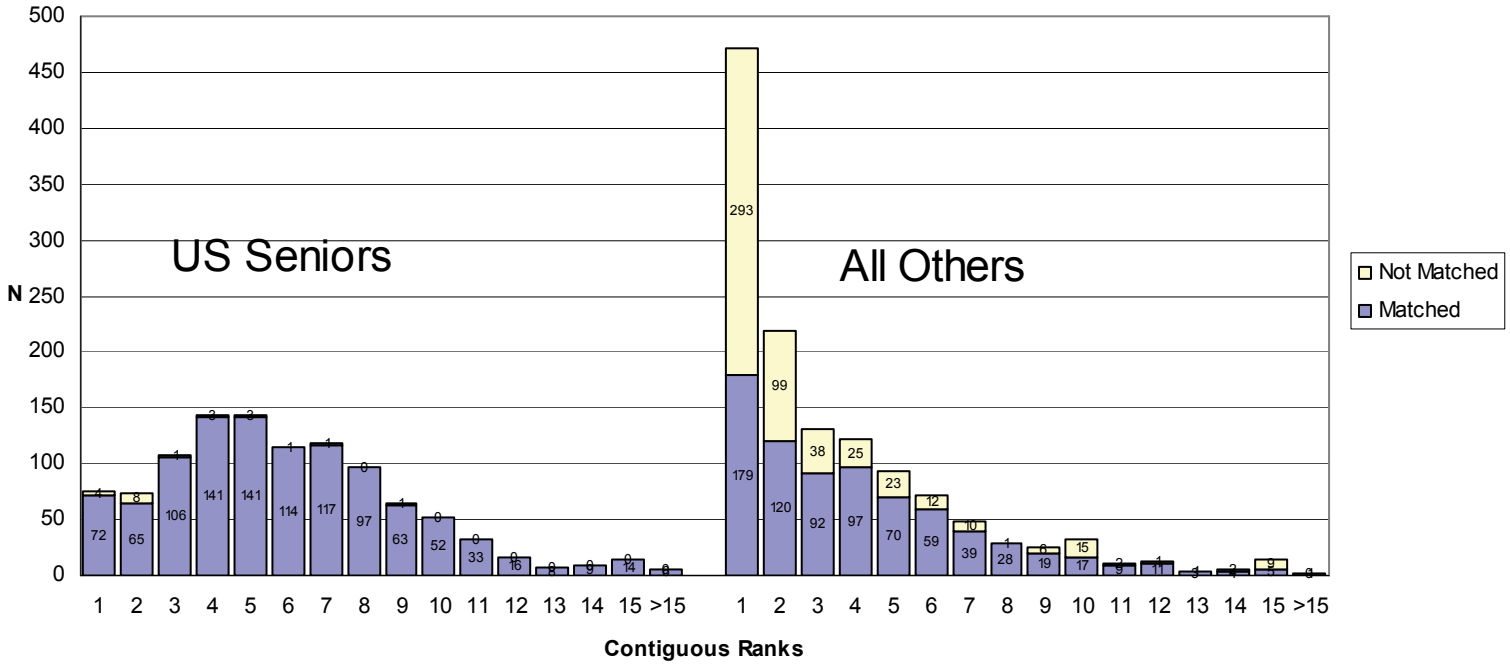
Family Medicine		
	U.S. Seniors	All Others
Number of Applicants	1110	1557
Applicants per position	0.40	0.56
Mean USMLE Step 1 Score	210	195
Mean Contiguous Ranks	5.9	4.0
Percent AOA	6	1
Percent with publications	37	33
Percent with research projects	67	61
Number of Positions in Main Match	2761	

Family Medicine - USMLE Step 1 Scores



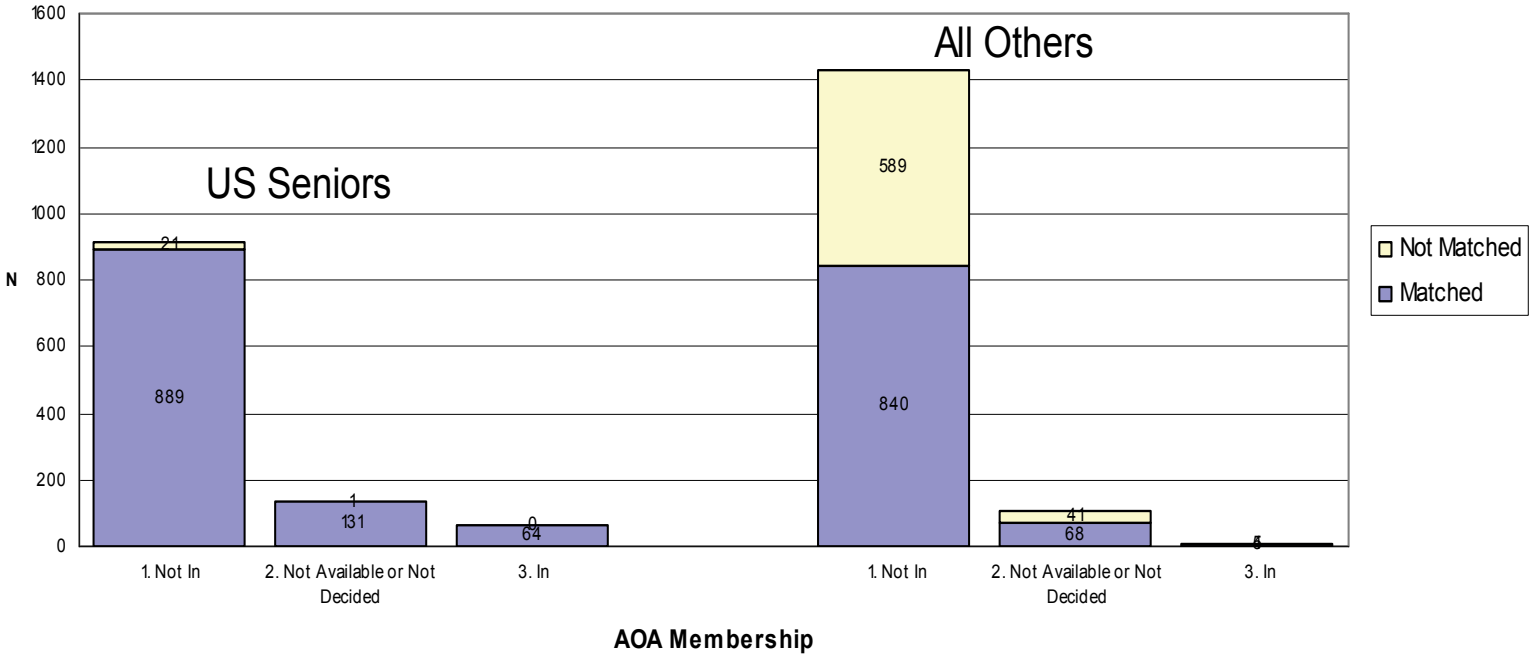
Source: NRMP Data Warehouse and AAMC USMLE Data Warehouse. USMLE scores by permission of NBME and ECFMG.

Family Medicine - Length of Contiguous Rank Order List



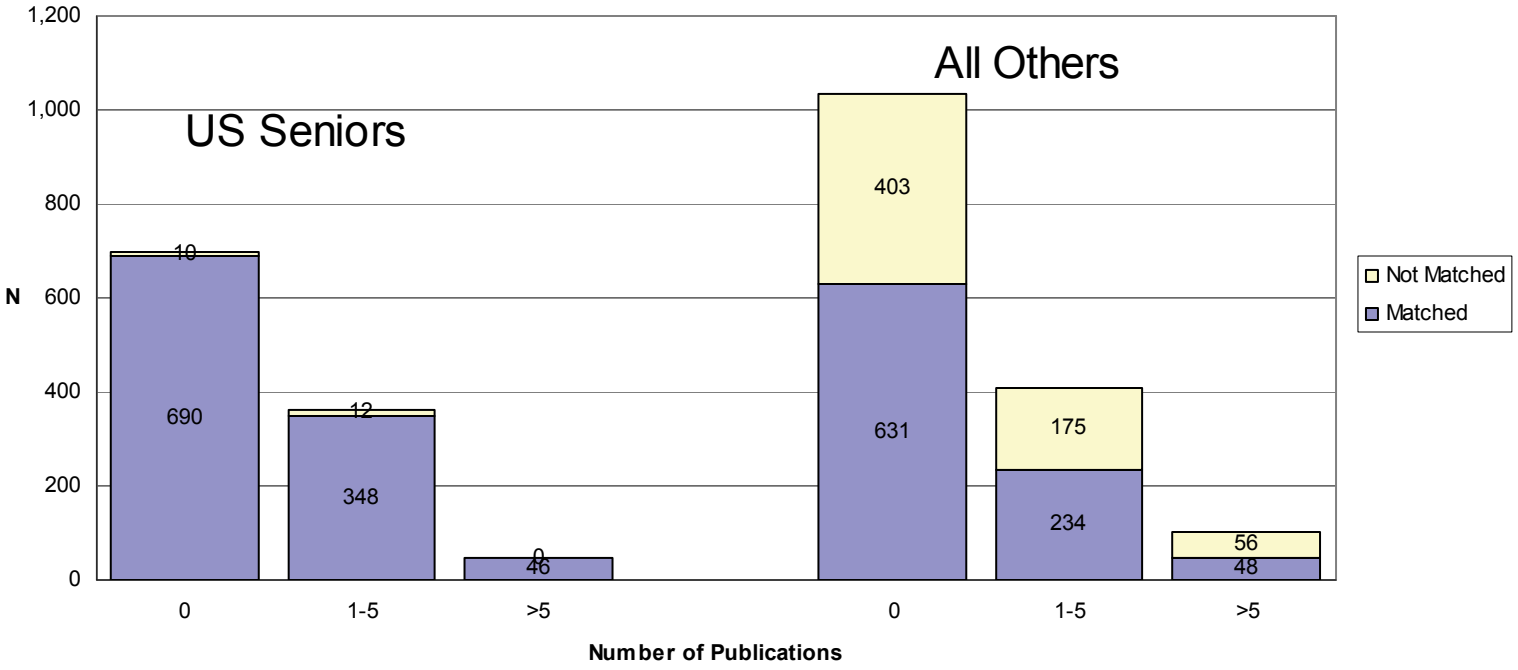
Source: NRMP Data Warehouse Data Warehouse

Family Medicine - Membership in AOA



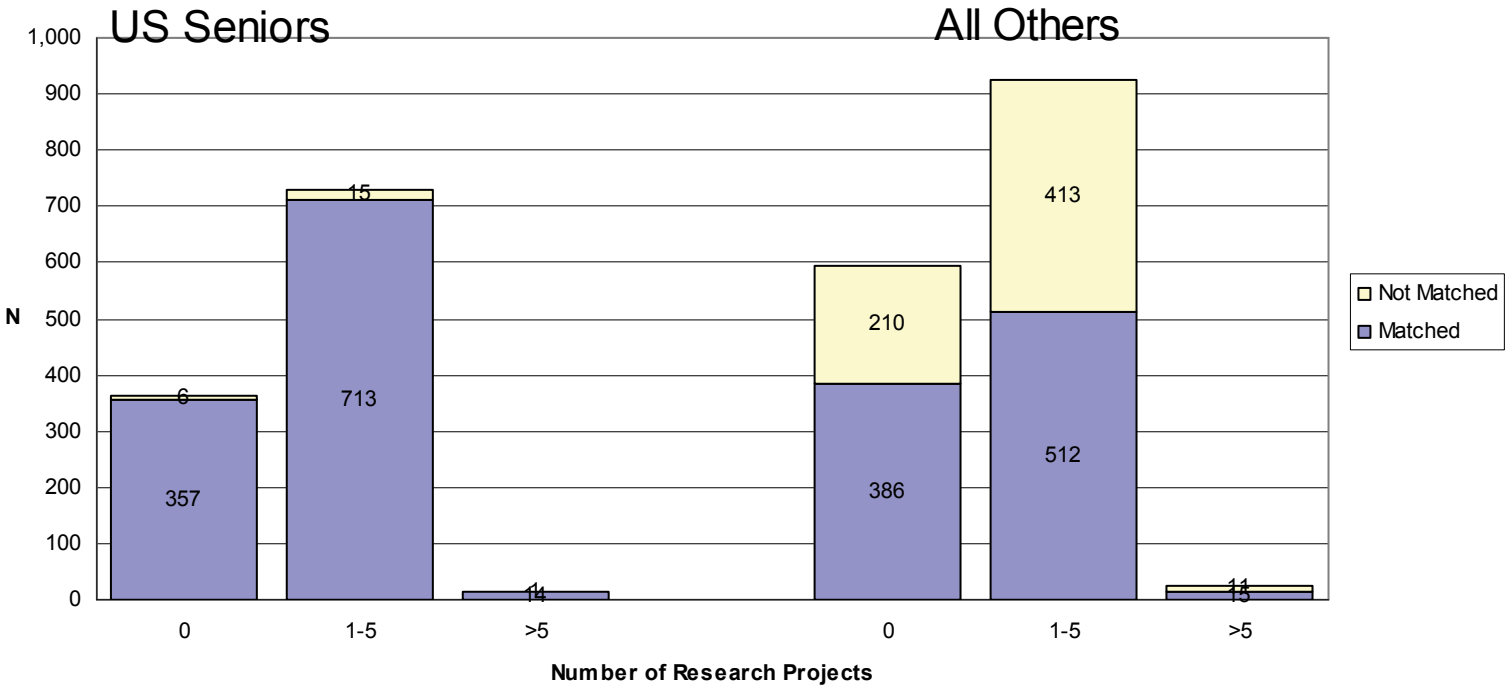
Source: NRMP Data Warehouse and AAMC ERAS Data Warehouse

Family Medicine - Publications



Source: NRMP Data Warehouse and AAMC ERAS Data Warehouse

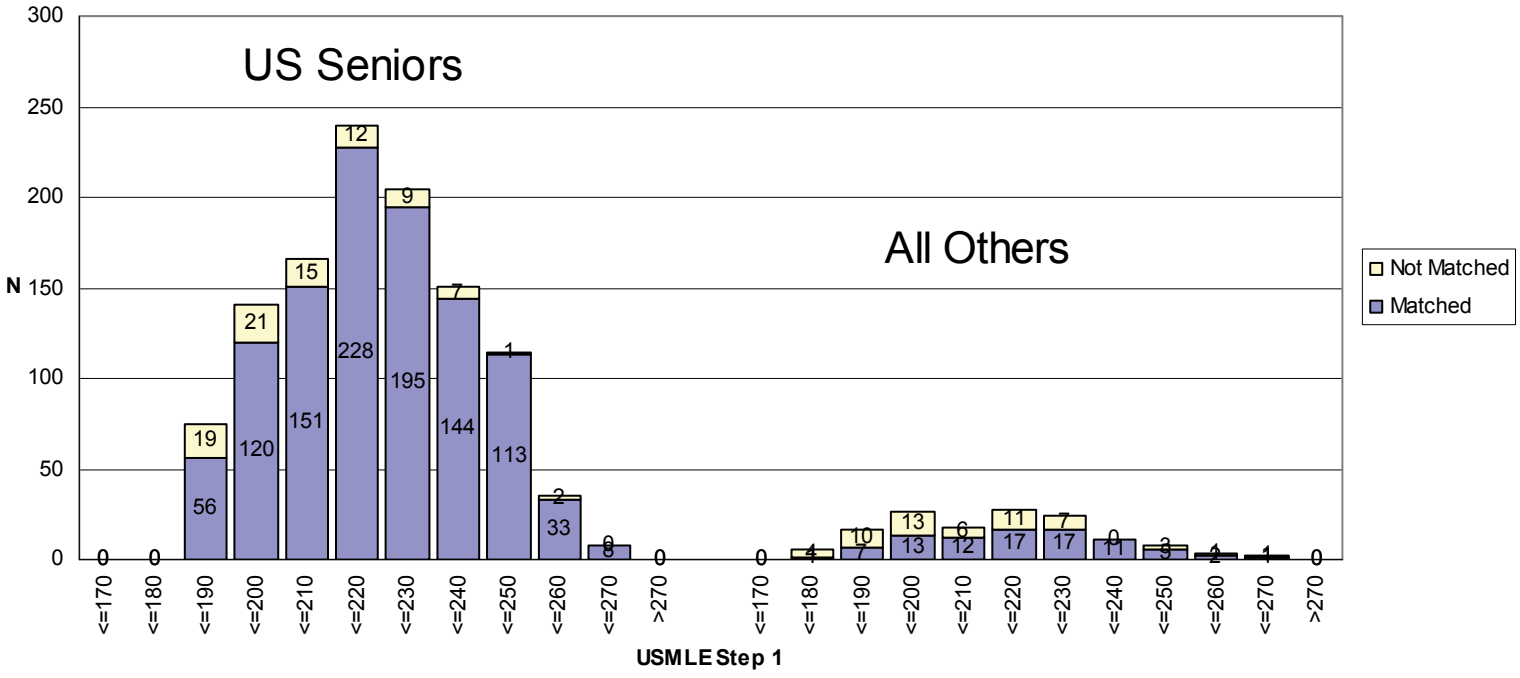
Family Medicine - Participation in Research Projects



Source: NRMP Data Warehouse and AAMC ERAS Data Warehouse

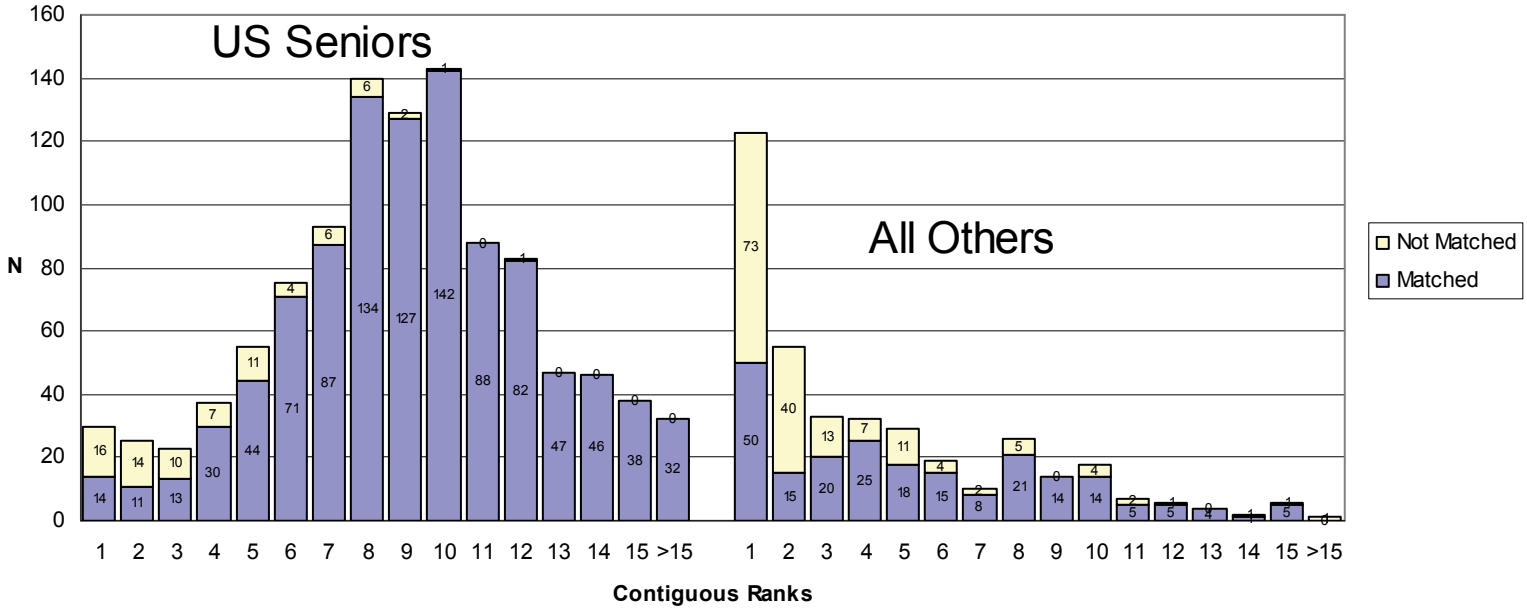
Emergency Medicine		
	U.S. Seniors	All Others
Number of Applicants	1138	403
Applicants per position	0.85	0.30
Mean USMLE Step 1 Score	219	212
Mean Contiguous Ranks	9.4	5.3
Percent AOA	10	5
Percent with publications	50	43
Percent with research projects	83	71
Number of Positions in Main Match	1332	

Emergency Medicine - USMLE Step 1 Scores



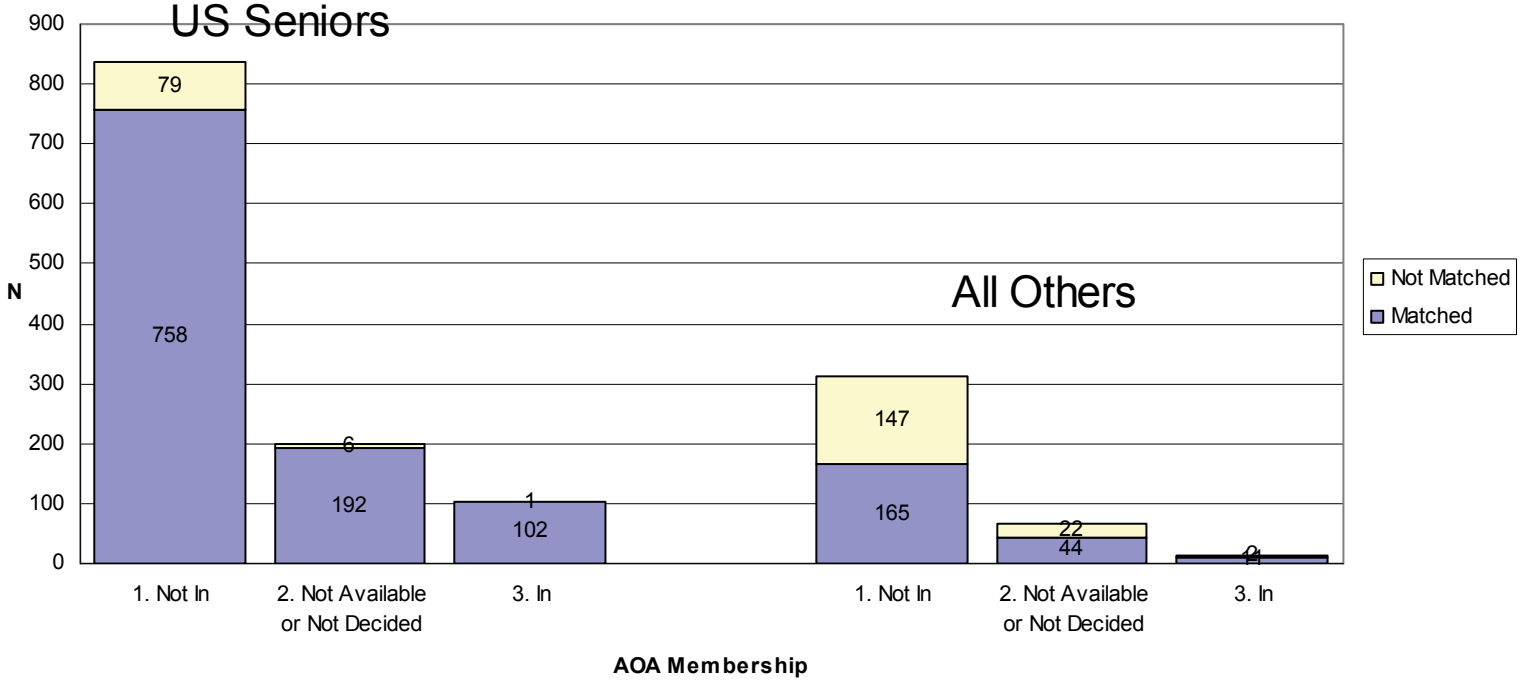
Source: NRMP Data Warehouse and AAMC USMLE Data Warehouse. USMLE scores by permission of NBME and ECFMG.

Emergency Medicine - Length of Contiguous Rank Order List



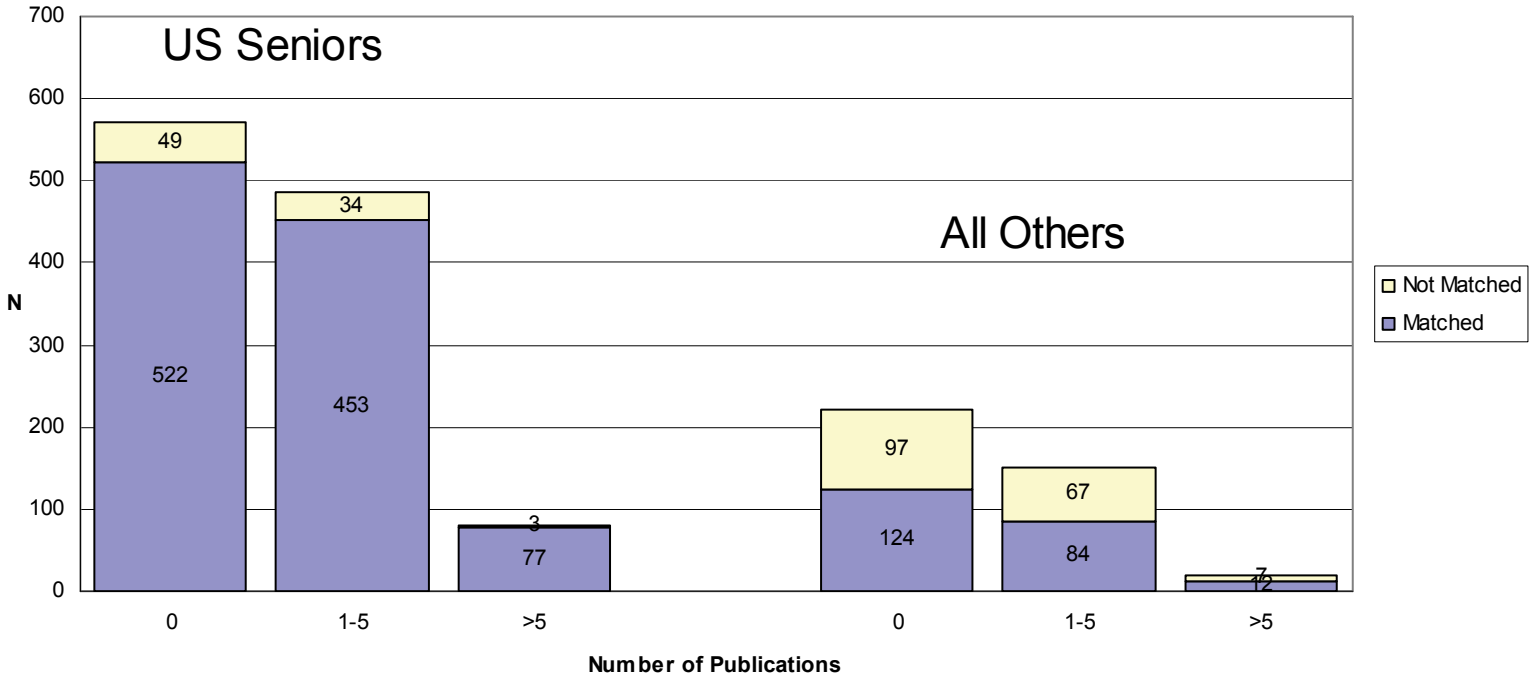
Source: NRMP Data Warehouse Data Warehouse

Emergency Medicine - Membership in AOA



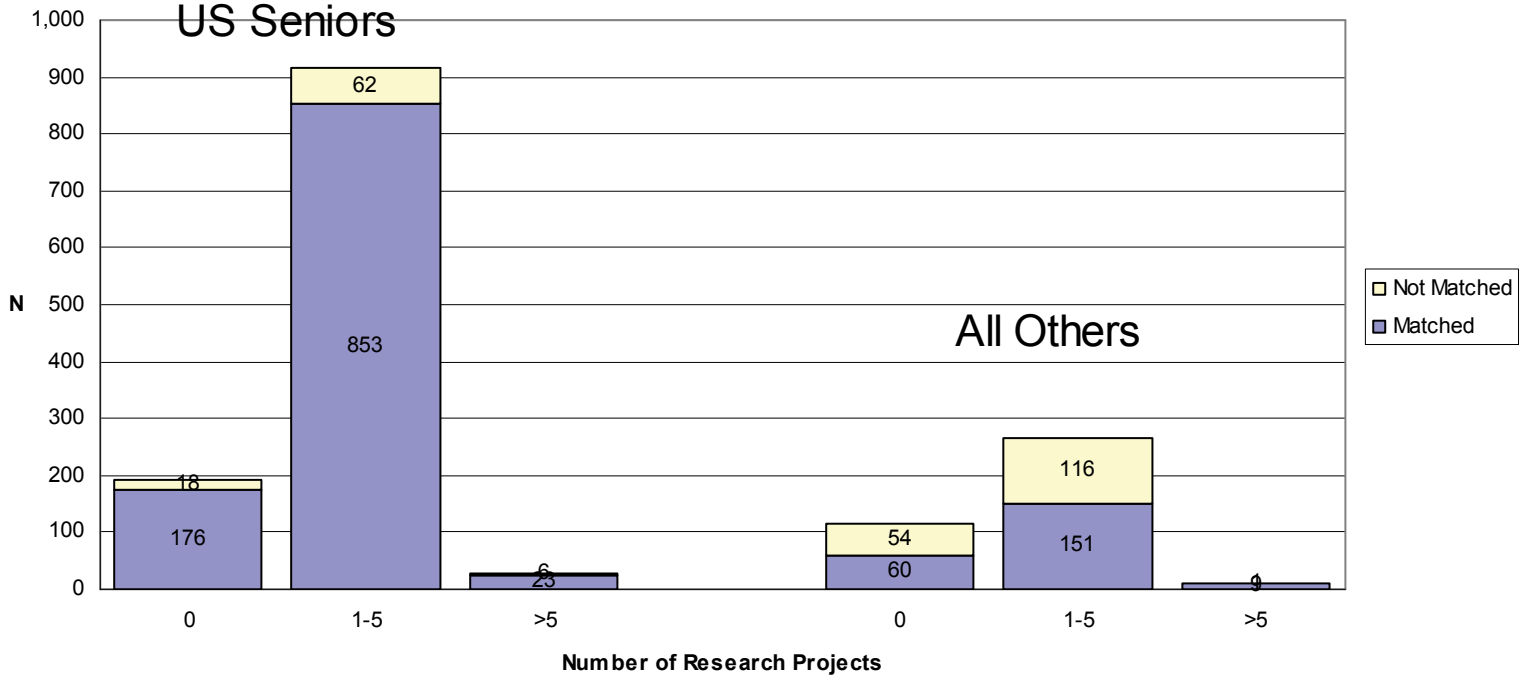
Source: NRMP Data Warehouse and AAMC ERAS Data Warehouse

Emergency Medicine - Publications



Source: NRMP Data Warehouse and AAMC ERAS Data Warehouse

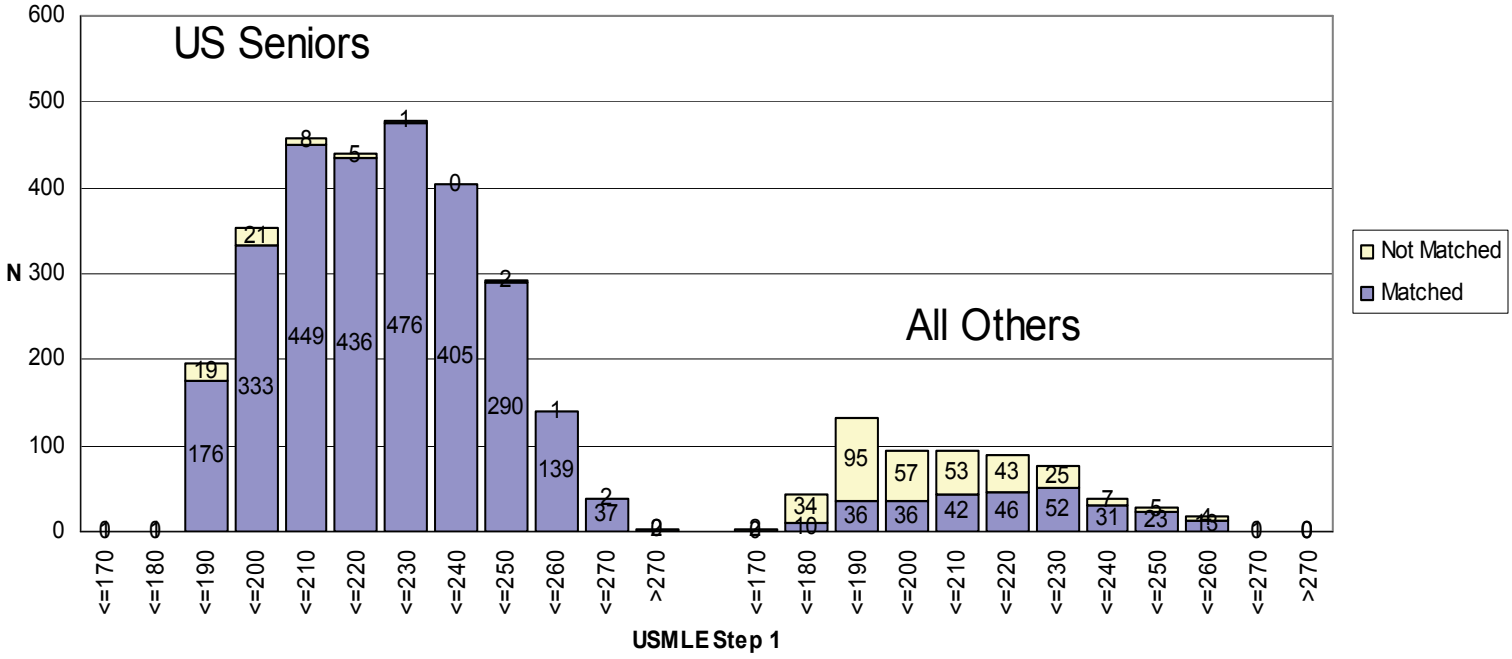
Emergency Medicine - Participation in Research Projects



Source: NRMP Data Warehouse and AAMC ERAS Data Warehouse

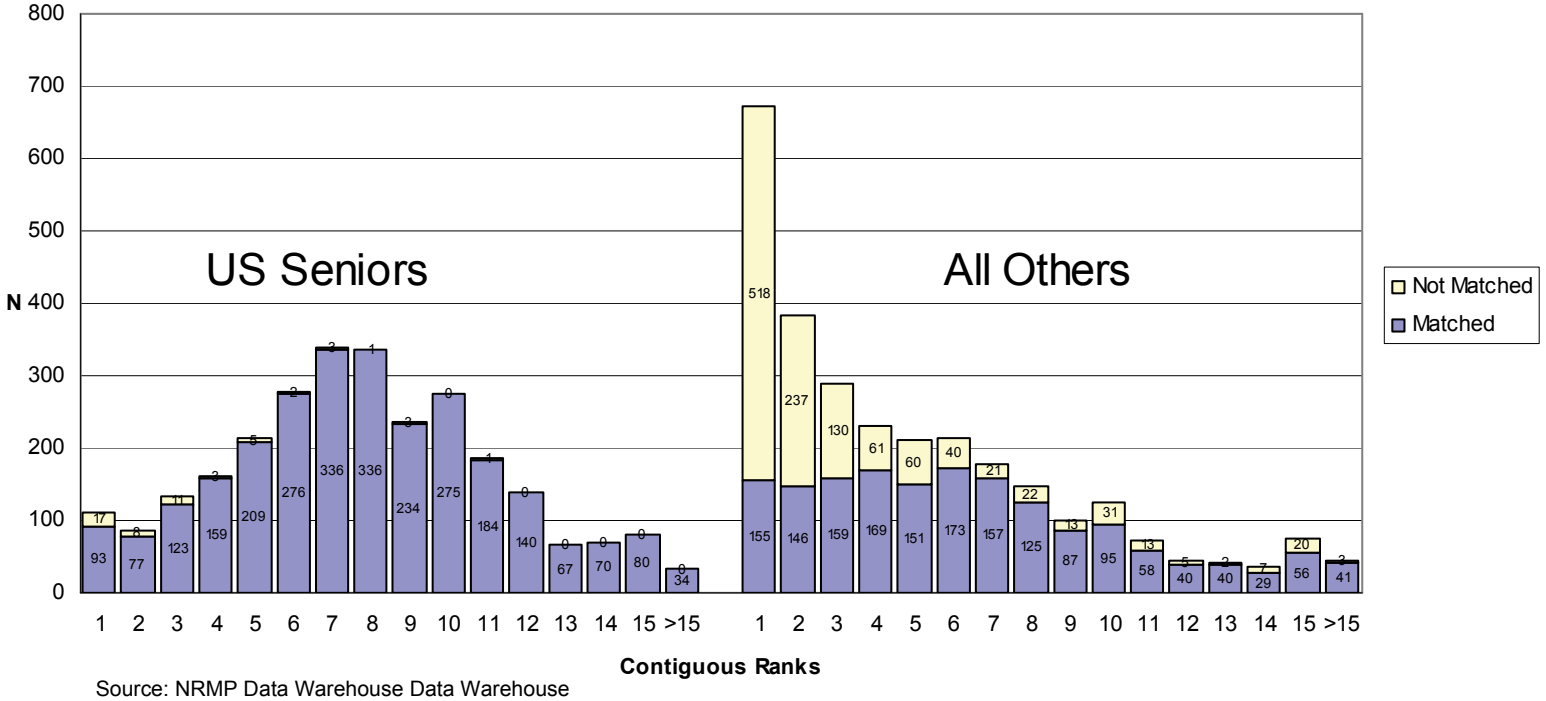
Internal Medicine		
	U.S. Seniors	All Others
Number of Applicants	3279	3639
Applicants per position	0.65	0.72
Mean USMLE Step 1 Score	220	214
Mean Contiguous Ranks	7.9	6.5
Percent AOA	15	1
Percent with publications	56	40
Percent with research projects	85	68
Number of Positions in Main Match	5058	

Internal Medicine - USMLE Step 1 Scores



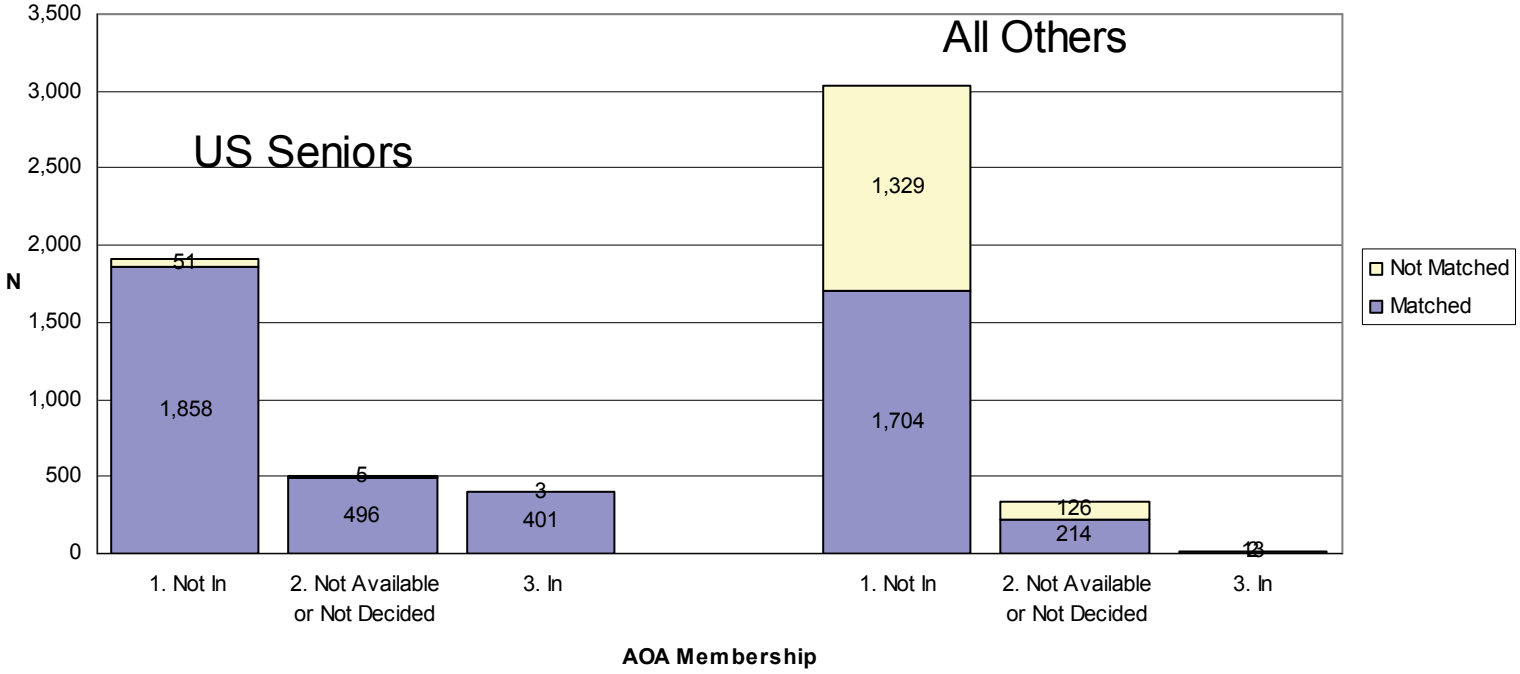
Source: NRMP Data Warehouse and AAMC USMLE Data Warehouse. USMLE scores by permission of NBME and ECFMG.

Internal Medicine - Length of Contiguous Rank Order List



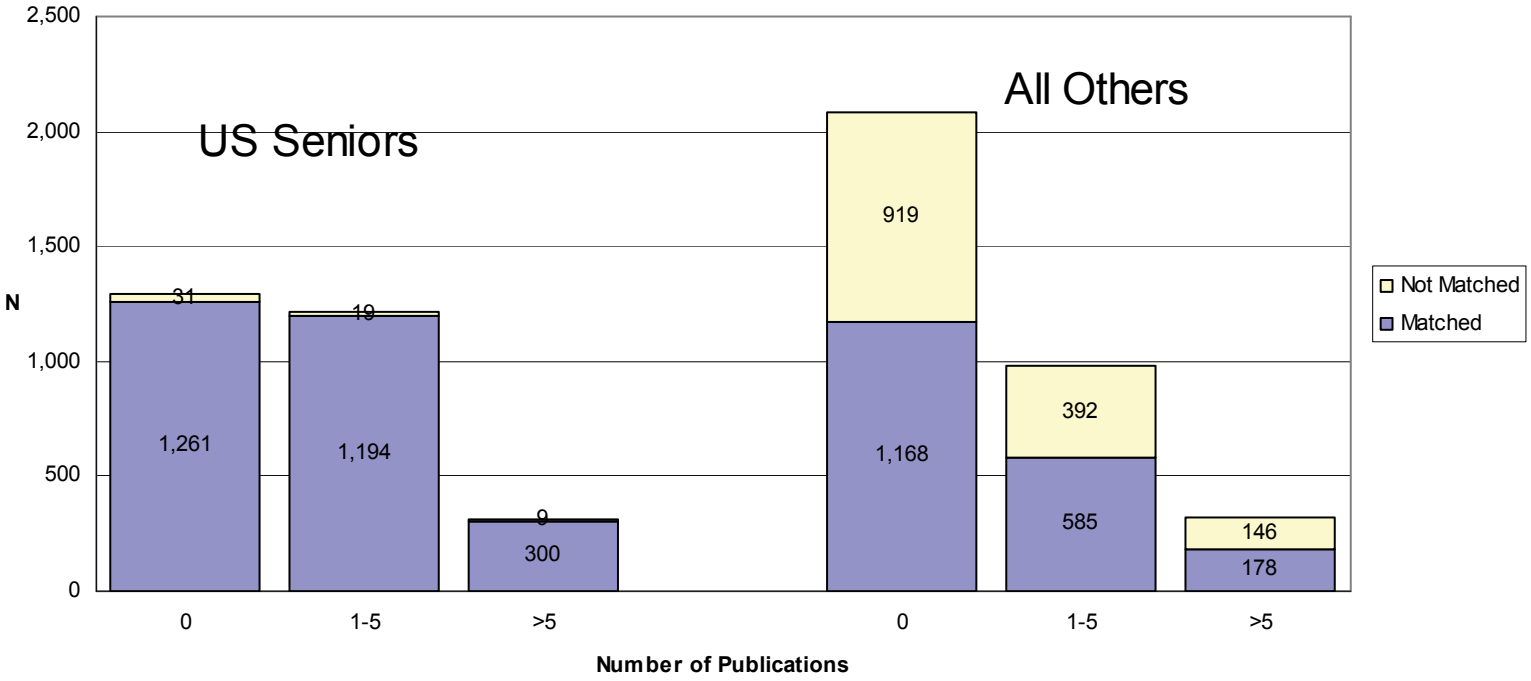
Source: NRMP Data Warehouse Data Warehouse

Internal Medicine - Membership in AOA



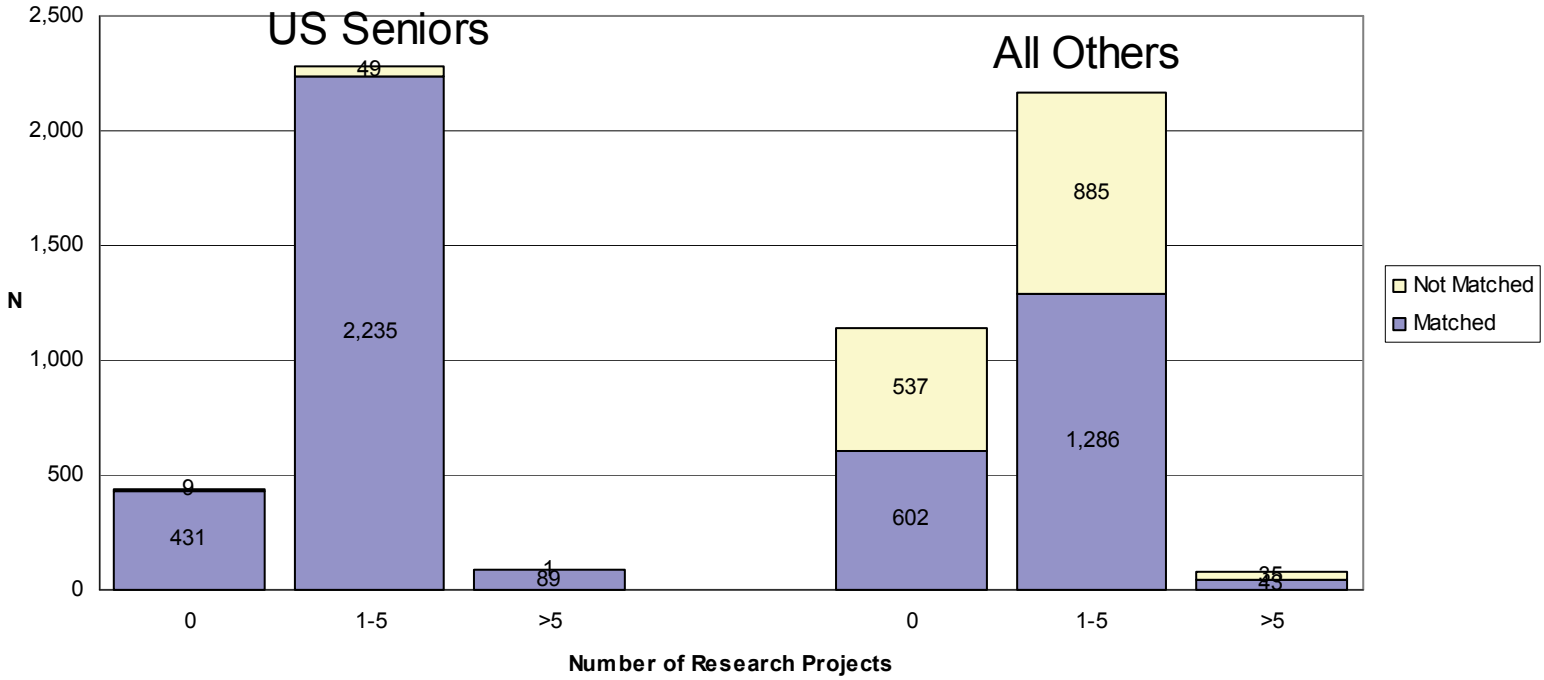
Source: NRMP Data Warehouse and AAMC ERAS Data Warehouse

Internal Medicine - Publications



Source: NRMP Data Warehouse and AAMC ERAS Data Warehouse

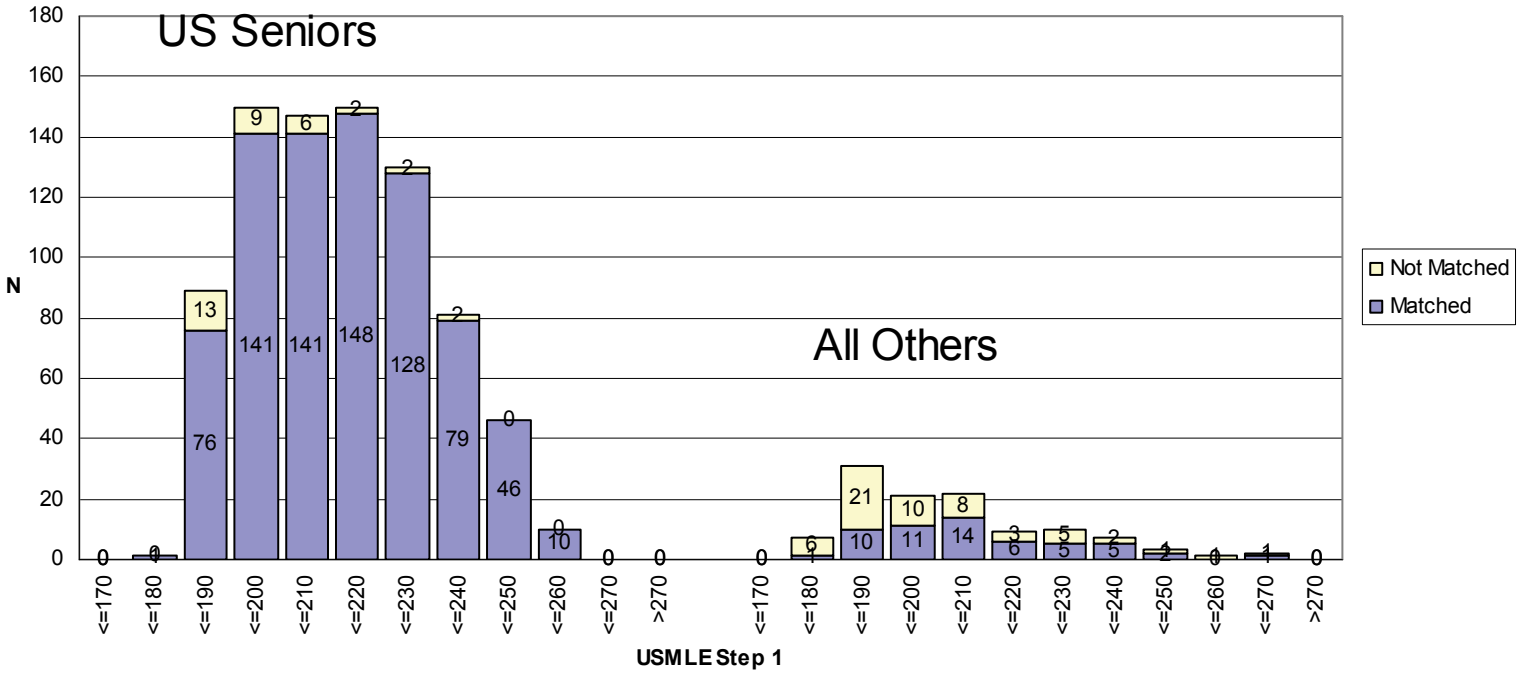
Internal Medicine - Participation in Research Projects



Source: NRMP Data Warehouse and AAMC ERAS Data Warehouse

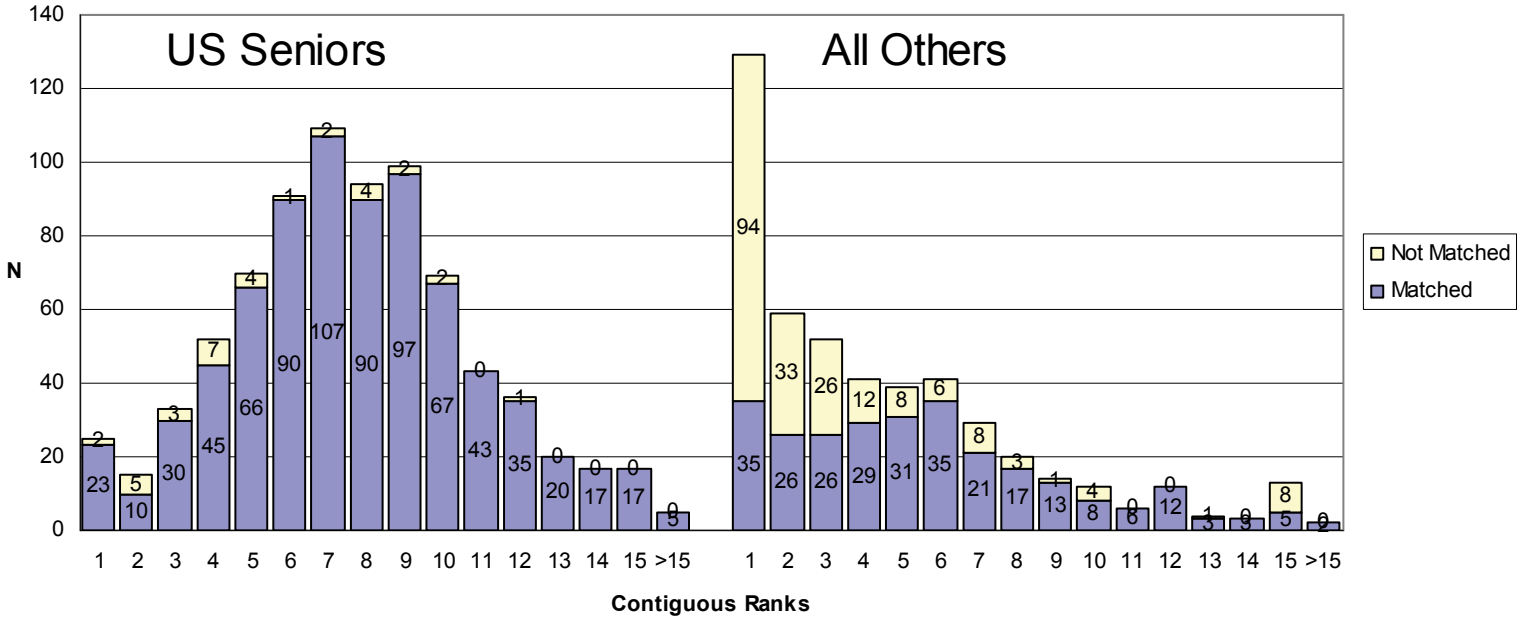
Obstetrics and Gynecology		
	U.S. Seniors	All Others
Number of Applicants	806	533
Applicants per position	0.70	0.47
Mean USMLE Step 1 Score	212	206
Mean Contiguous Ranks	7.8	5.6
Percent AOA	12	1
Percent with publications	50	43
Percent with research projects	79	69
Number of Positions in Main Match	1144	

Obstetrics and Gynecology - USMLE Step 1 Scores



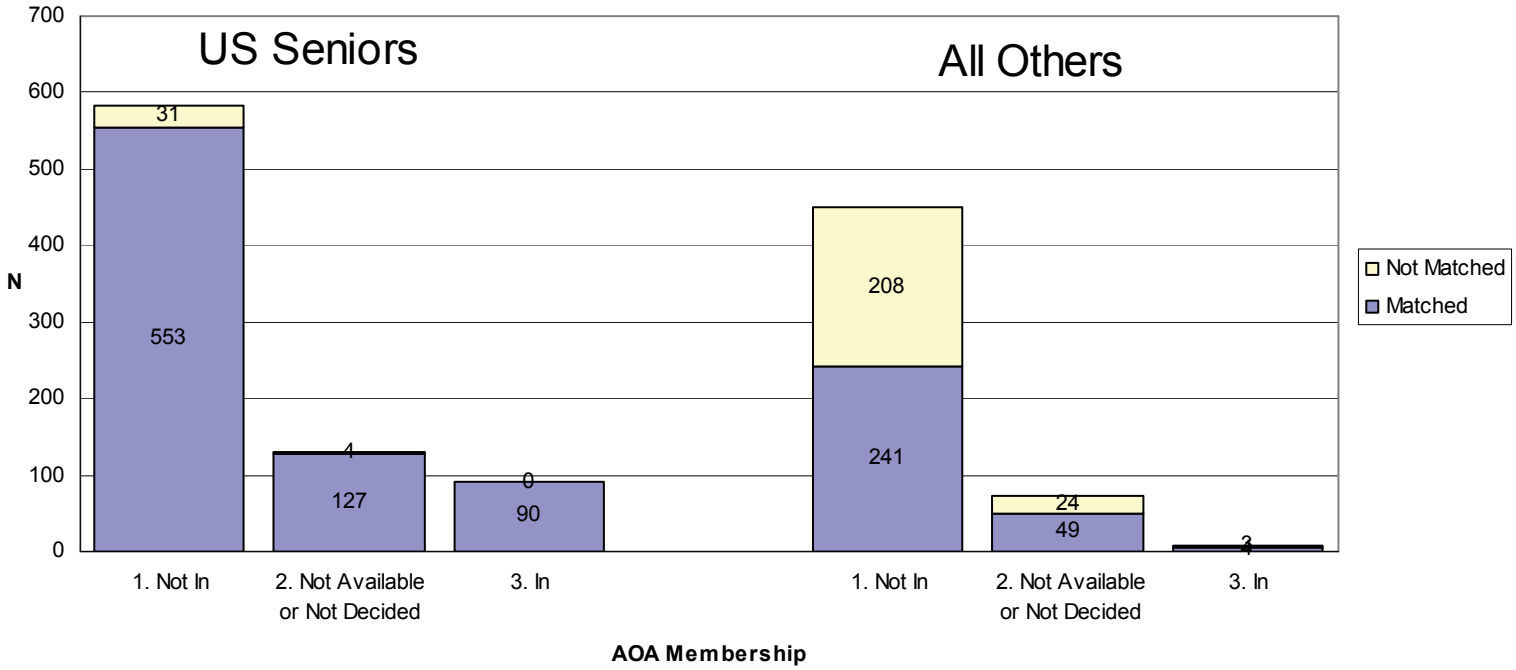
Source: NRMP Data Warehouse and AAMC USMLE Data Warehouse. USMLE scores by permission of NBME and ECFMG.

Obstetrics and Gynecology - Length of Contiguous Rank Order List



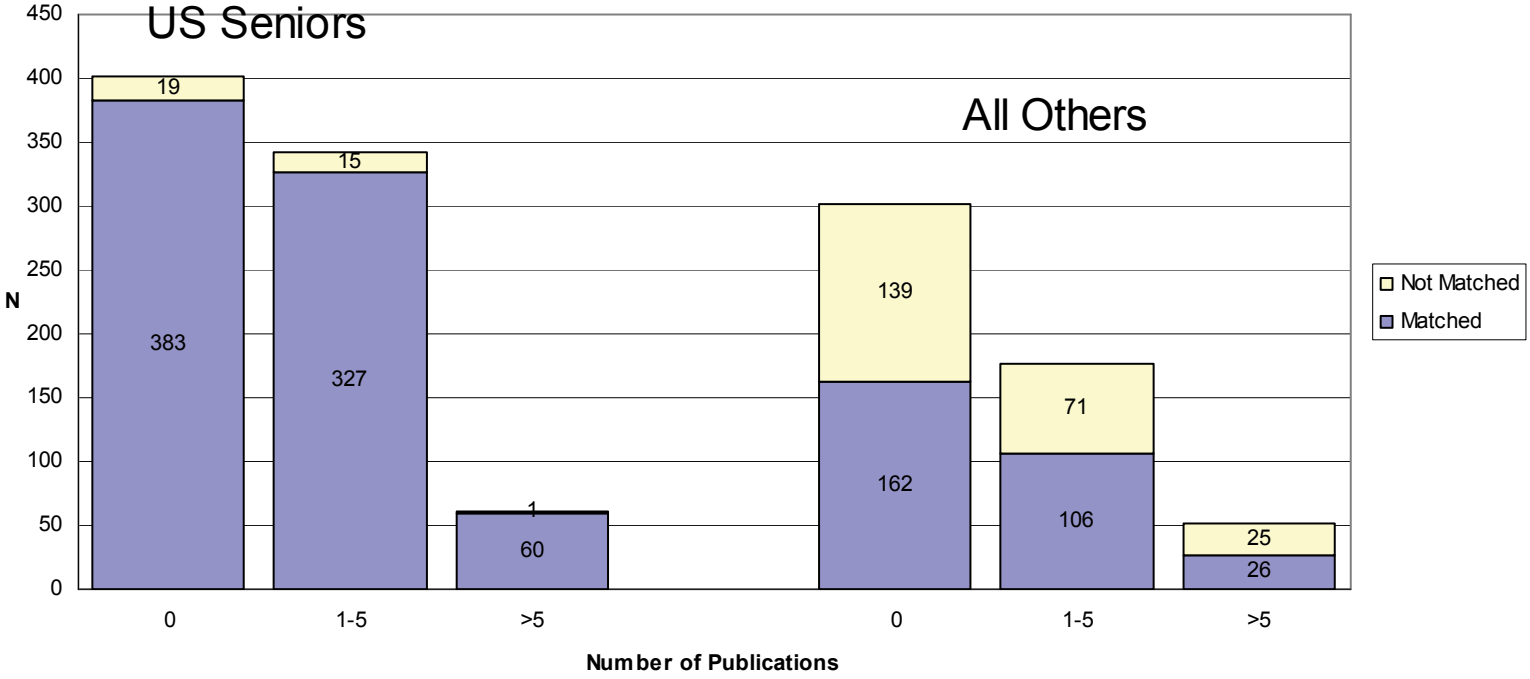
Source: NRMP Data Warehouse Data Warehouse

Obstetrics and Gynecology - Membership in AOA



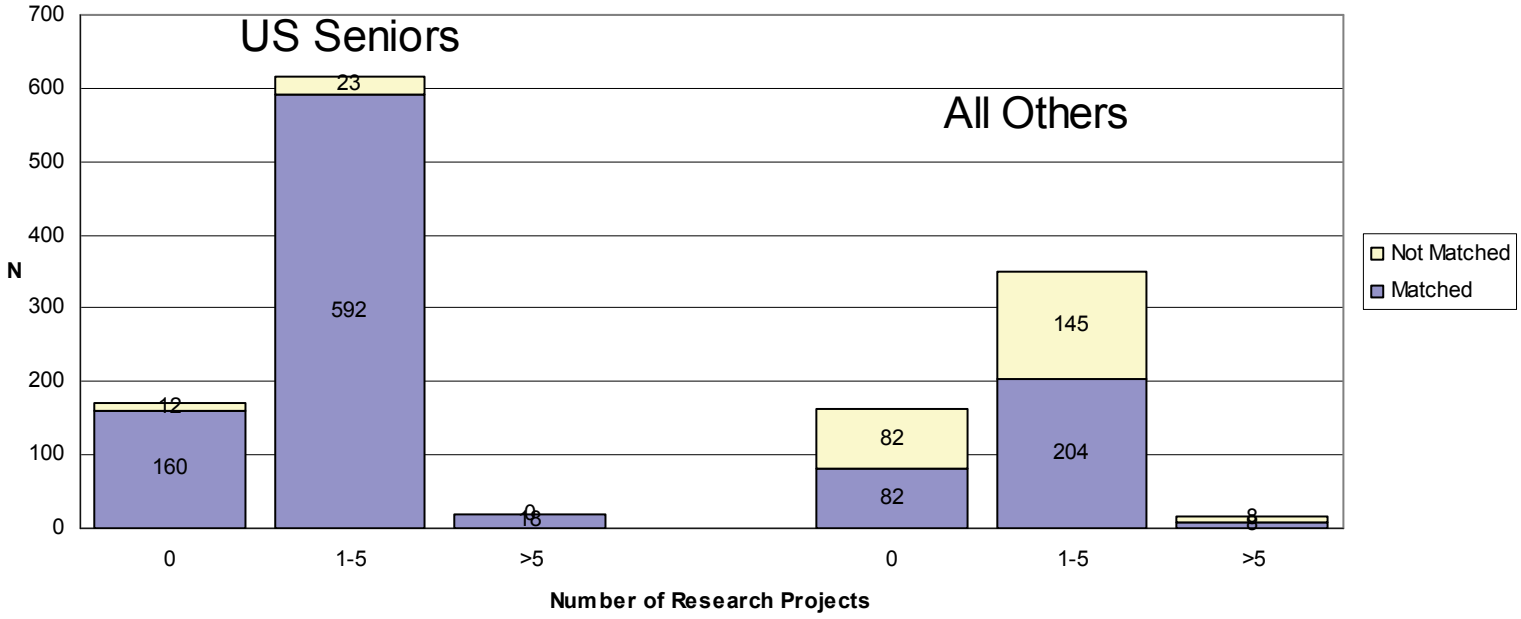
Source: NRMP Data Warehouse and AAMC ERAS Data Warehouse

Obstetrics and Gynecology - Publications



Source: NRMP Data Warehouse and AAMC ERAS Data Warehouse

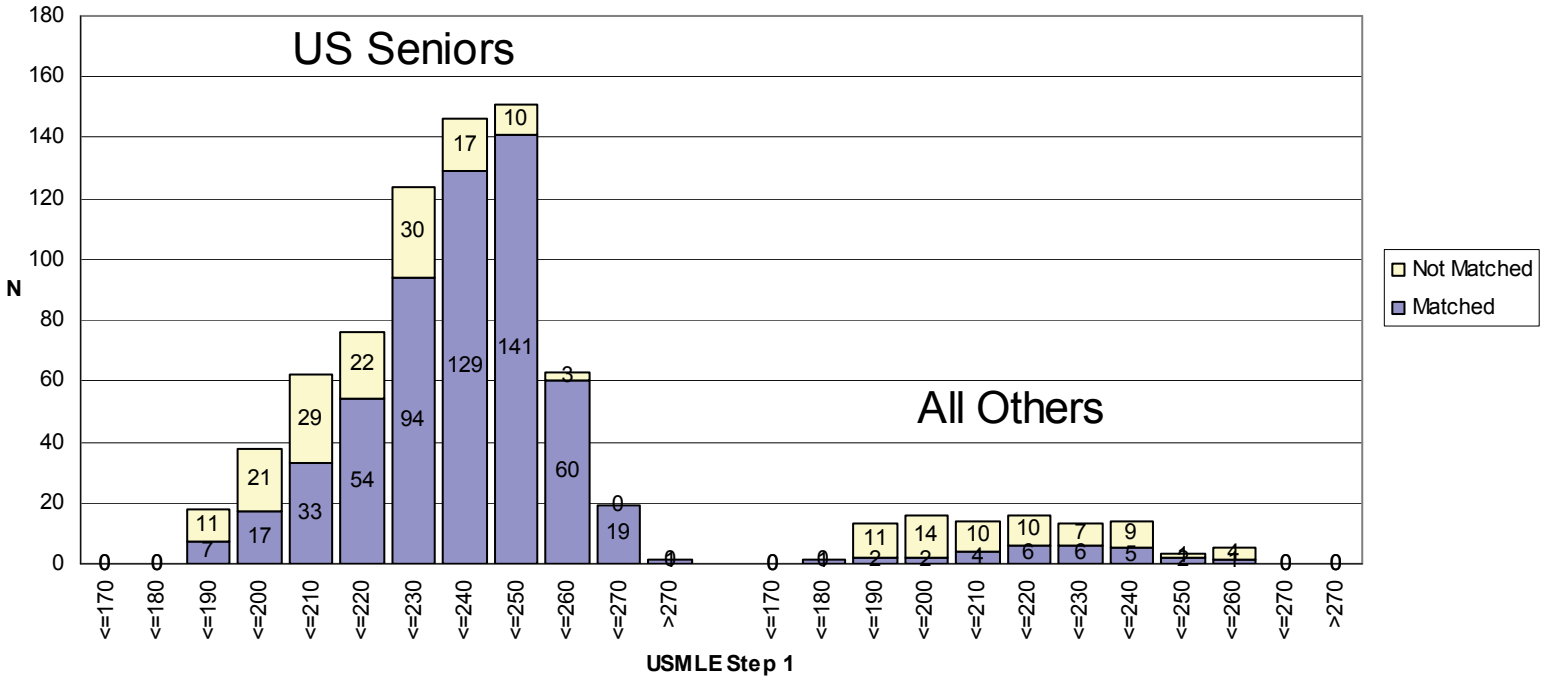
Obstetrics and Gynecology - Participation in Research Projects



Source: NRMP Data Warehouse and AAMC ERAS Data Warehouse

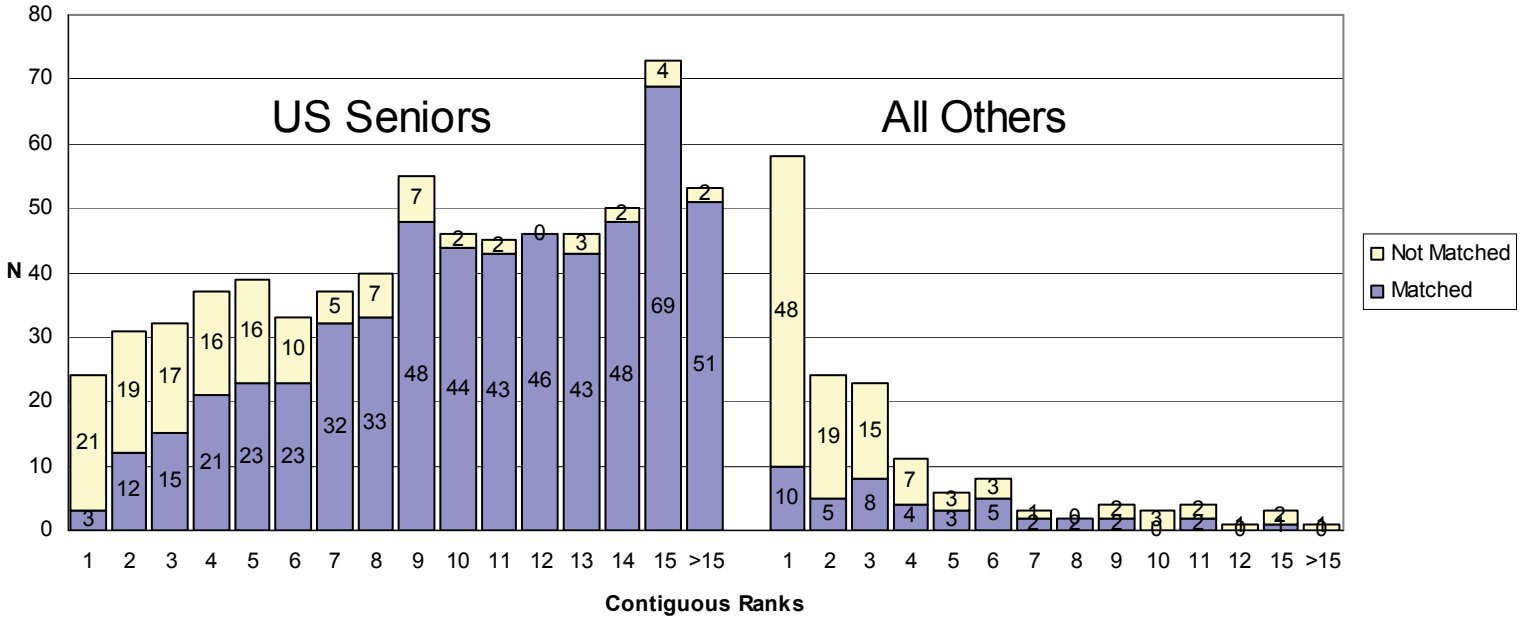
Orthopaedic Surgery		
	U.S. Seniors	All Others
Number of Applicants	704	155
Applicants per position	1.15	0.25
Mean USMLE Step 1 Score	230	214
Mean Contiguous Ranks	10.9	4.3
Percent AOA	32	7
Percent with publications	62	71
Percent with research projects	93	87
Number of Positions in Main Match	610	

Orthopaedic Surgery - USMLE Step 1 Scores



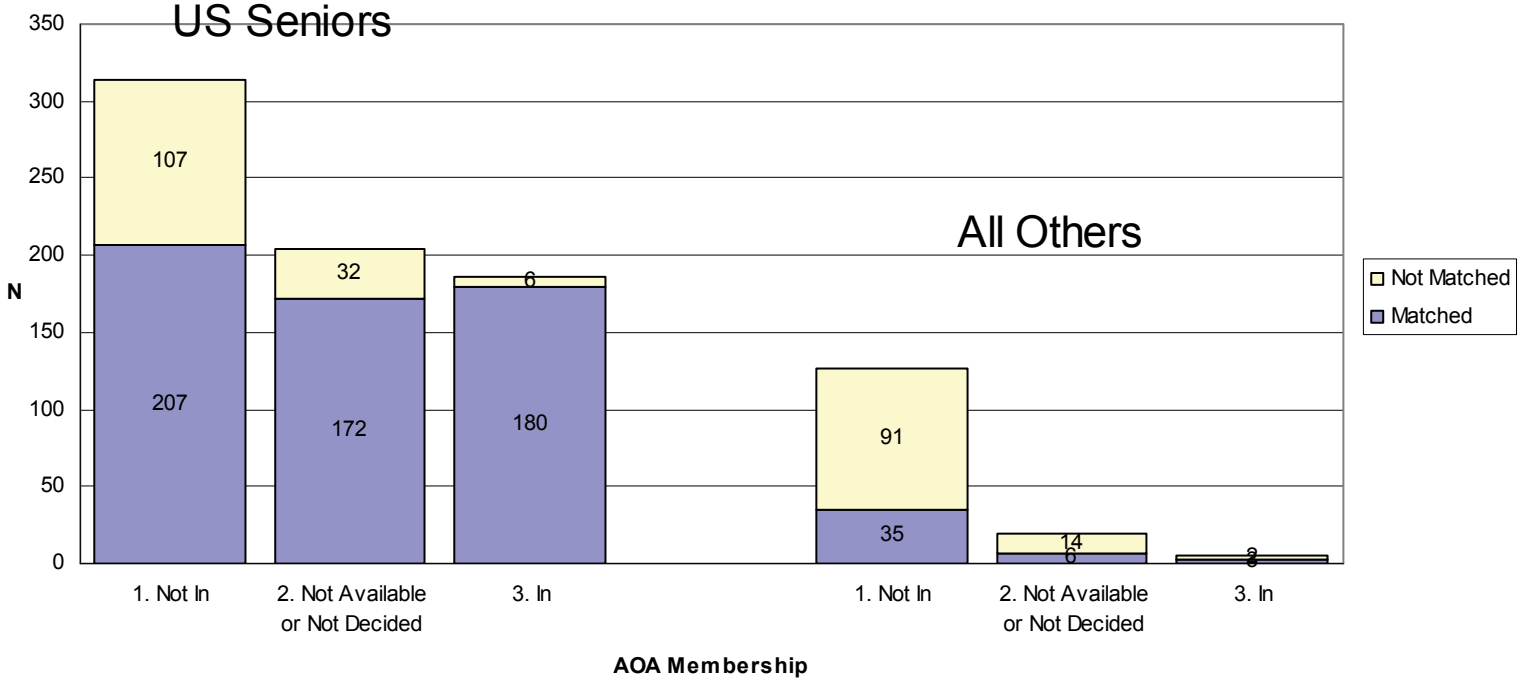
Source: NRMP Data Warehouse and AAMC USMLE Data Warehouse. USMLE scores by permission of NBME and ECFMG.

Orthopaedic Surgery - Length of Contiguous Rank Order List



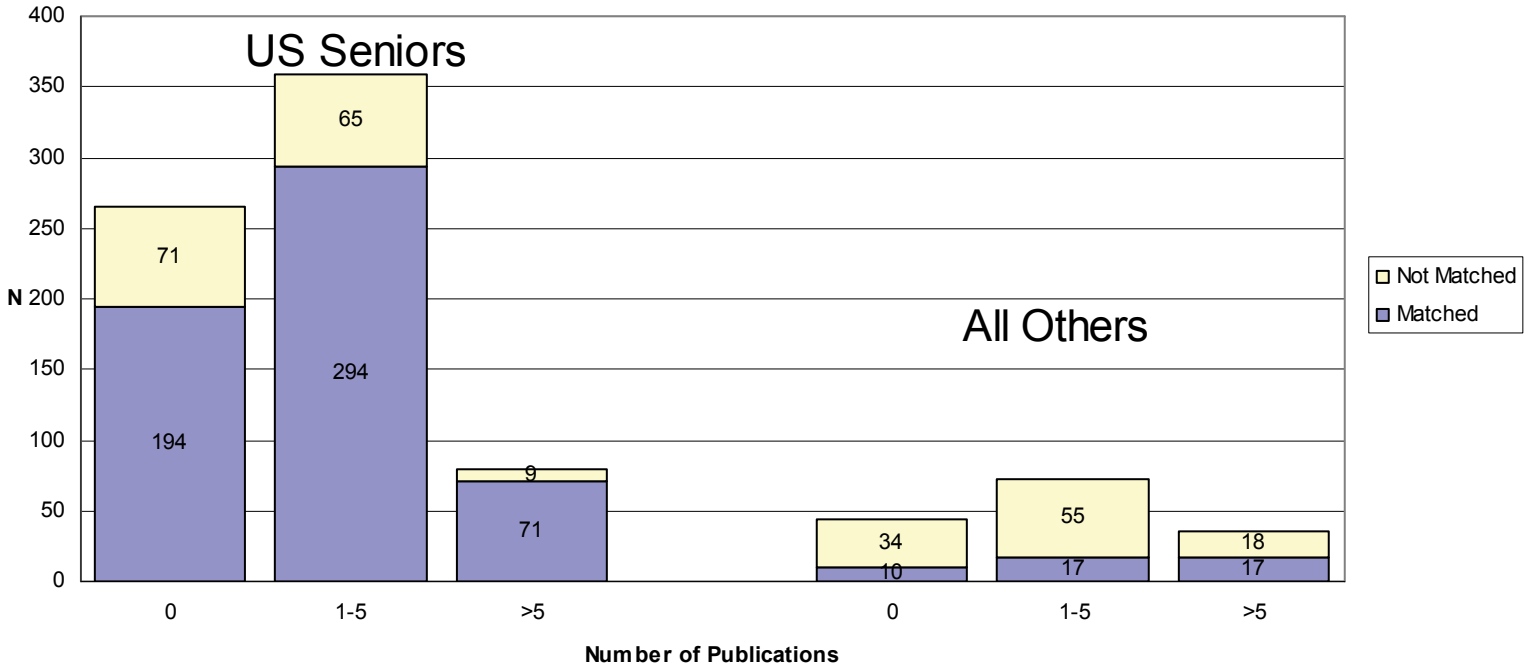
Source: NRMP Data Warehouse Data Warehouse

Orthopaedic Surgery - Membership in AOA



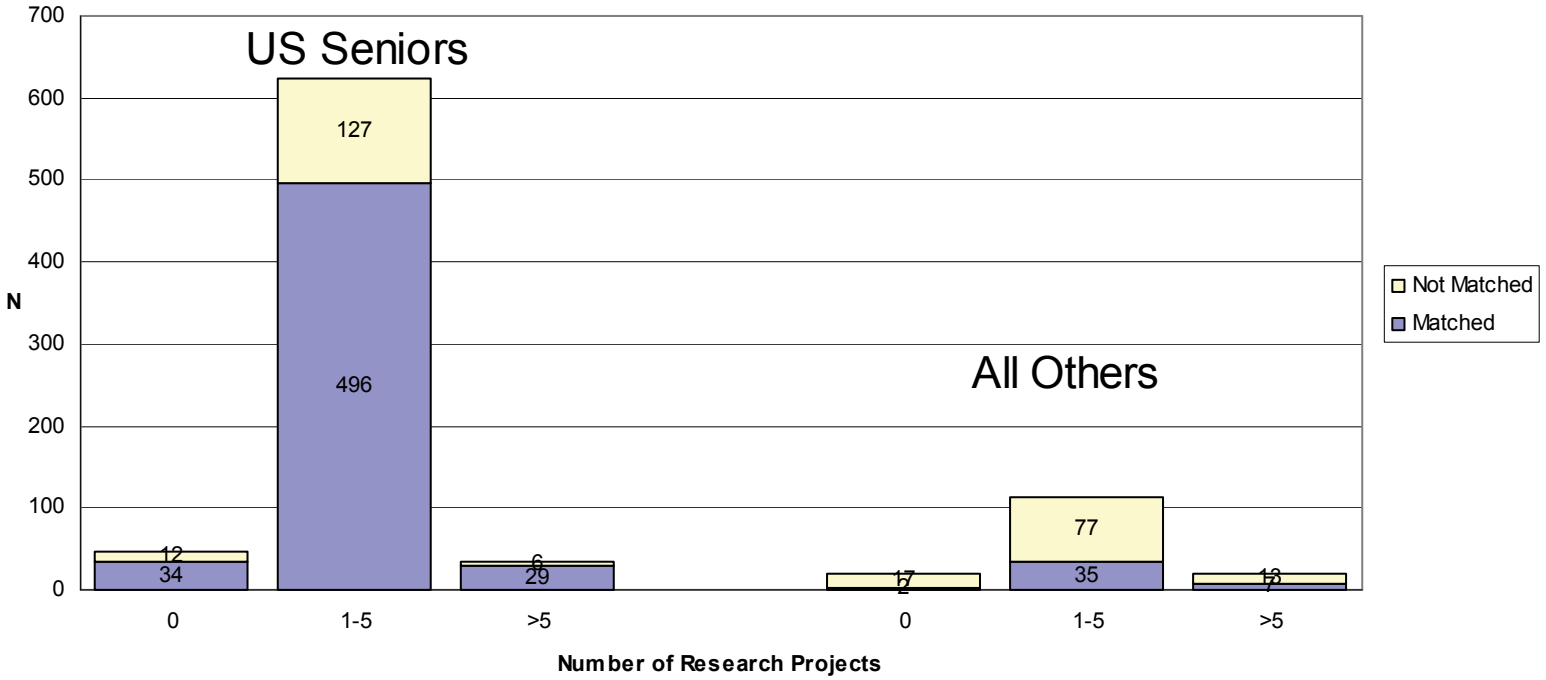
Source: NRMP Data Warehouse and AAMC ERAS Data Warehouse

Orthopaedic Surgery - Publications



Source: NRMP Data Warehouse and AAMC ERAS Data Warehouse

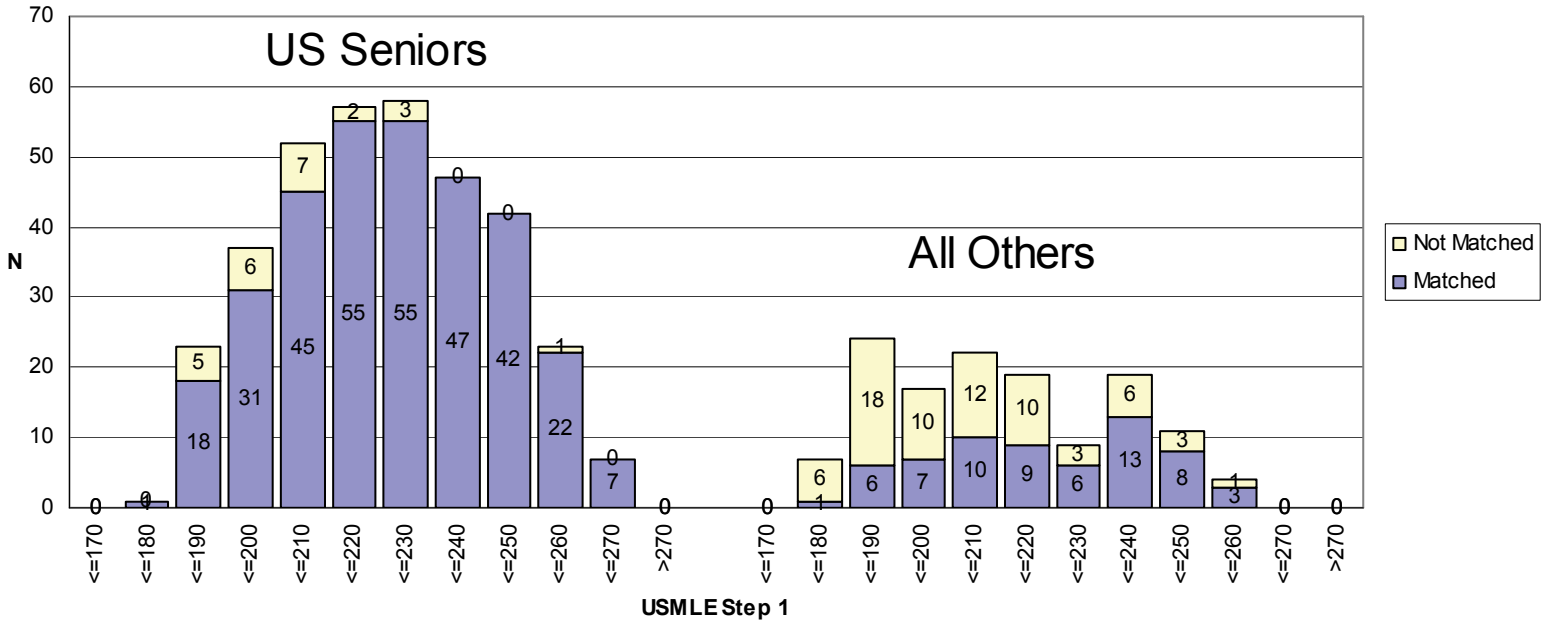
Orthpaedic Surgery - Participation in Research Projects



Source: NRMP Data Warehouse and AAMC ERAS Data Warehouse

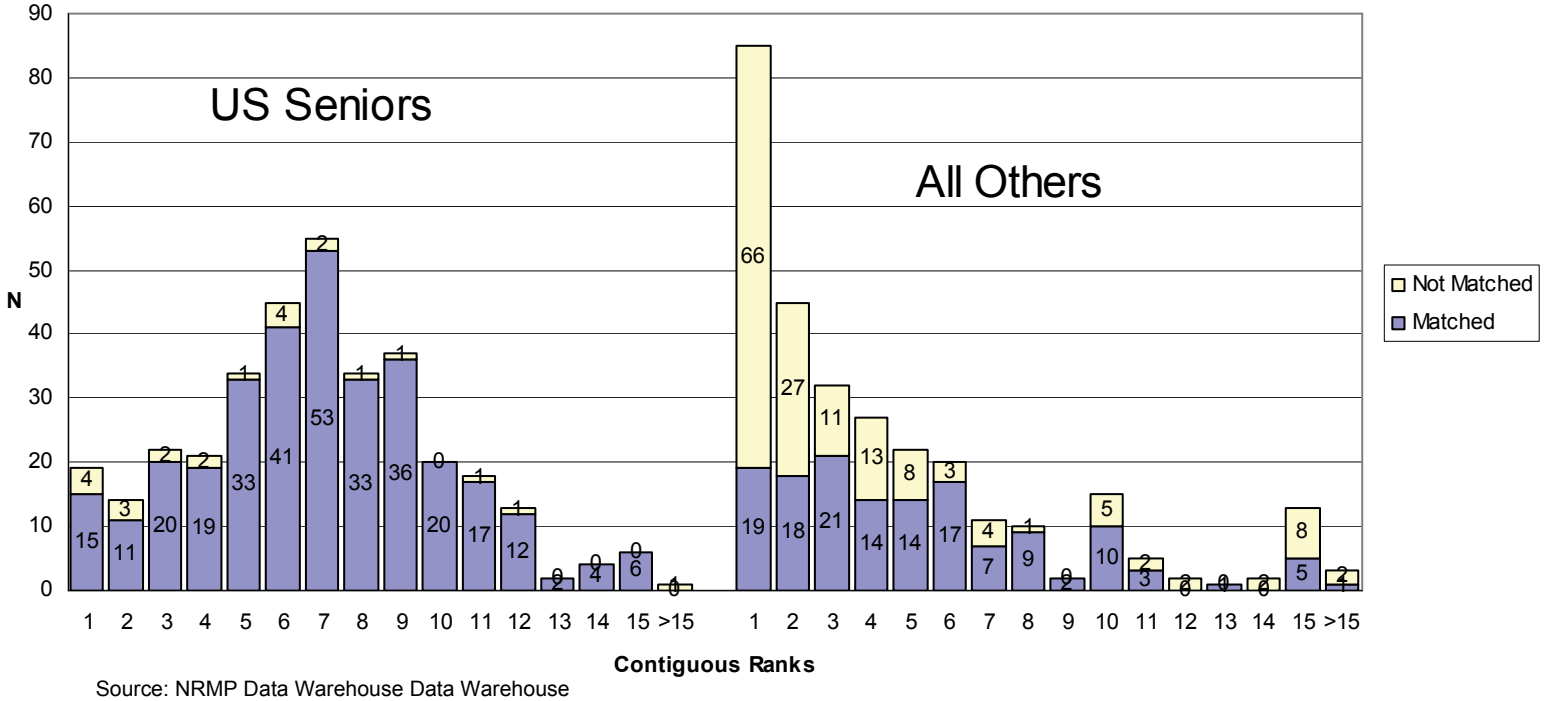
Pathology-Anatomic and Clinical		
	U.S. Seniors	All Others
Number of Applicants	349	313
Applicants per position	0.66	0.60
Mean USMLE Step 1 Score	222	212
Mean Contiguous Ranks	7.0	5.1
Percent AOA	15	5
Percent with publications	62	60
Percent with research projects	84	80
Number of Positions in Main Match	526	

Pathology-Anatomic and Clinical - USMLE Step 1 Scores



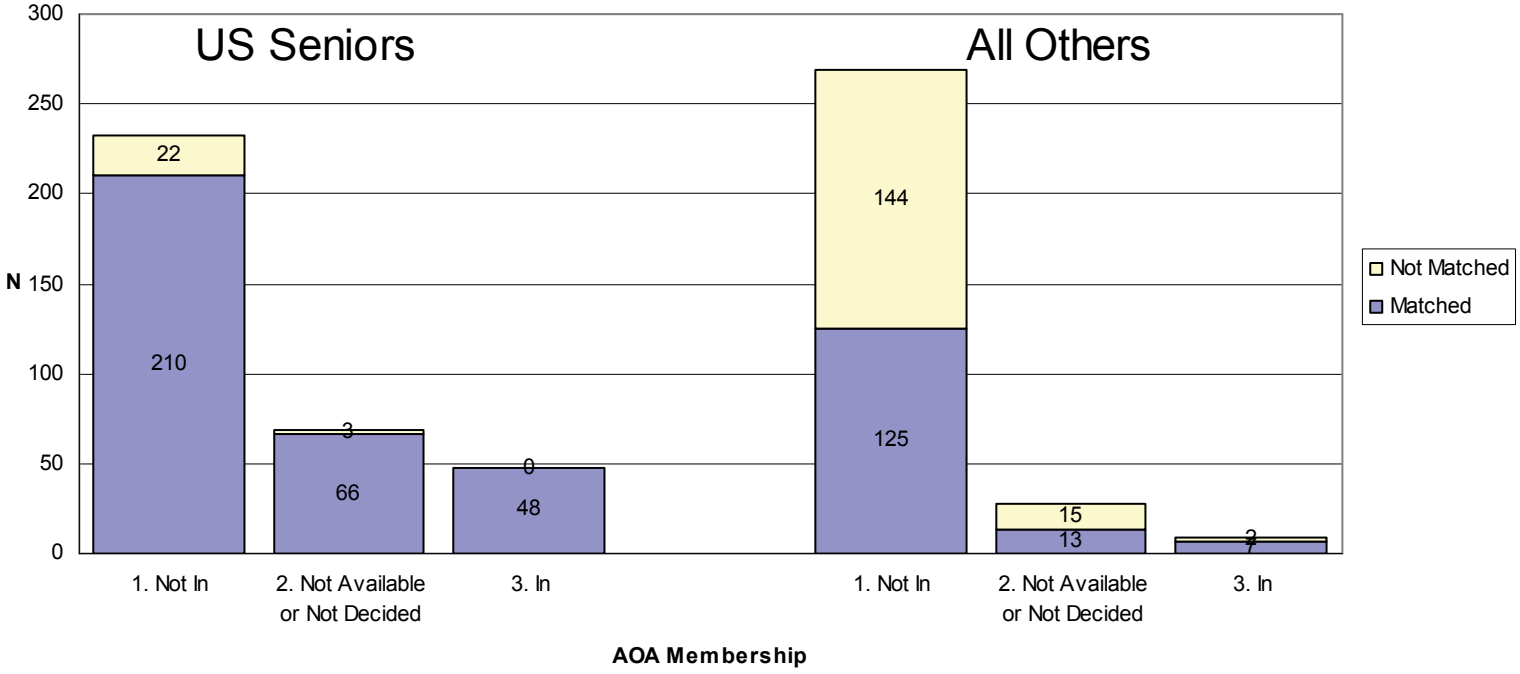
Source: NRMP Data Warehouse and AAMC USMLE Data Warehouse. USMLE scores by permission of NBME and ECFMG.

Pathology-Anatomical and Clinical - Length of Contiguous Rank Order List



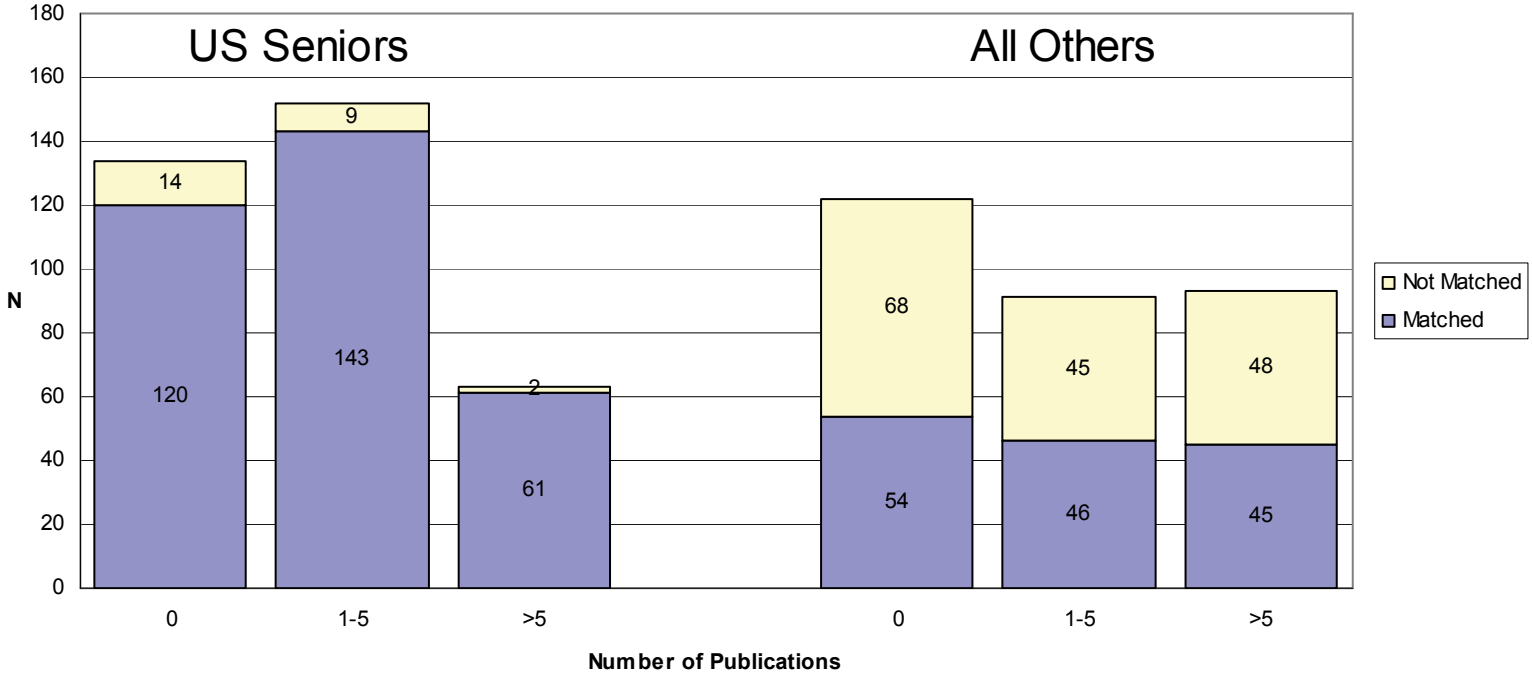
Source: NRMP Data Warehouse Data Warehouse

Pathology-Anatomic and Clinical - Membership in AOA



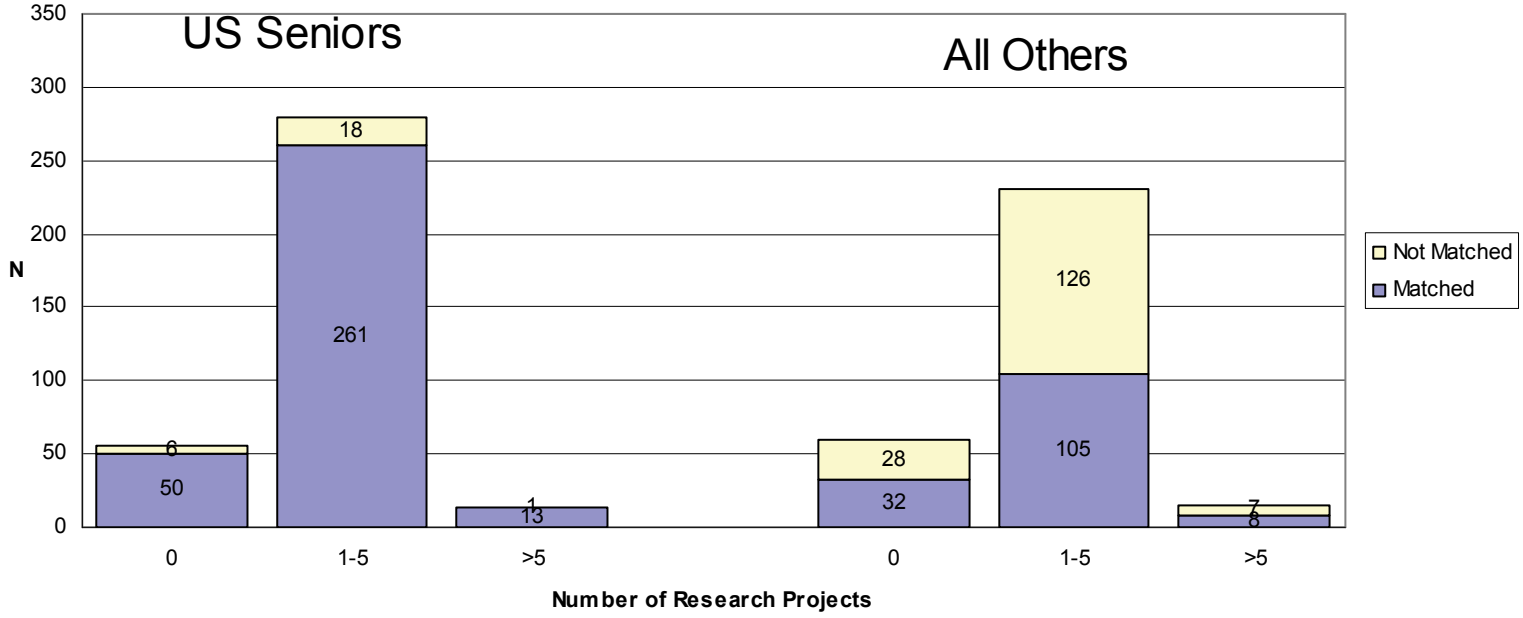
Source: NRMP Data Warehouse and AAMC ERAS Data Warehouse

Pathology-Anatomic and Clinical - Publications



Source: NRMP Data Warehouse and AAMC ERAS Data Warehouse

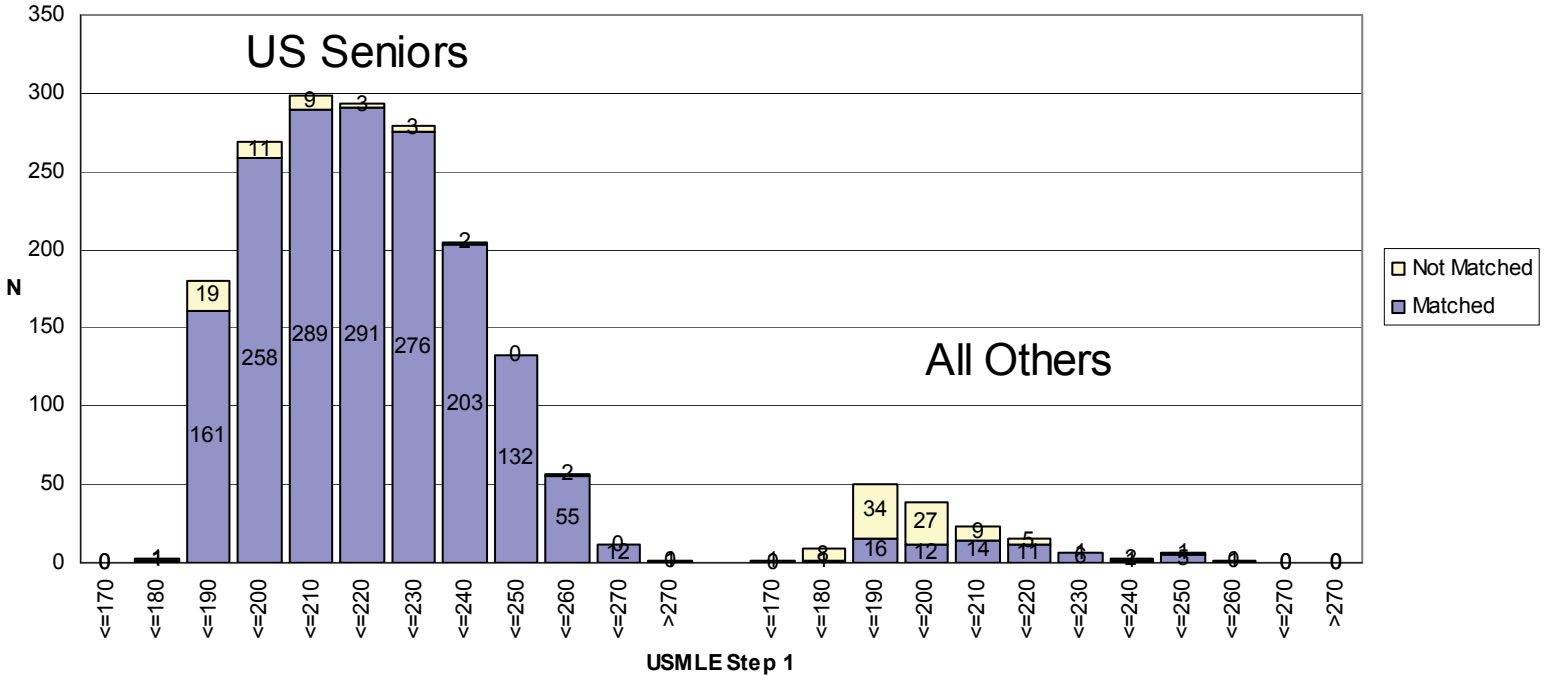
Pathology-Anatomic and Clinical - Participation in Research Projects



Source: NRMP Data Warehouse and AAMC ERAS Data Warehouse

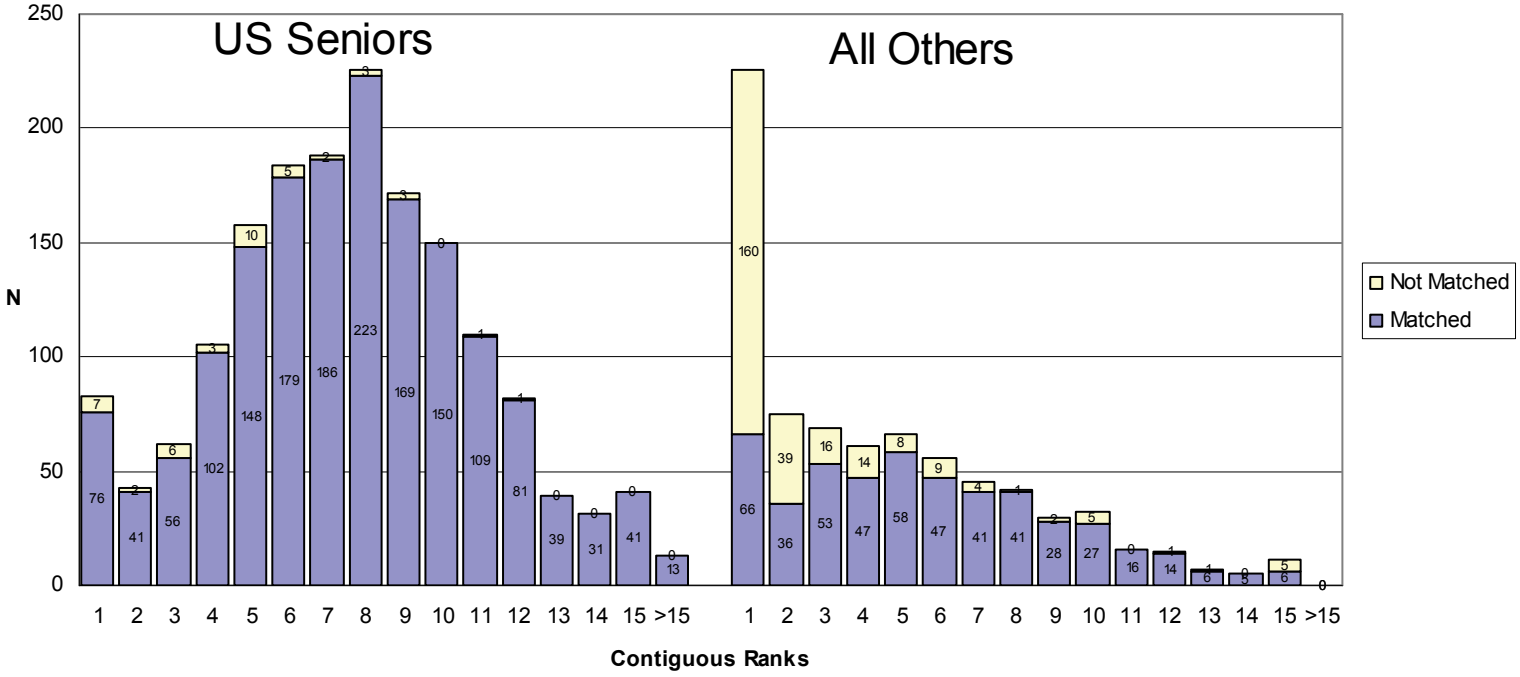
Pediatrics		
	U.S. Seniors	All Others
Number of Applicants	1741	863
Applicants per position	0.74	0.37
Mean USMLE Step 1 Score	215	205
Mean Contiguous Ranks	7.7	5.7
Percent AOA	12	1
Percent with publications	44	41
Percent with research projects	79	68
Number of Positions in Main Match	2356	

Pediatrics - USMLE Step 1 Scores



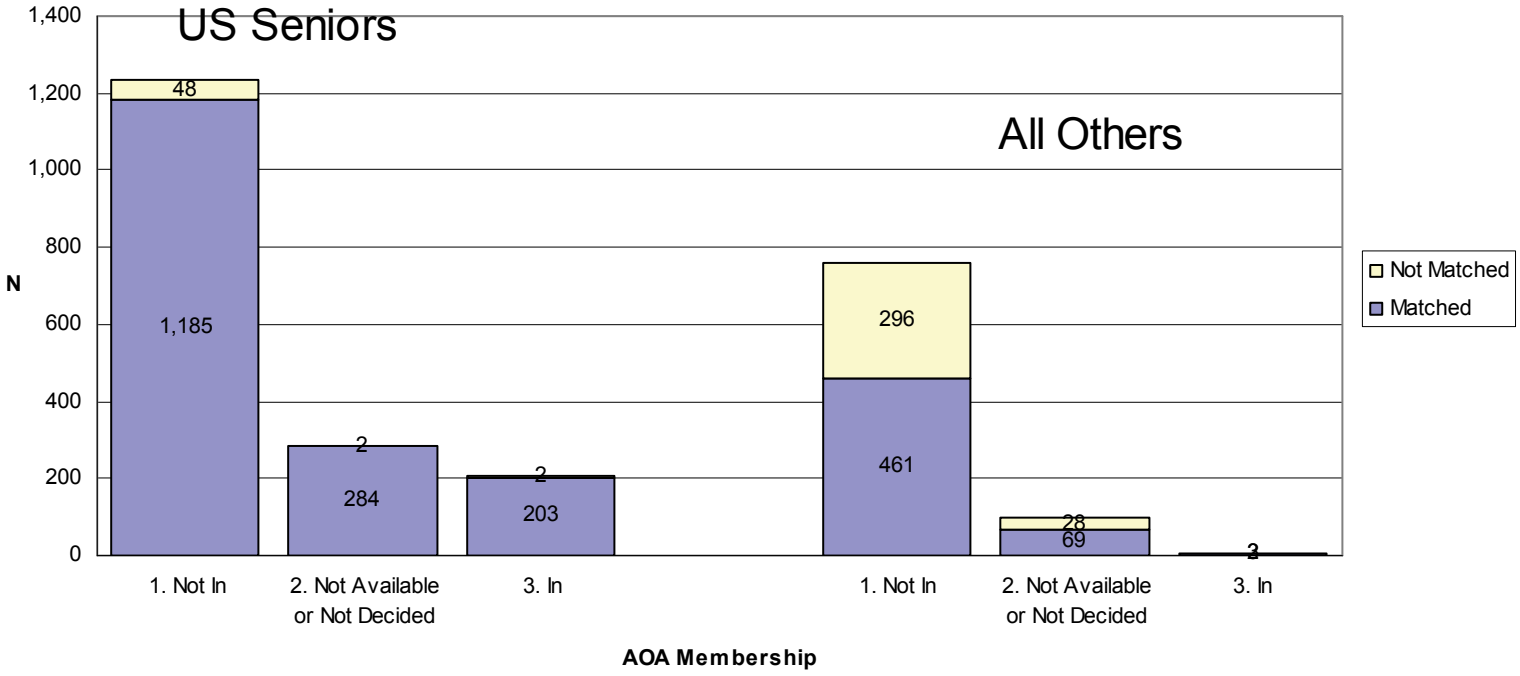
Source: NRMP Data Warehouse and AAMC USMLE Data Warehouse. USMLE scores by permission of NBME and ECFMG.

Pediatrics - Length of Contiguous Rank Order List



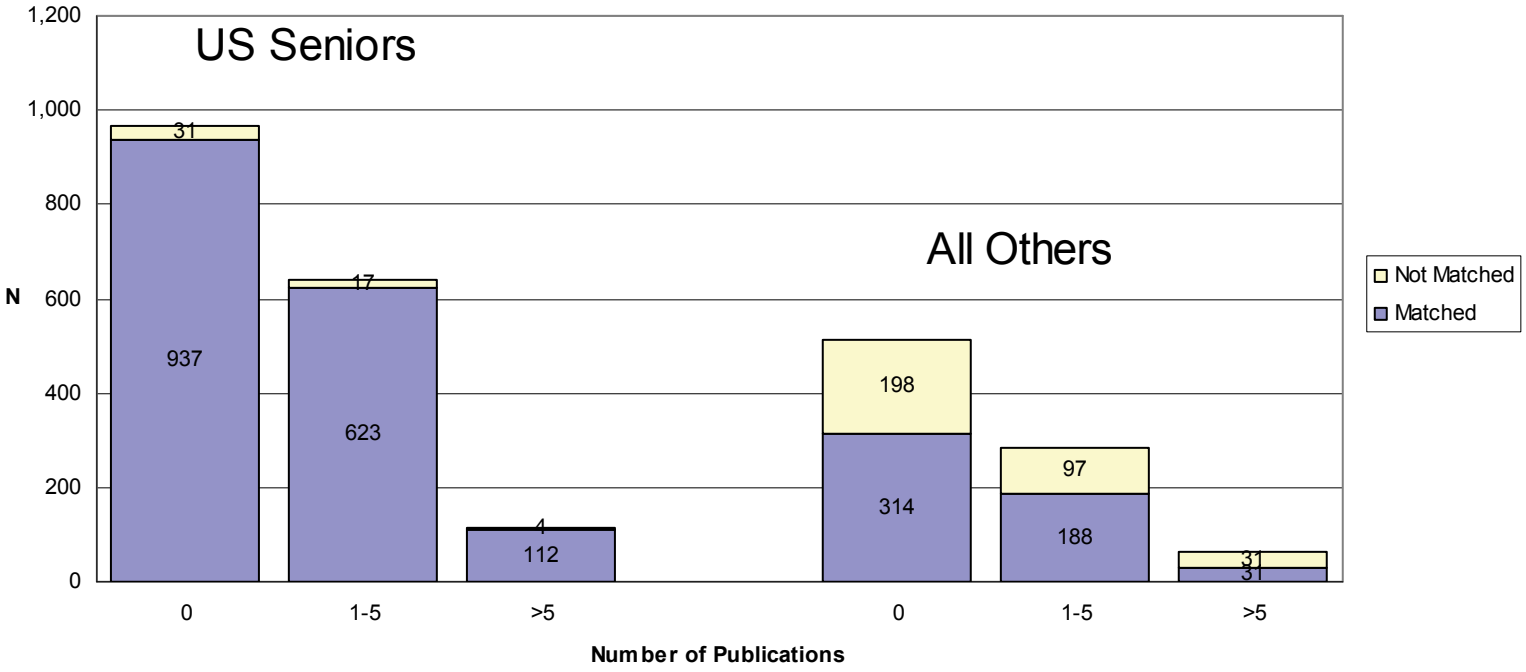
Source: NRMP Data Warehouse Data Warehouse

Pediatrics - Membership in AOA



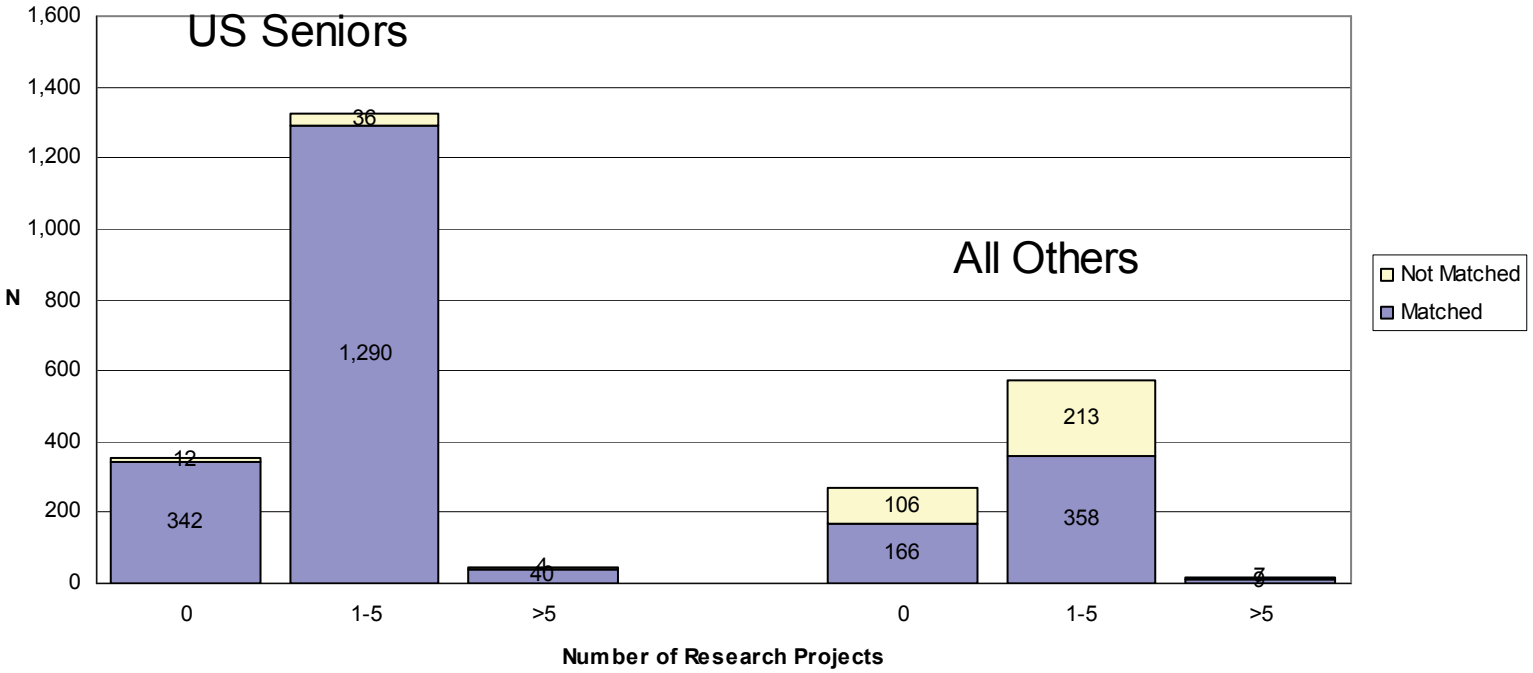
Source: NRMP Data Warehouse and AAMC ERAS Data Warehouse

Pediatrics - Publications



Source: NRMP Data Warehouse and AAMC ERAS Data Warehouse

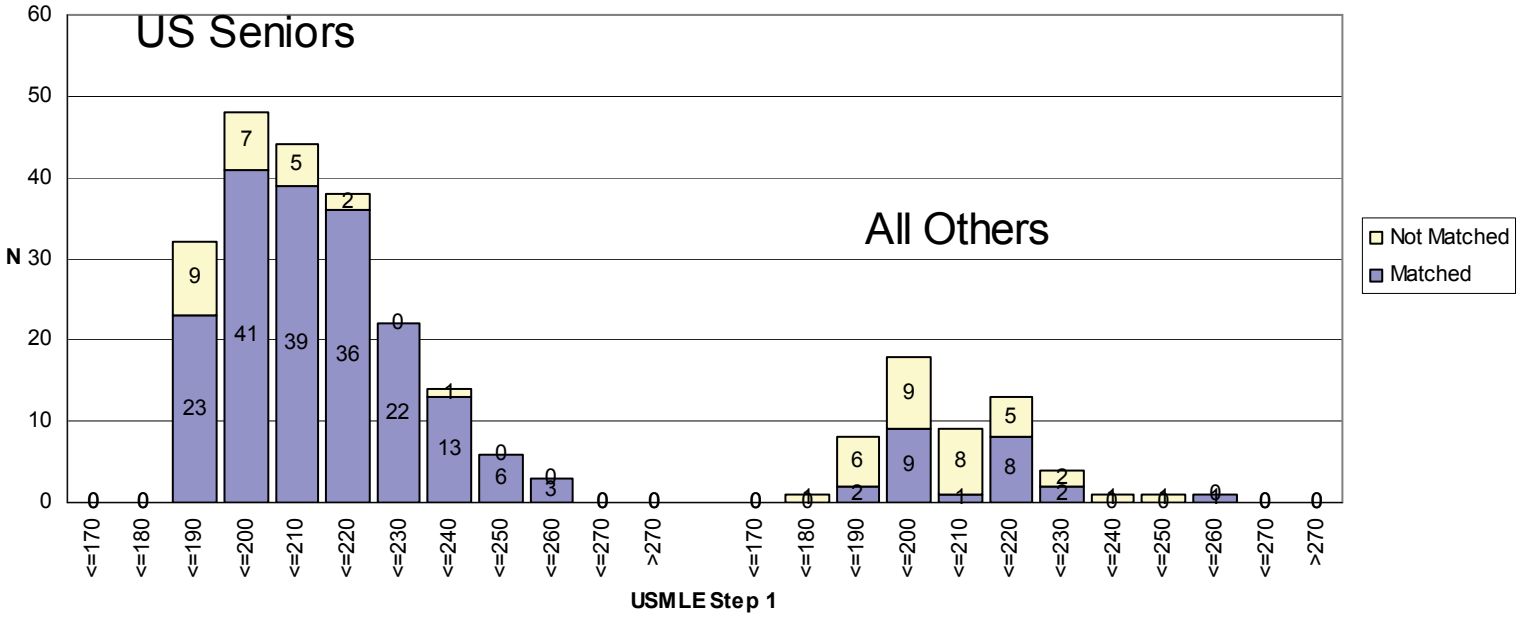
Pediatrics - Participation in Research Projects



Source: NRMP Data Warehouse and AAMC ERAS Data Warehouse

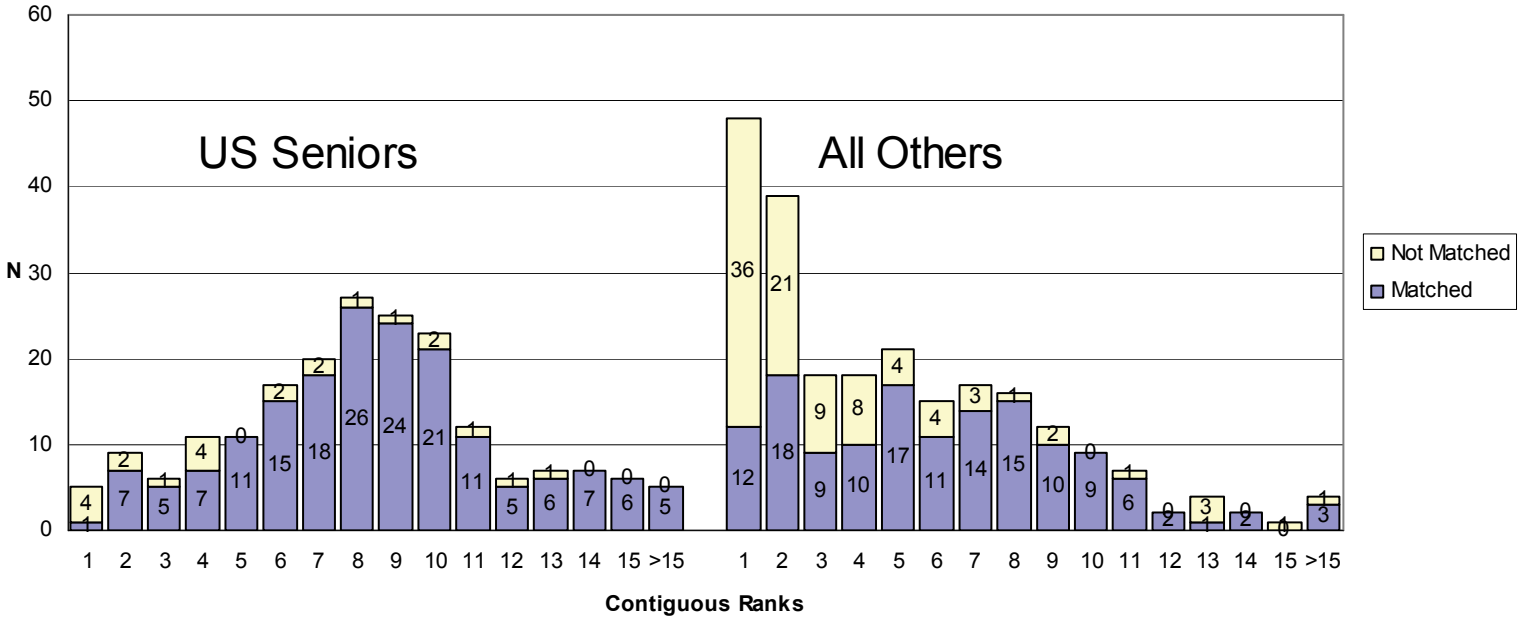
Physical Medicine and Rehabilitation		
	U.S. Seniors	All Others
Number of Applicants	208	251
Applicants per position	0.58	0.71
Mean USMLE Step 1 Score	208	203
Mean Contiguous Ranks	8.6	6.1
Percent AOA	4	4
Percent with publications	44	38
Percent with research projects	76	66
Number of Positions in Main Match	356	

Physical Medicine and Rehabilitation - USMLE Step 1 Scores



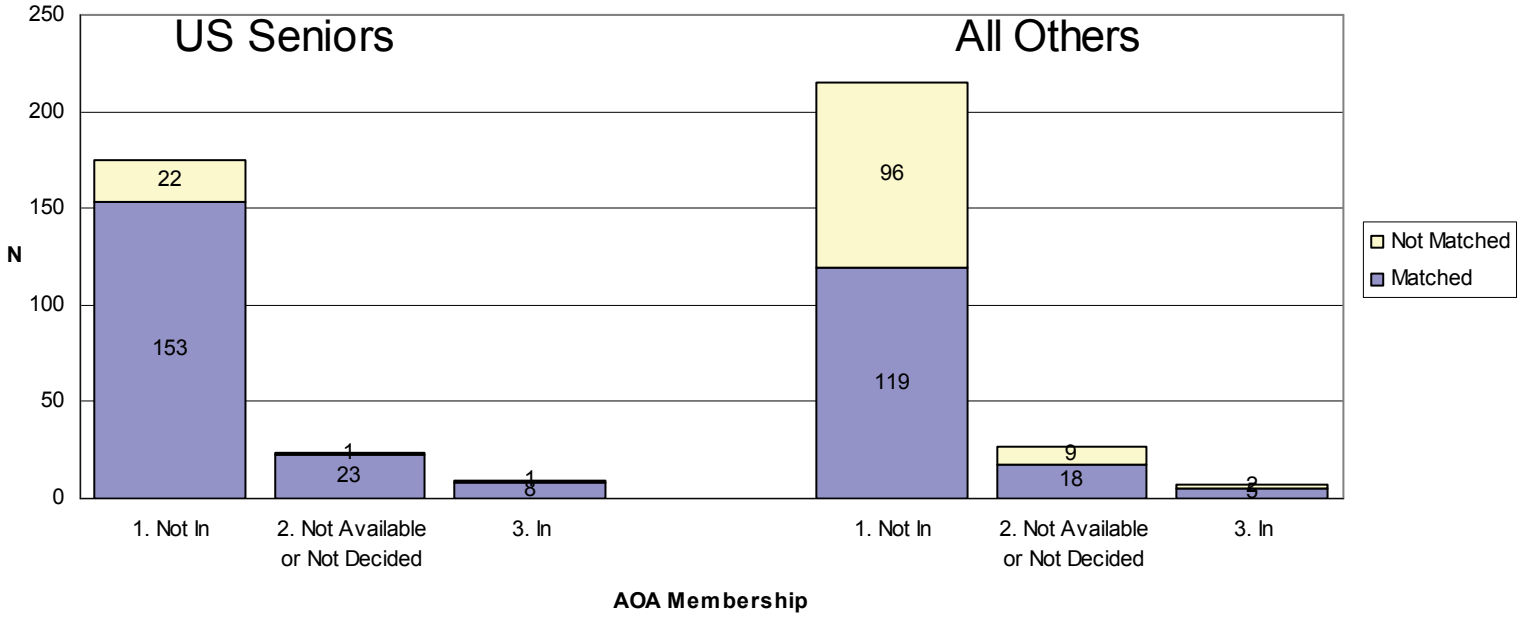
Source: NRMP Data Warehouse and AAMC USMLE Data Warehouse. USMLE scores by permission of NBME and ECFMG.

Physical Medicine and Rehabilitation - Length of Contiguous Rank Order List



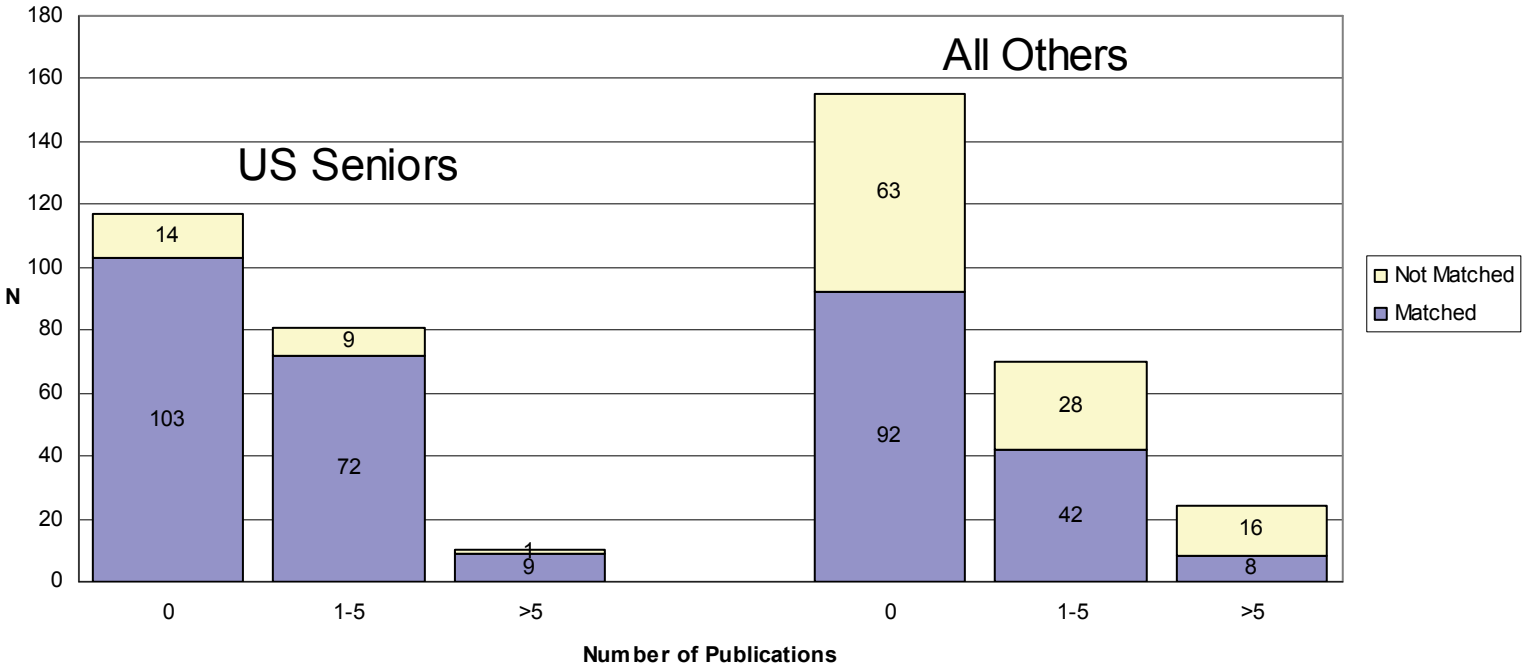
Source: NRMP Data Warehouse Data Warehouse

Physical Medicine and Rehabilitation - Membership in AOA



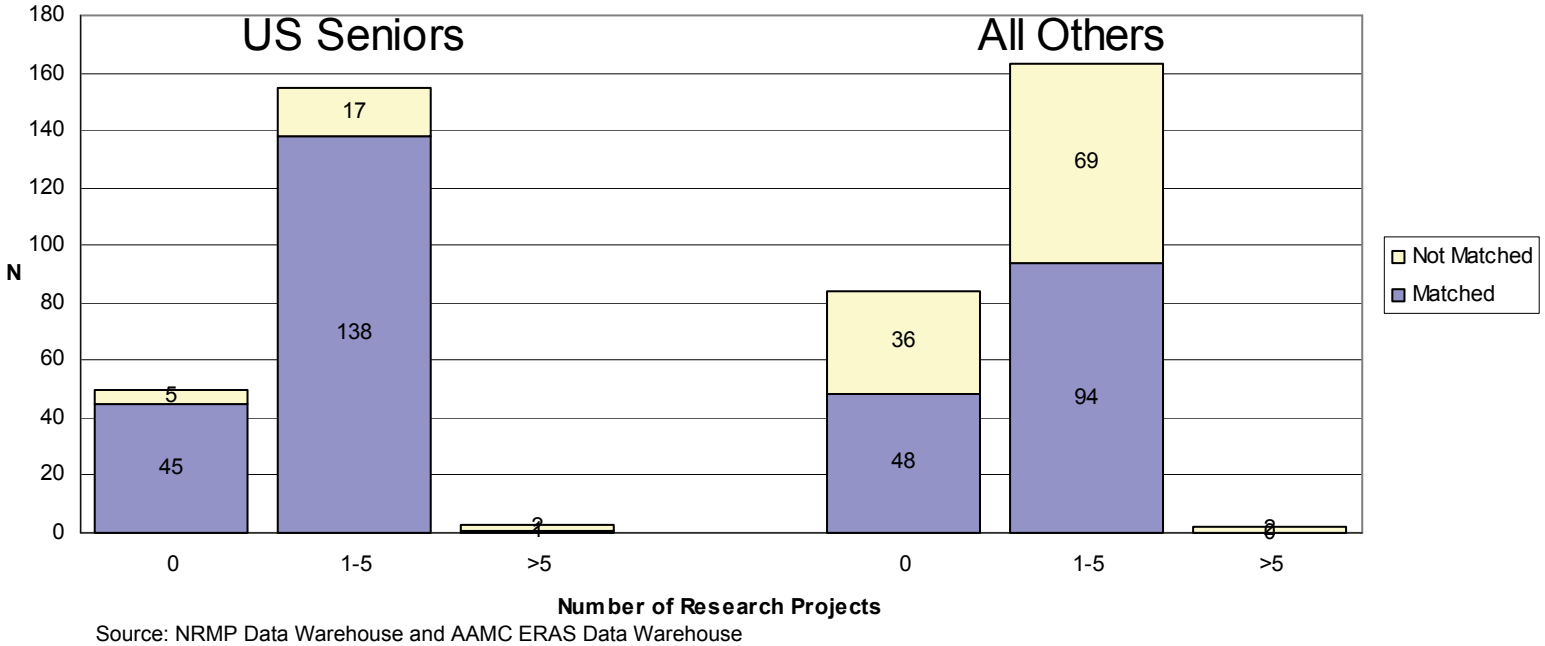
Source: NRMP Data Warehouse and AAMC ERAS Data Warehouse

Physical Medicine and Rehabilitation - Publications



Source: NRMP Data Warehouse and AAMC ERAS Data Warehouse

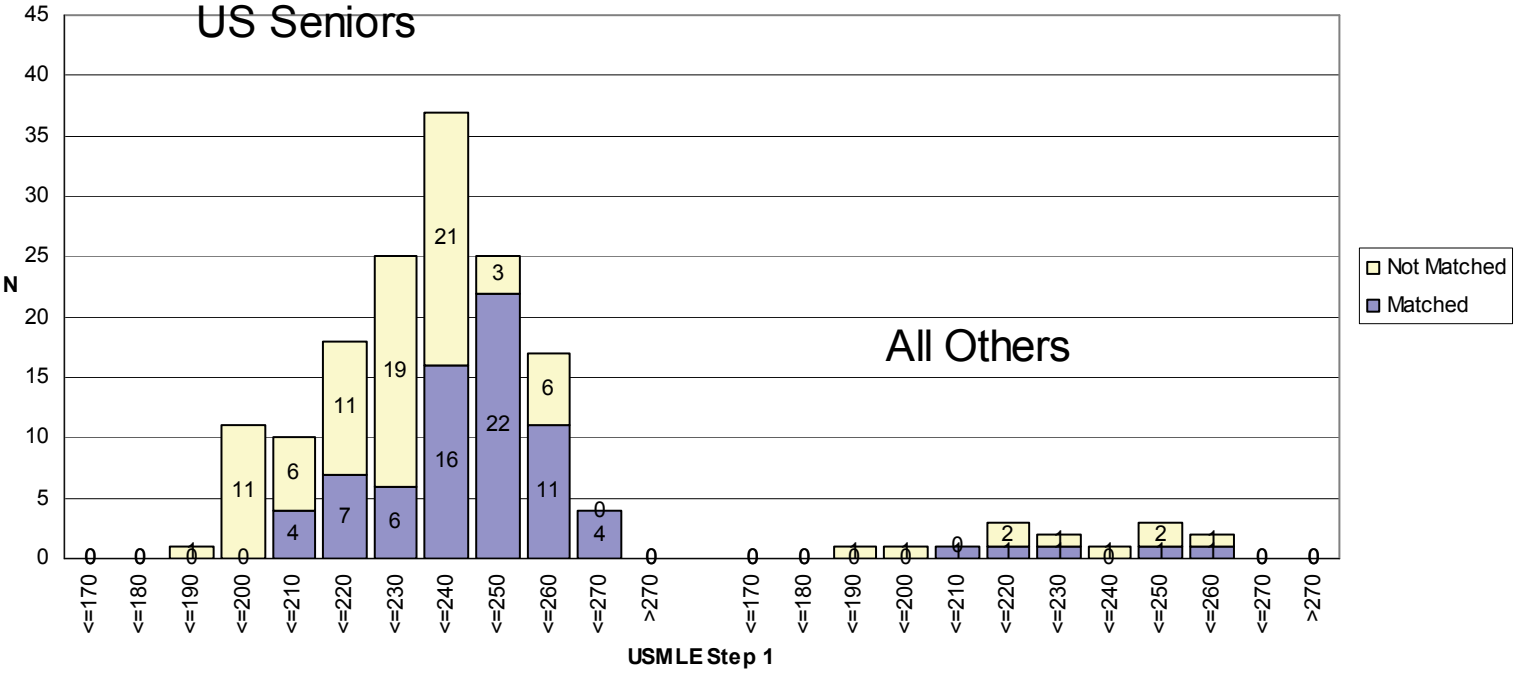
Physical Medicine and Rehabilitation - Participation in Research Projects



Source: NRMP Data Warehouse and AAMC ERAS Data Warehouse

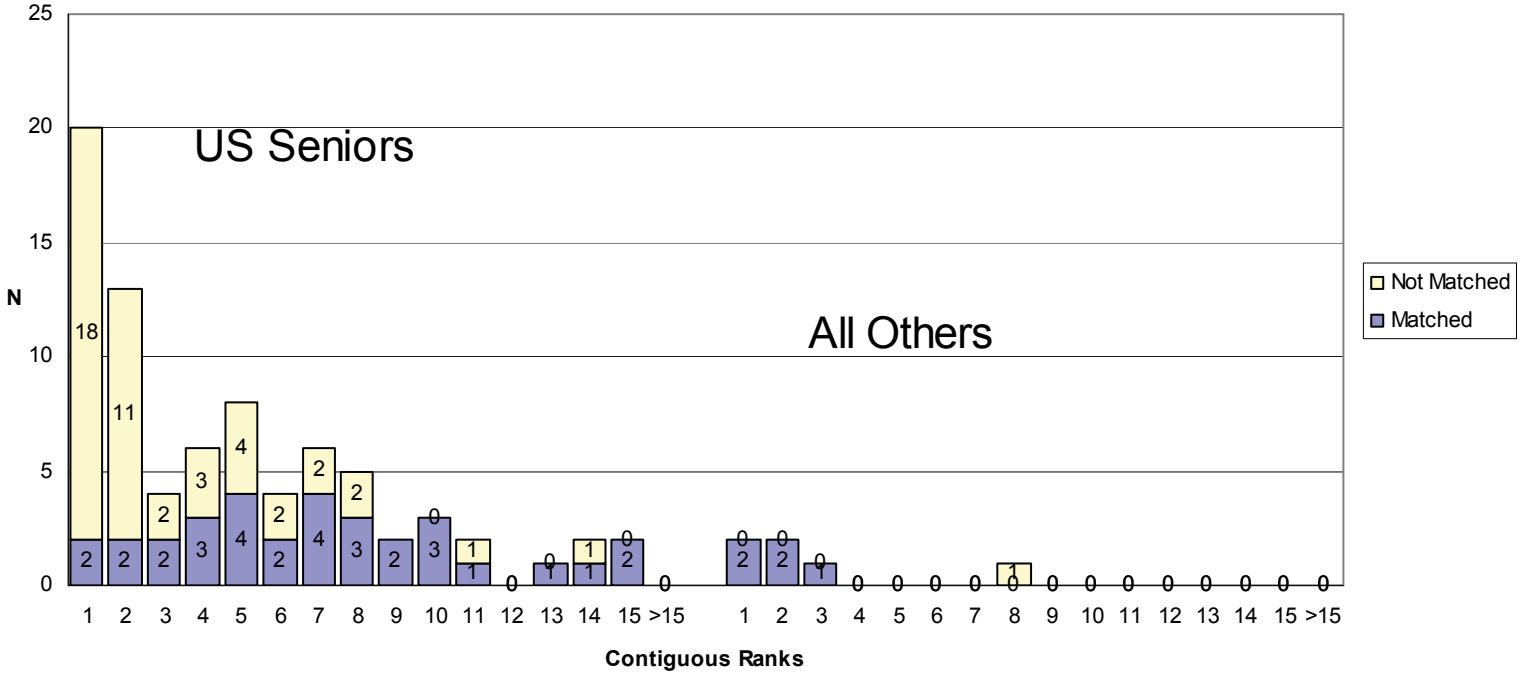
Plastic Surgery		
	U.S. Seniors	All Others
Number of Applicants	148	26
Applicants per position	1.80	0.32
Mean USMLE Step 1 Score	231	228
Mean Contiguous Ranks	6.8	1.8
Percent AOA	33	13
Percent with publications	75	73
Percent with research projects	96	85
Number of Positions in Main Match	82	

Plastic Surgery - USMLE Step 1 Scores



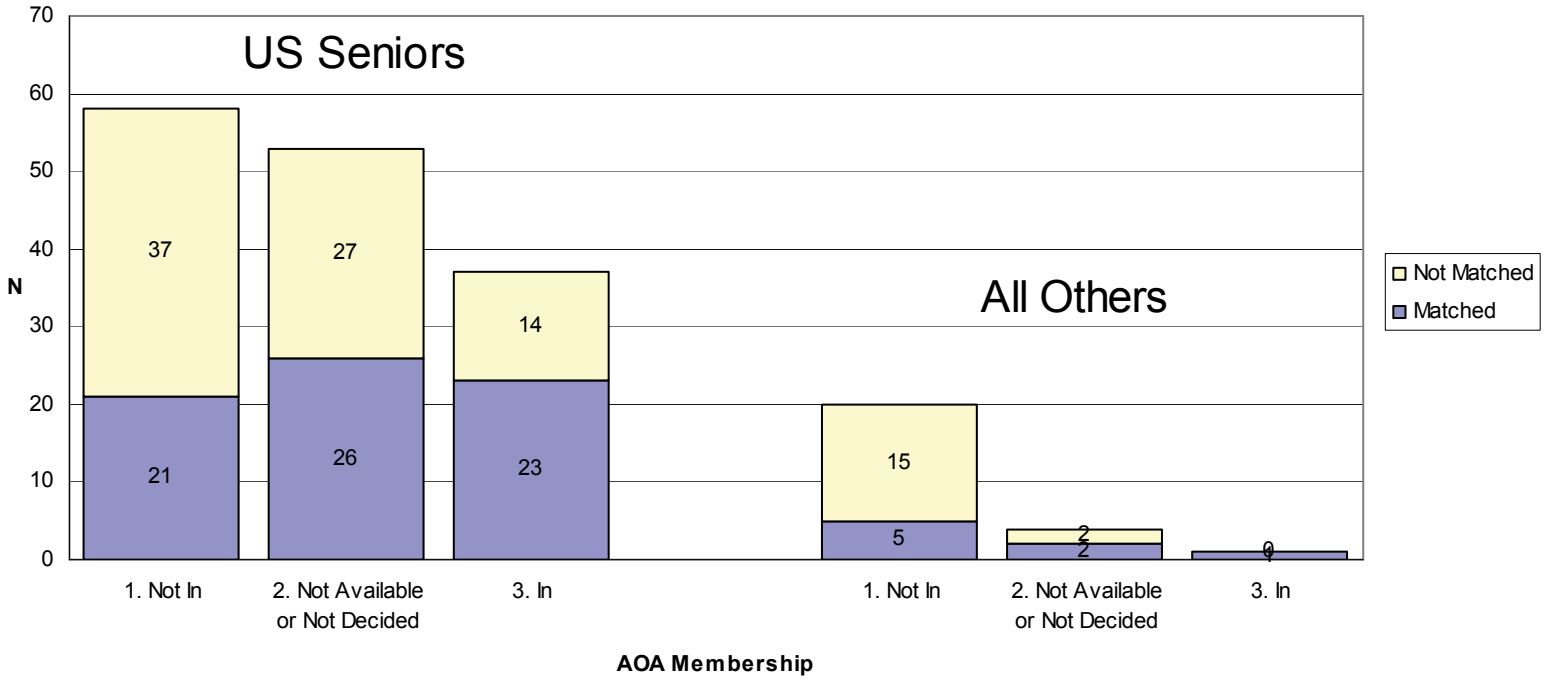
Source: NRMP Data Warehouse and AAMC USMLE Data Warehouse. USMLE scores by permission of NBME and ECFMG.

Plastic Surgery - Length of Contiguous Rank Order List



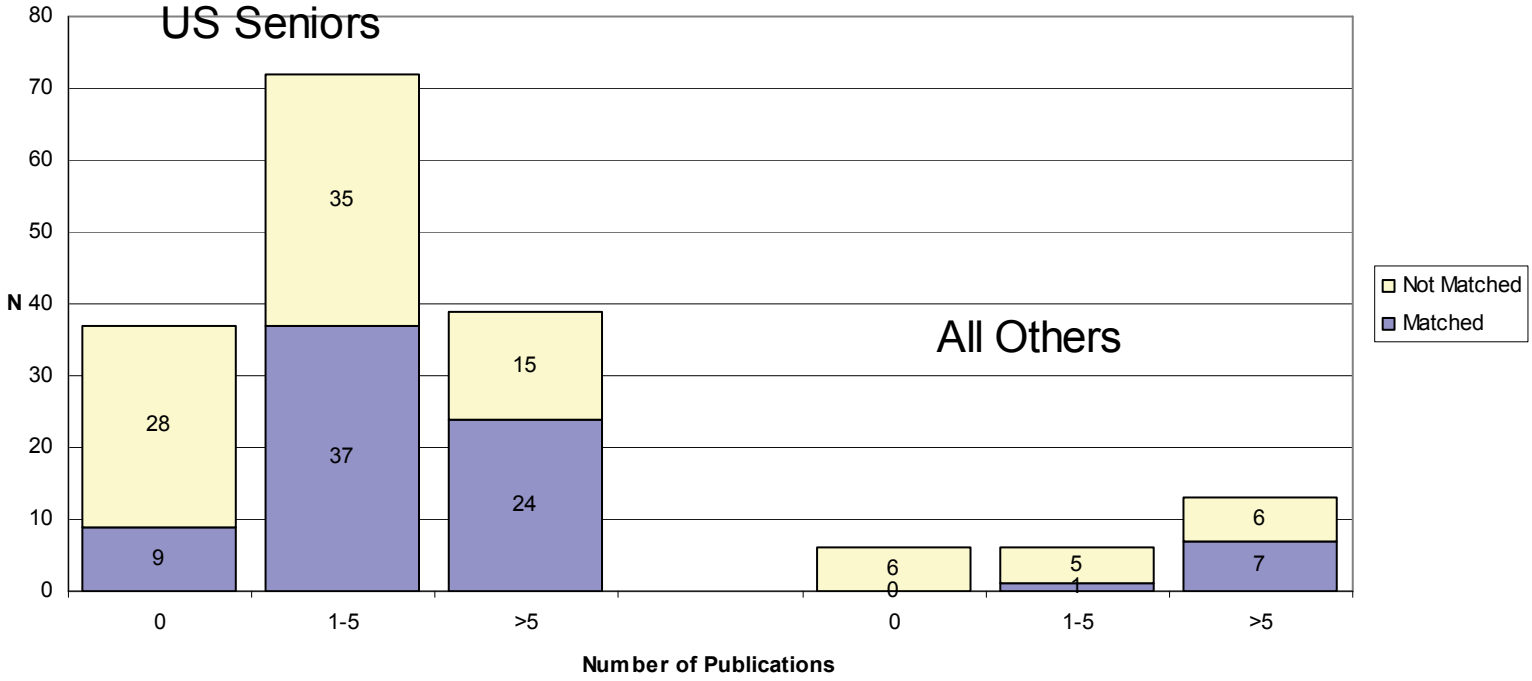
Source: NRMP Data Warehouse Data Warehouse

Plastic Surgery - Membership in AOA



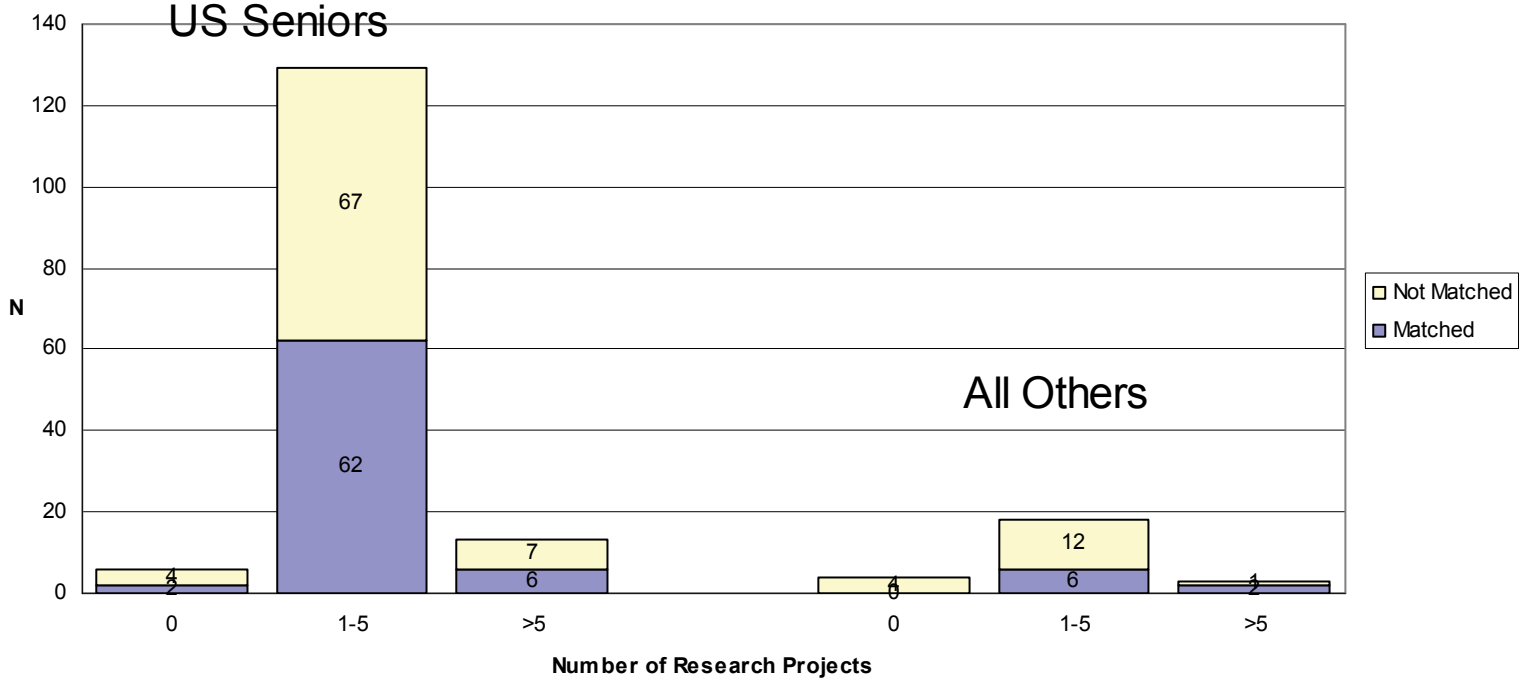
Source: NRMP Data Warehouse and AAMC ERAS Data Warehouse

Plastic Surgery - Publications



Source: NRMP Data Warehouse and AAMC ERAS Data Warehouse

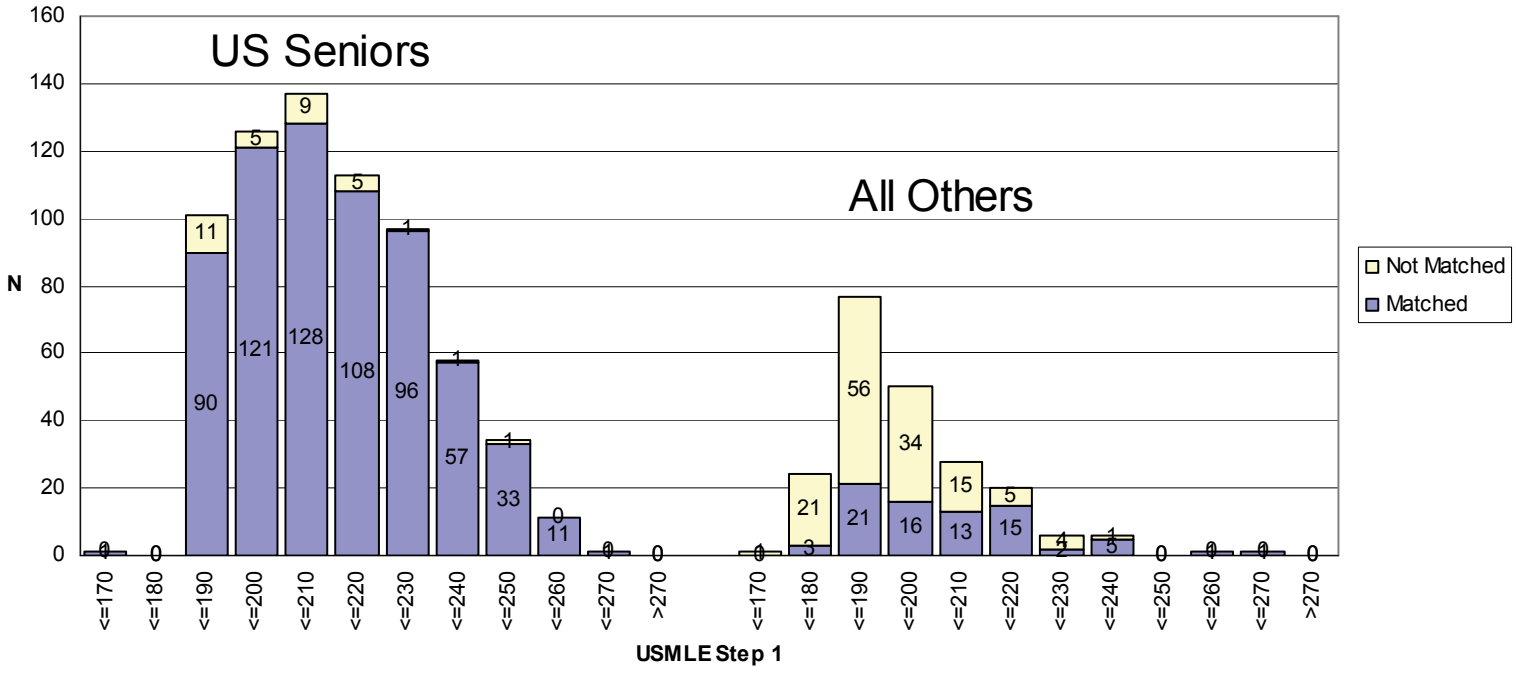
Plastic Surgery - Participation in Research Projects



Source: NRMP Data Warehouse and AAMC ERAS Data Warehouse

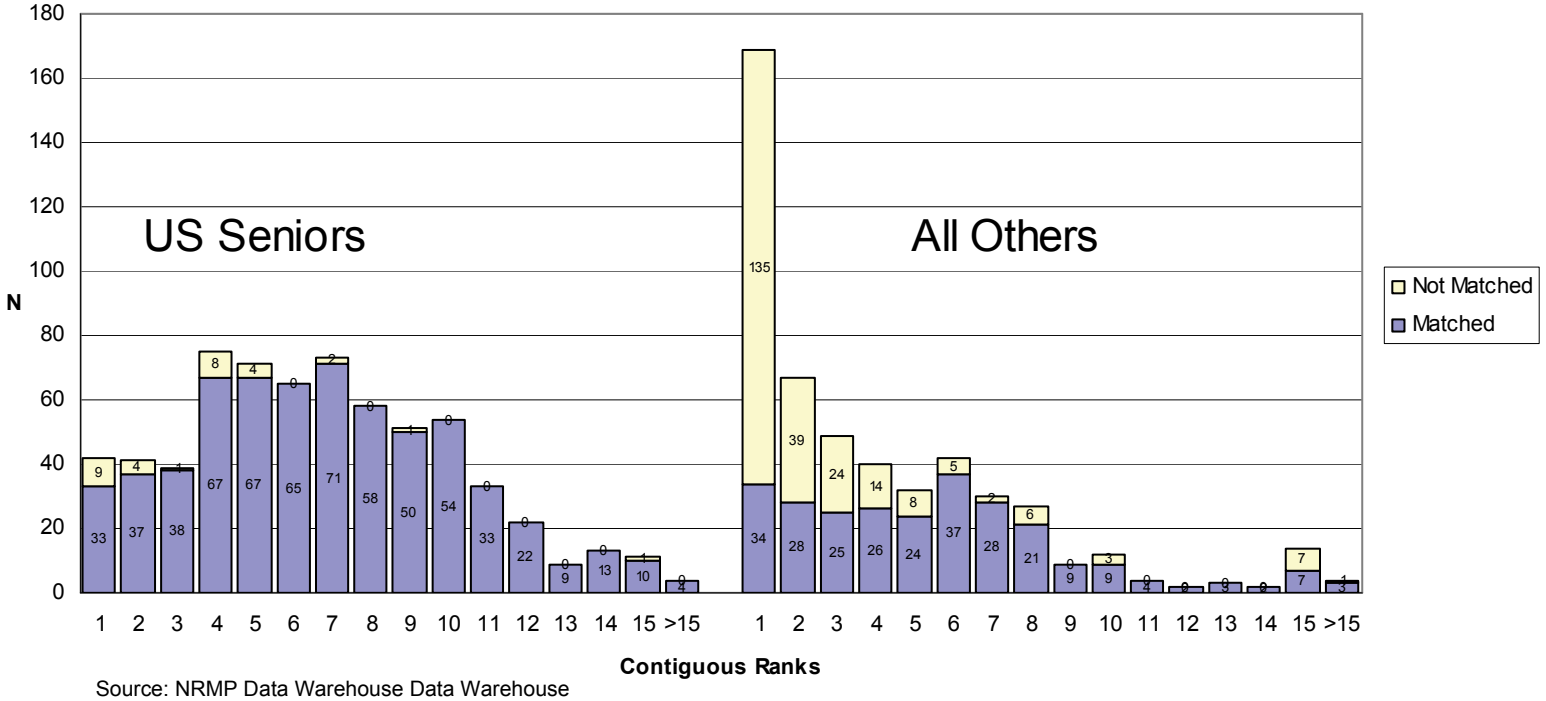
Psychiatry		
	U.S. Seniors	All Others
Number of Applicants	681	576
Applicants per position	0.66	0.56
Mean USMLE Step 1 Score	210	198
Mean Contiguous Ranks	6.8	5.5
Percent AOA	6	2
Percent with publications	47	43
Percent with research projects	80	75
Number of Positions in Main Match	1032	

Psychiatry - USMLE Step 1 Scores



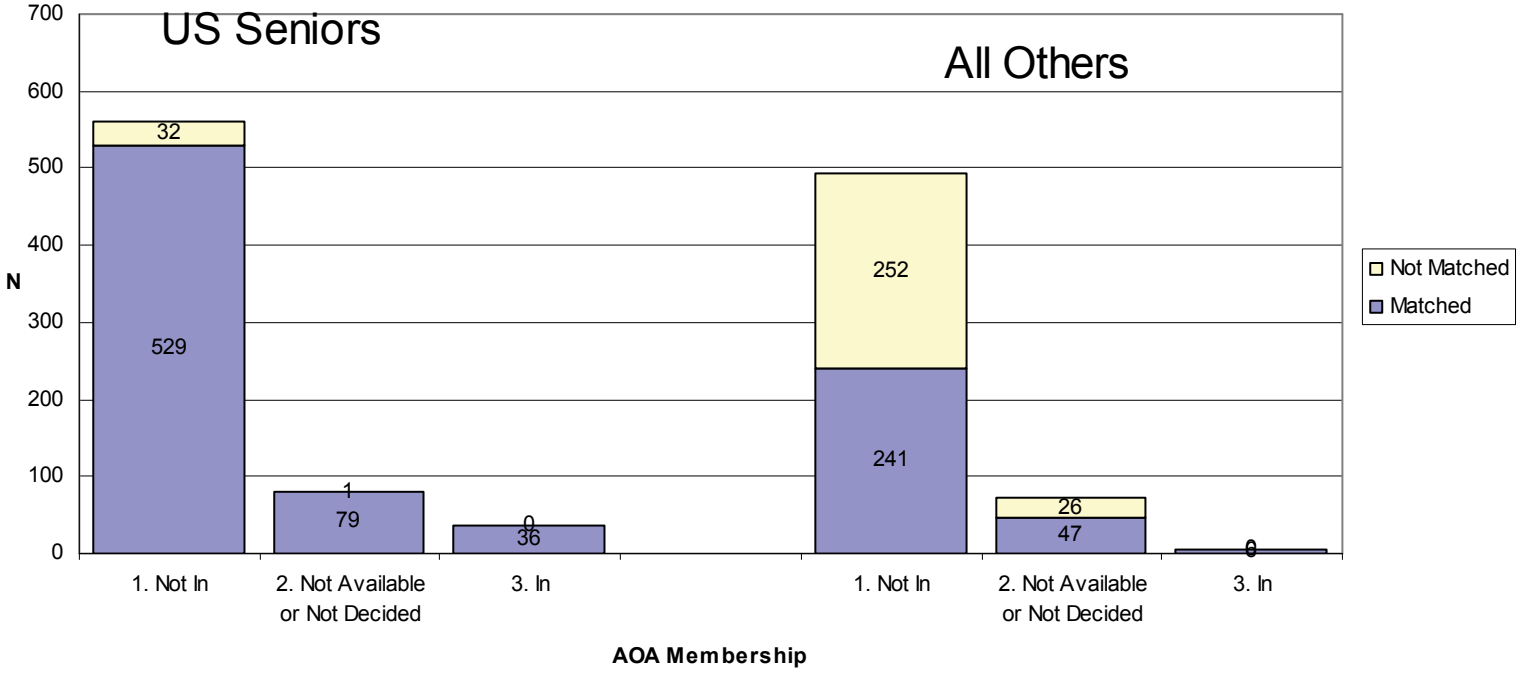
Source: NRMP Data Warehouse and AAMC USMLE Data Warehouse. USMLE scores by permission of NBME and ECFMG.

Psychiatry - Length of Contiguous Rank Order List



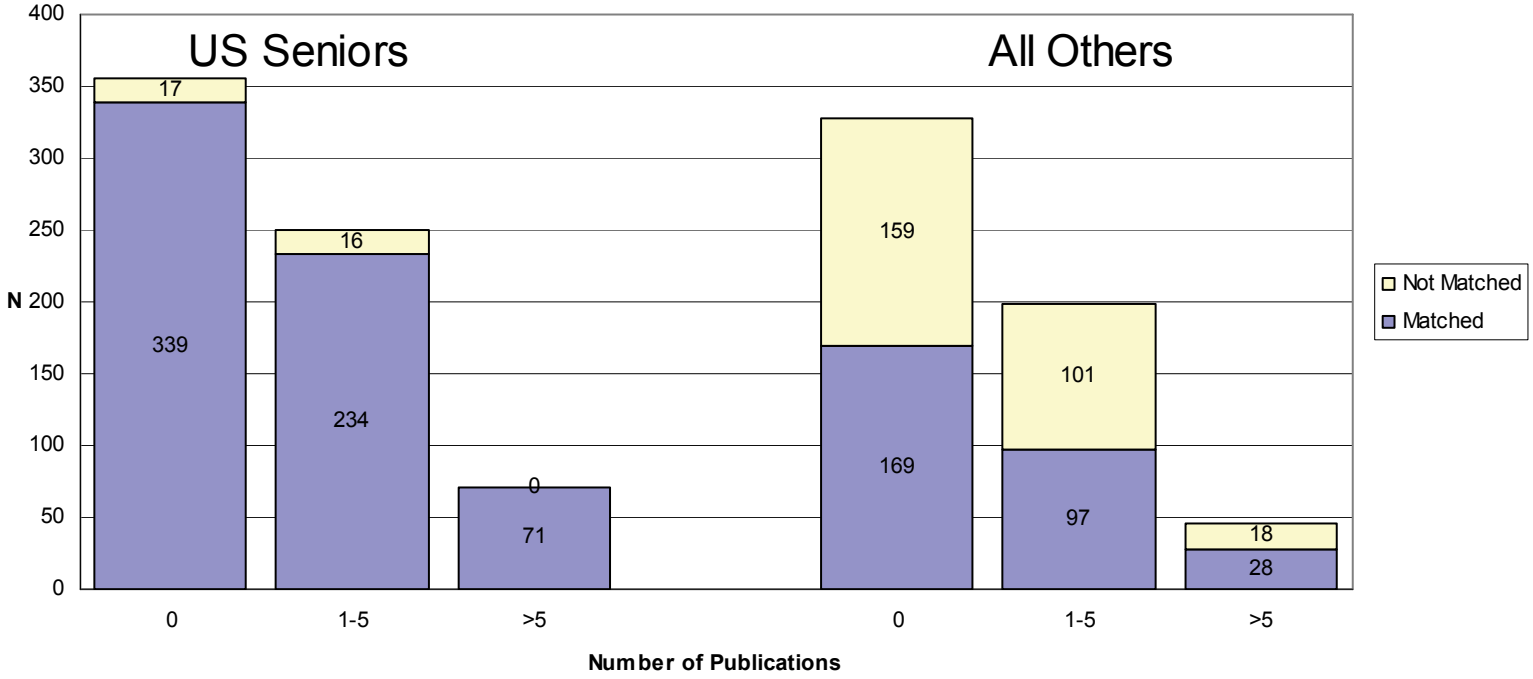
Source: NRMP Data Warehouse Data Warehouse

Psychiatry - Membership in AOA



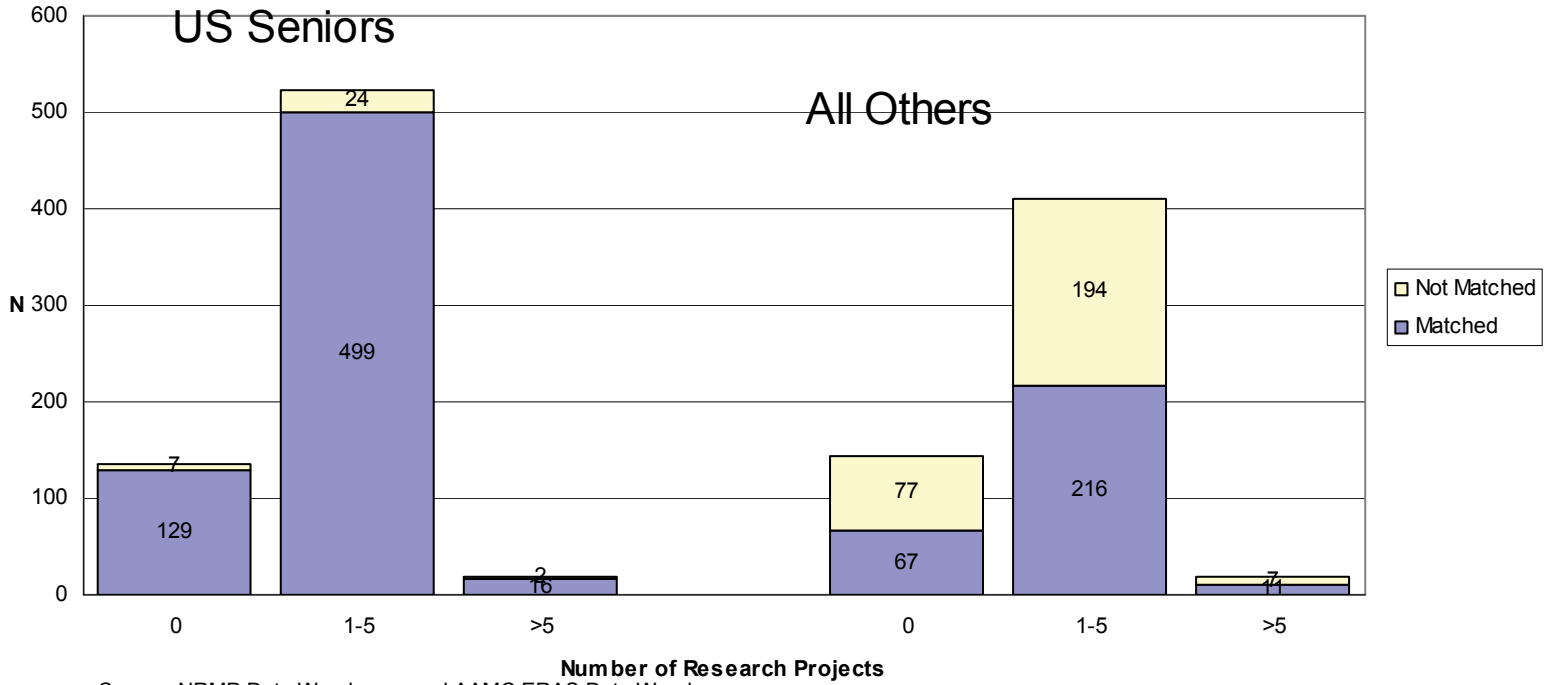
Source: NRMP Data Warehouse and AAMC ERAS Data Warehouse

Psychiatry - Publications



Source: NRMP Data Warehouse and AAMC ERAS Data Warehouse

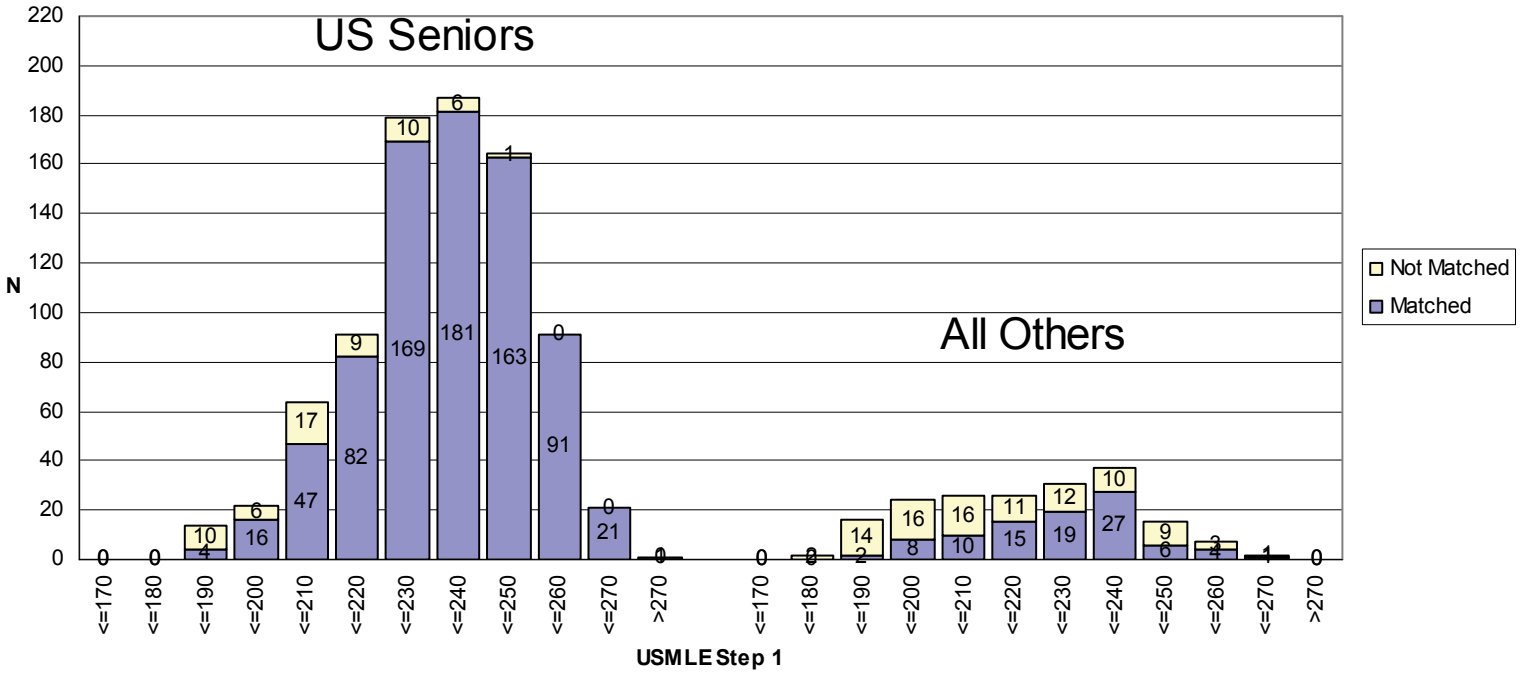
Psychiatry - Participation in Research Projects



Source: NRMP Data Warehouse and AAMC ERAS Data Warehouse

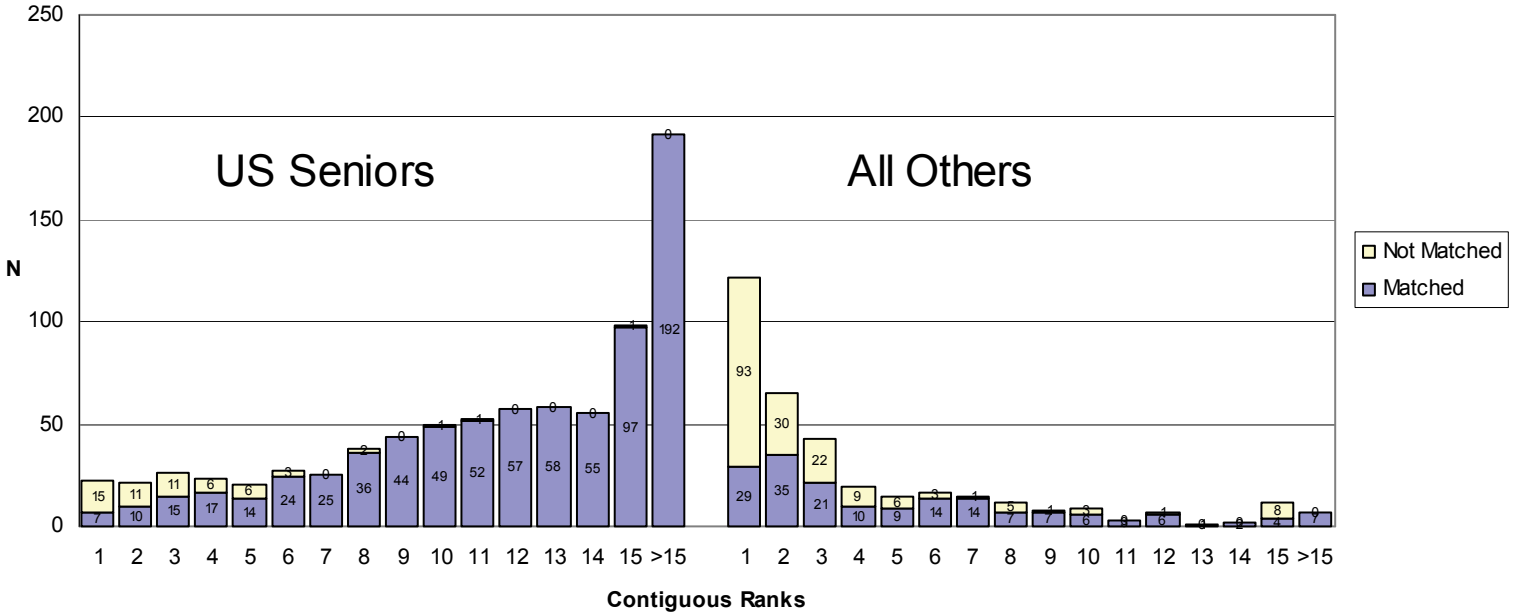
Radiology-Diagnostic		
	U.S. Seniors	All Others
Number of Applicants	838	366
Applicants per position	0.82	0.36
Mean USMLE Step 1 Score	232	221
Mean Contiguous Ranks	12.8	5.4
Percent AOA	26	6
Percent with publications	64	58
Percent with research projects	90	83
Number of Positions in Main Match	1018	

Radiology-Diagnostic - USMLE Step 1 Scores



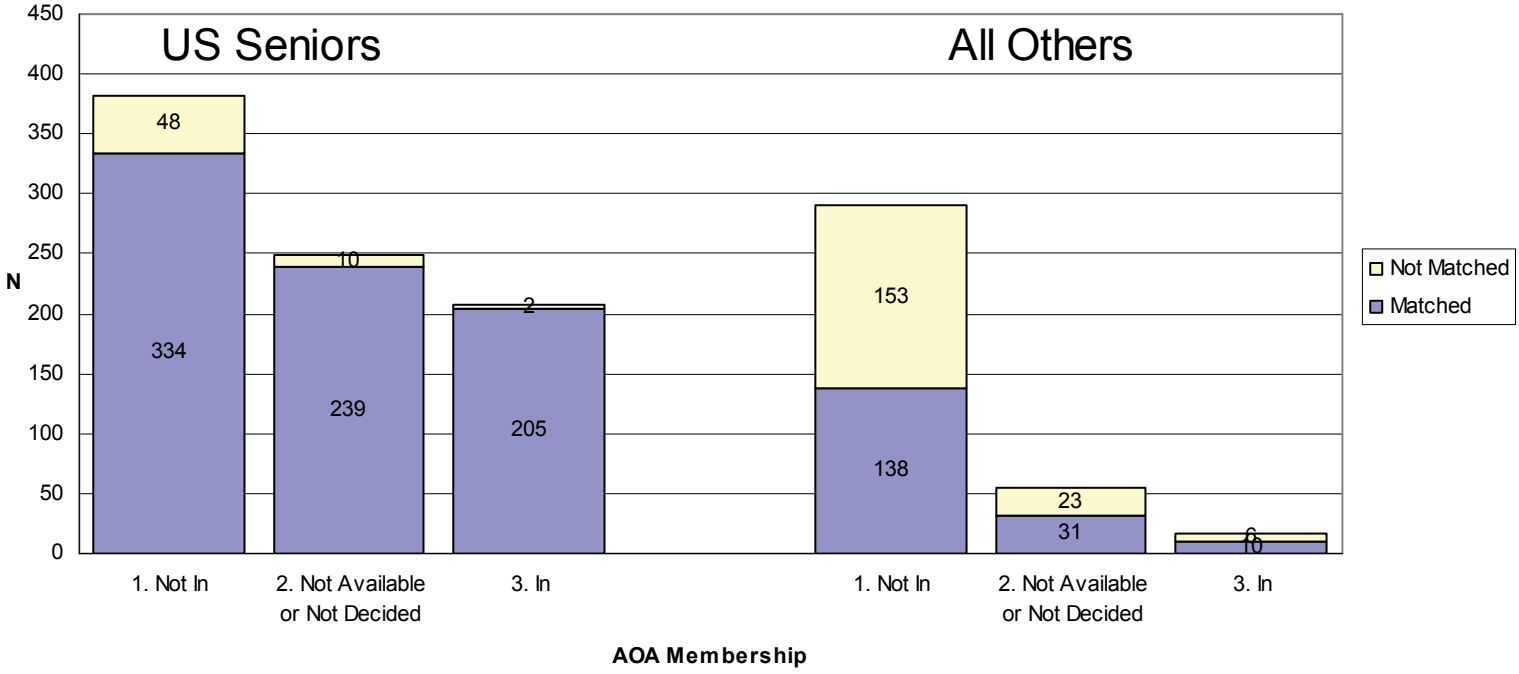
Source: NRMP Data Warehouse and AAMC USMLE Data Warehouse. USMLE scores by permission of NBME and ECFMG.

Radiology-Diagnostic - Length of Contiguous Rank Order List



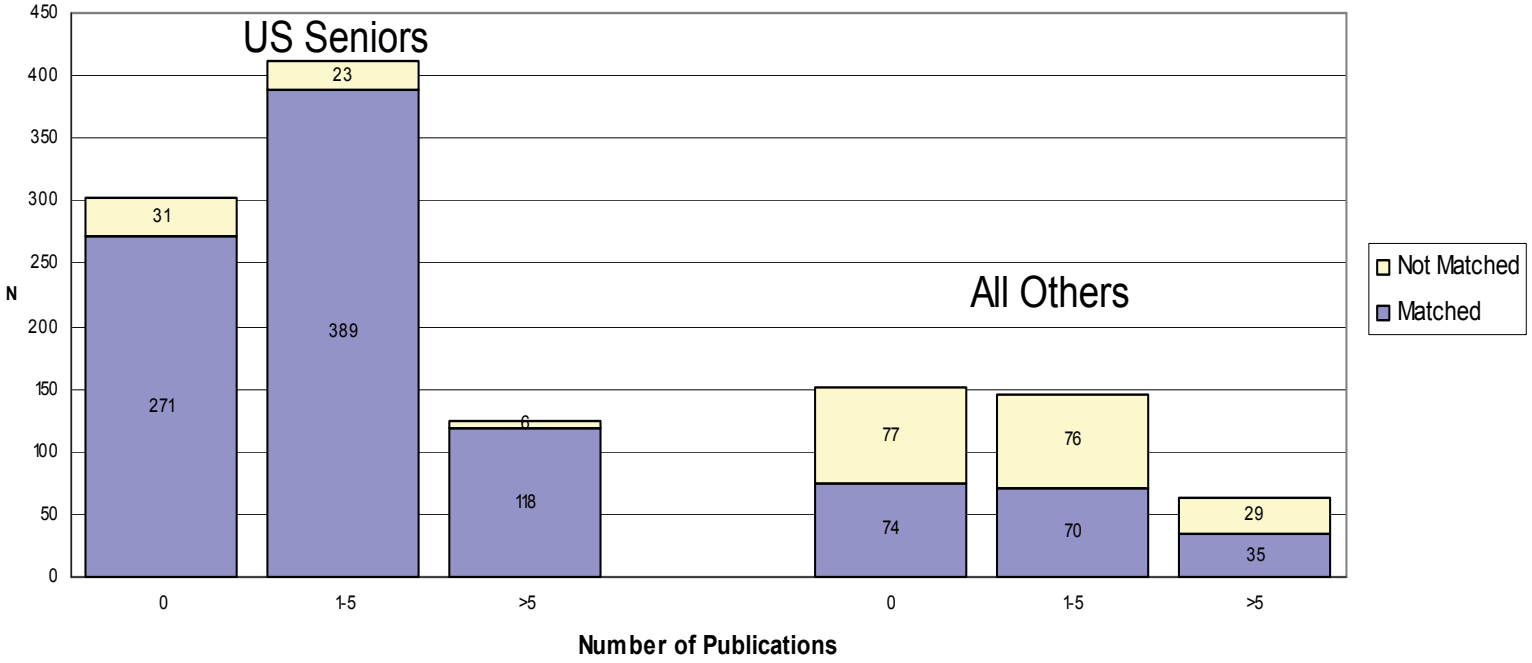
Source: NRMP Data Warehouse Data Warehouse

Radiology-Diagnostic - Membership in AOA



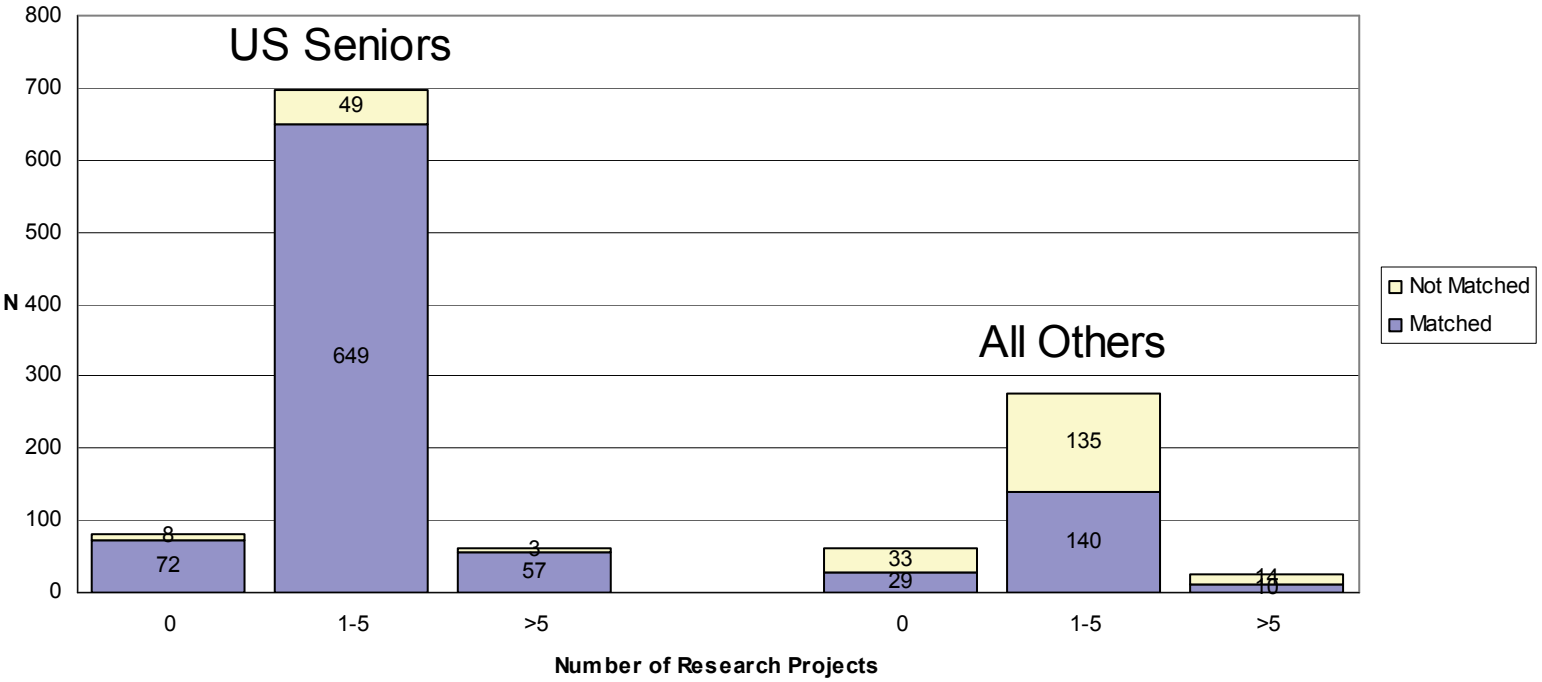
Source: NRMP Data Warehouse and AAMC ERAS Data Warehouse

Radiology-Diagnostic - Publications



Source: NRMP Data Warehouse and AAMC ERAS Data Warehouse

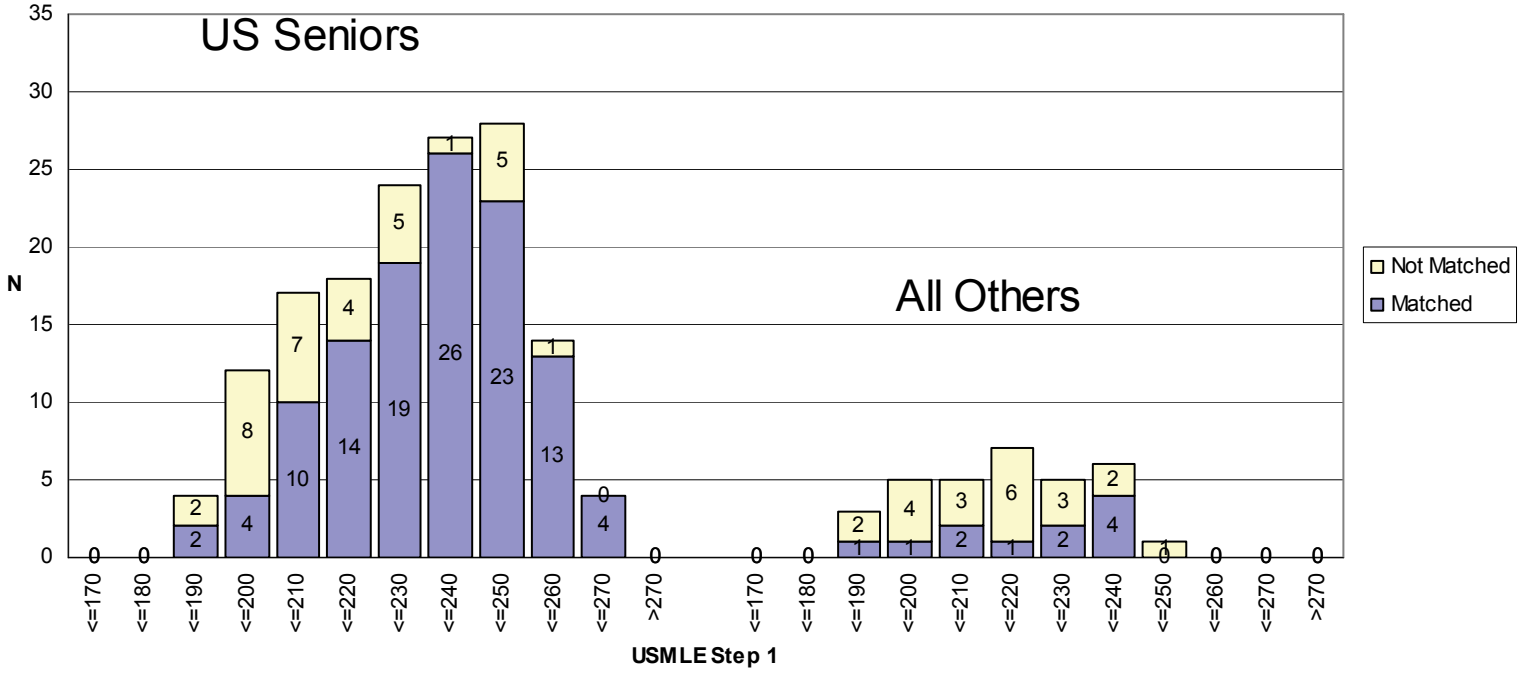
Radiology-Diagnostic - Participation in Research Projects



Source: NRMP Data Warehouse and AAMC ERAS Data Warehouse

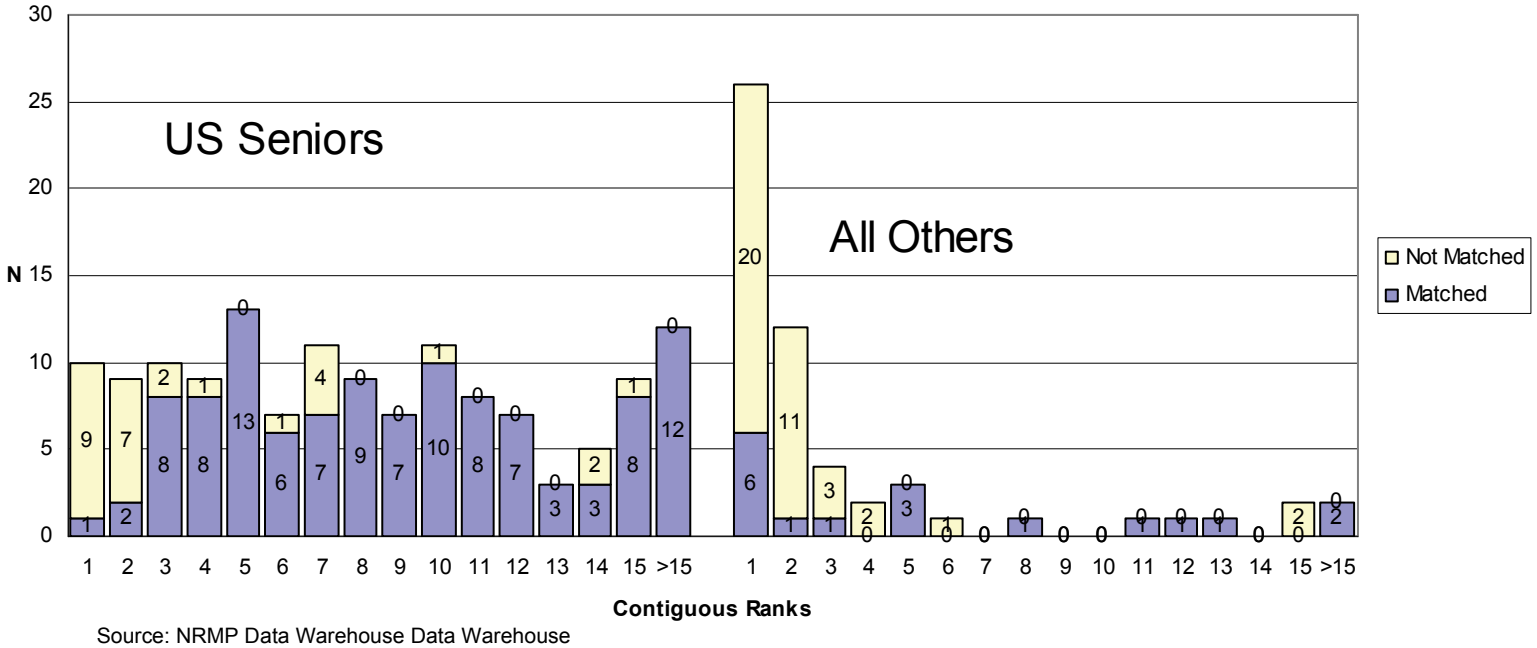
Radiation Oncology		
	U.S. Seniors	All Others
Number of Applicants	149	56
Applicants per position	1.09	0.41
Mean USMLE Step 1 Score	228	215
Mean Contiguous Ranks	9.2	6.1
Percent AOA	21	6
Percent with publications	78	74
Percent with research projects	97	91
Number of Positions in Main Match	137	

Radiation Oncology - USMLE Step 1 Scores



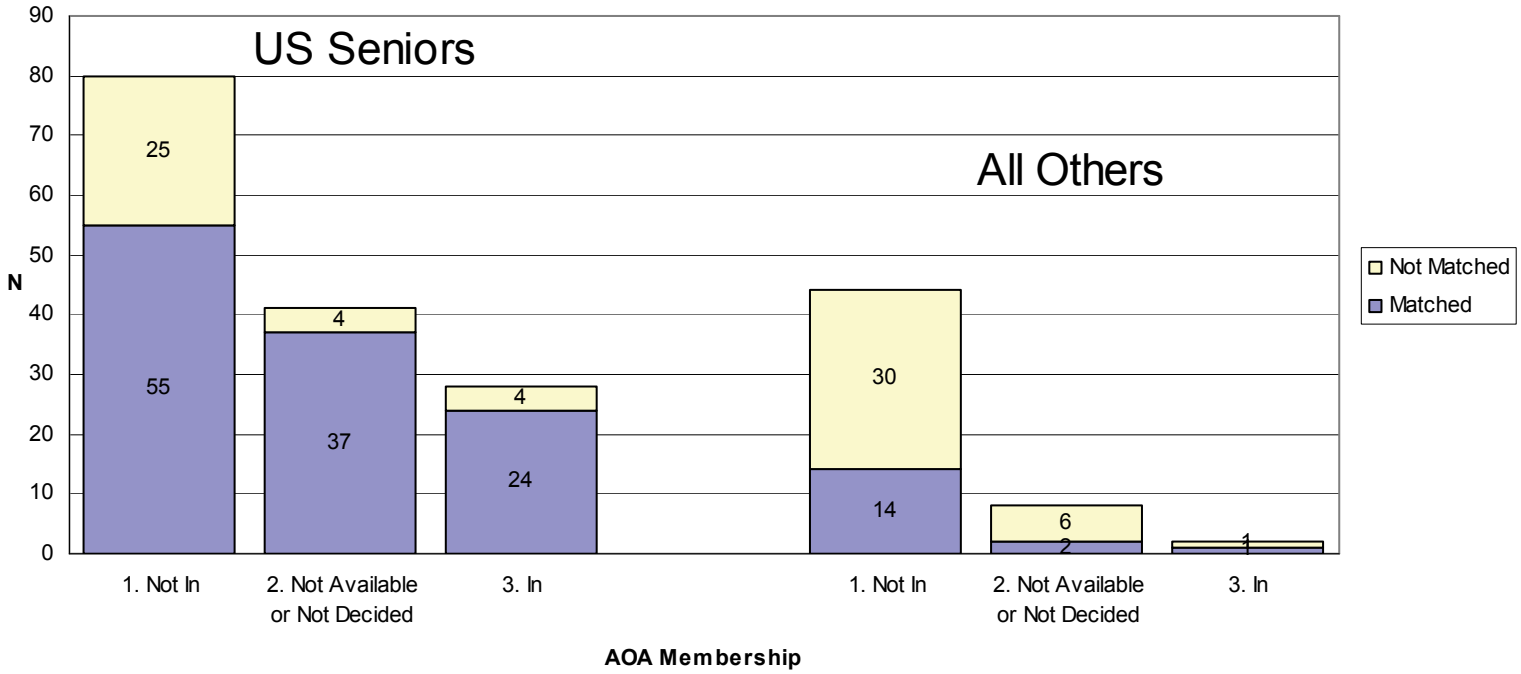
Source: NRMP Data Warehouse and AAMC USMLE Data Warehouse. USMLE scores by permission of NBME and ECFMG.

Radiation Oncology - Length of Contiguous Rank Order List



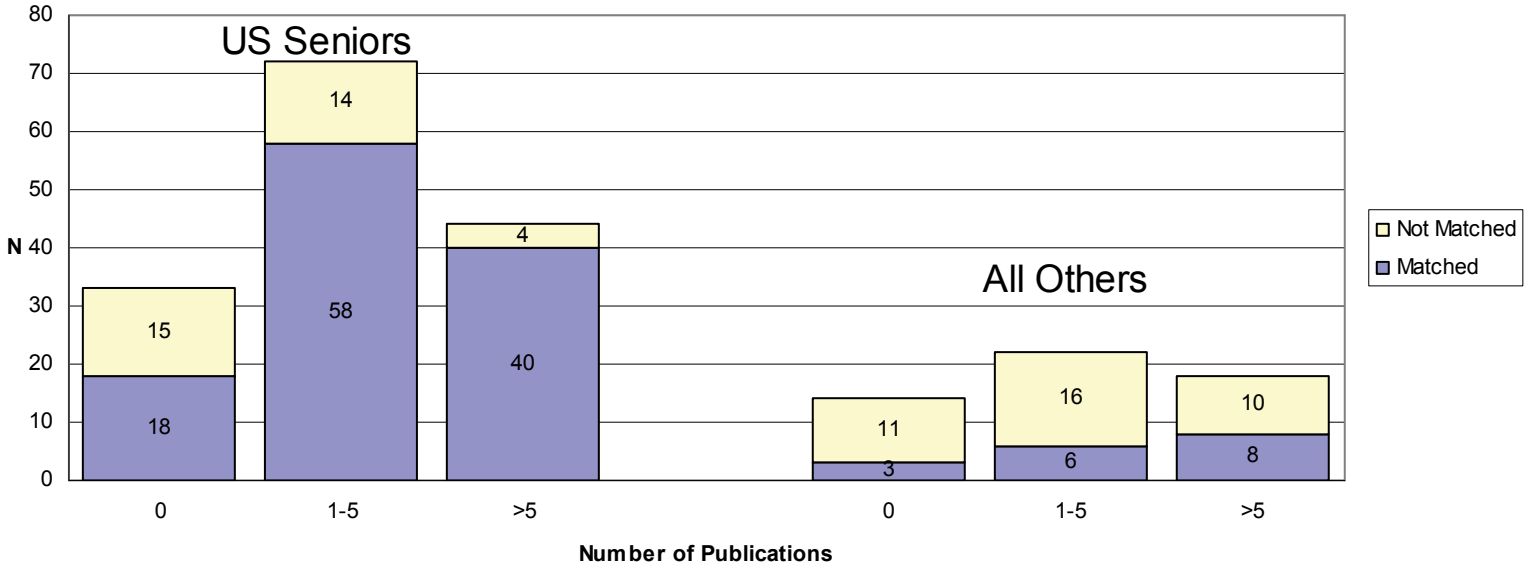
Source: NRMP Data Warehouse Data Warehouse

Radiation Oncology - Membership in AOA



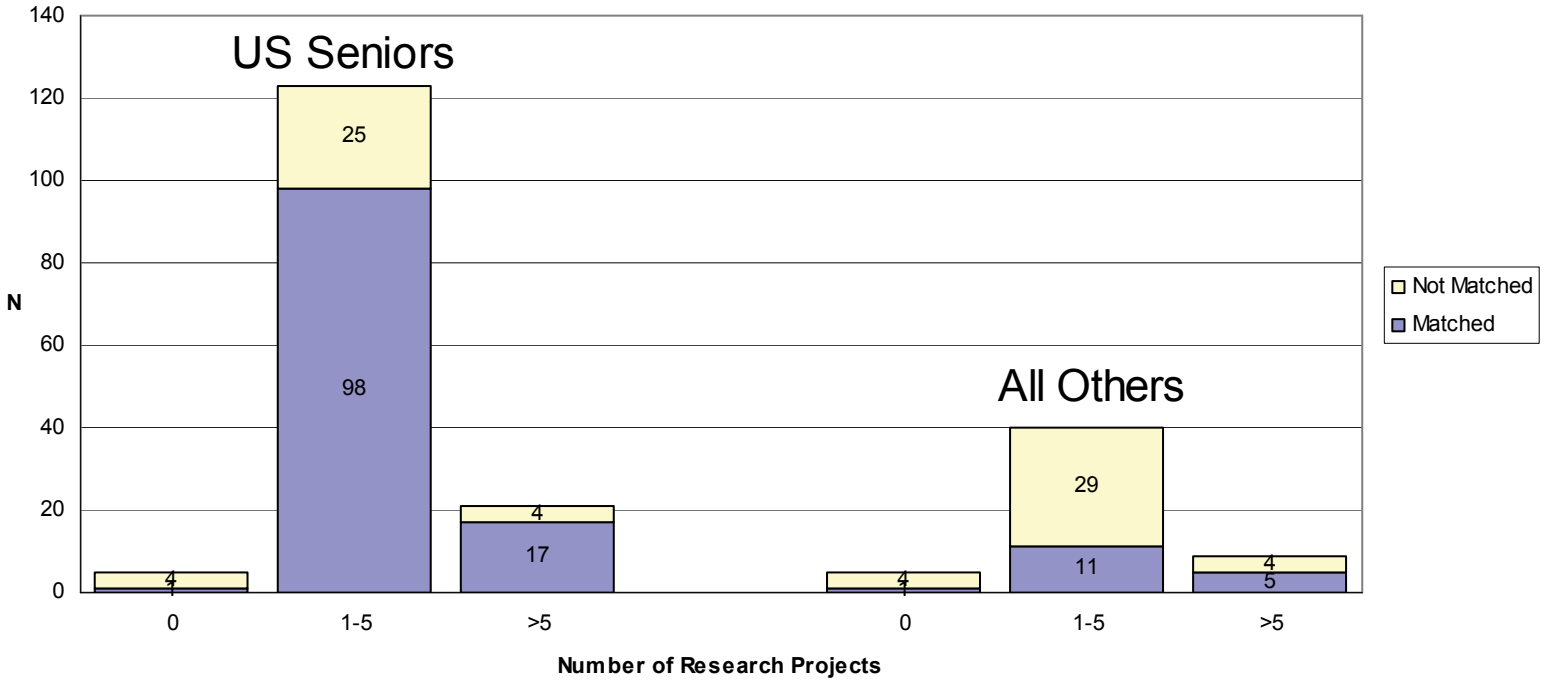
Source: NRMP Data Warehouse and AAMC ERAS Data Warehouse

Radiation Oncology - Publications



Source: NRMP Data Warehouse and AAMC ERAS Data Warehouse

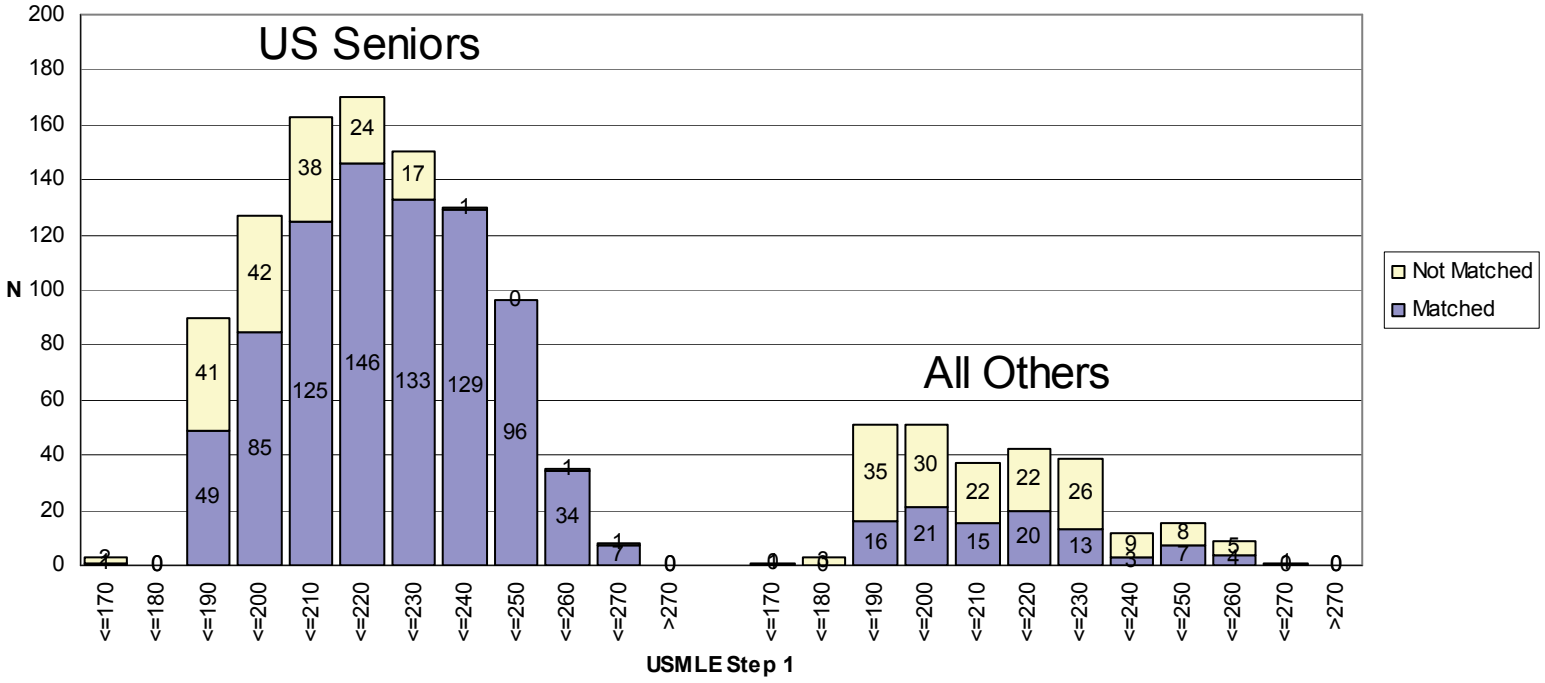
Radiation Oncology - Participation in Research Projects



Source: NRMP Data Warehouse and AAMC ERAS Data Warehouse

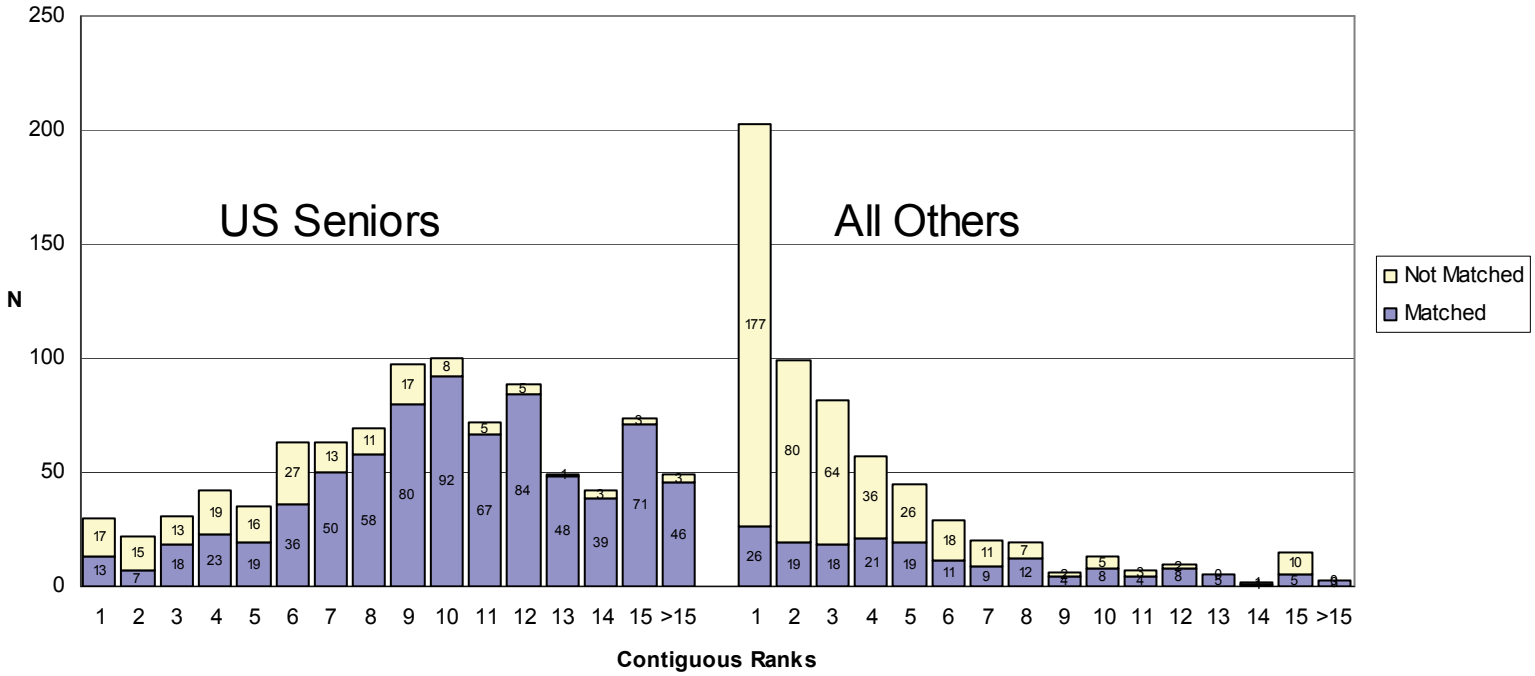
Surgery-General		
	U.S. Seniors	All Others
Number of Applicants	1522	932
Applicants per position	1.45	0.89
Mean USMLE Step 1 Score	222	212
Mean Contiguous Ranks	10.4	5.8
Percent AOA	16	1
Percent with publications	57	57
Percent with research projects	83	77
Number of Positions in Main Match	1051	

Surgery-General - USMLE Step 1 Scores



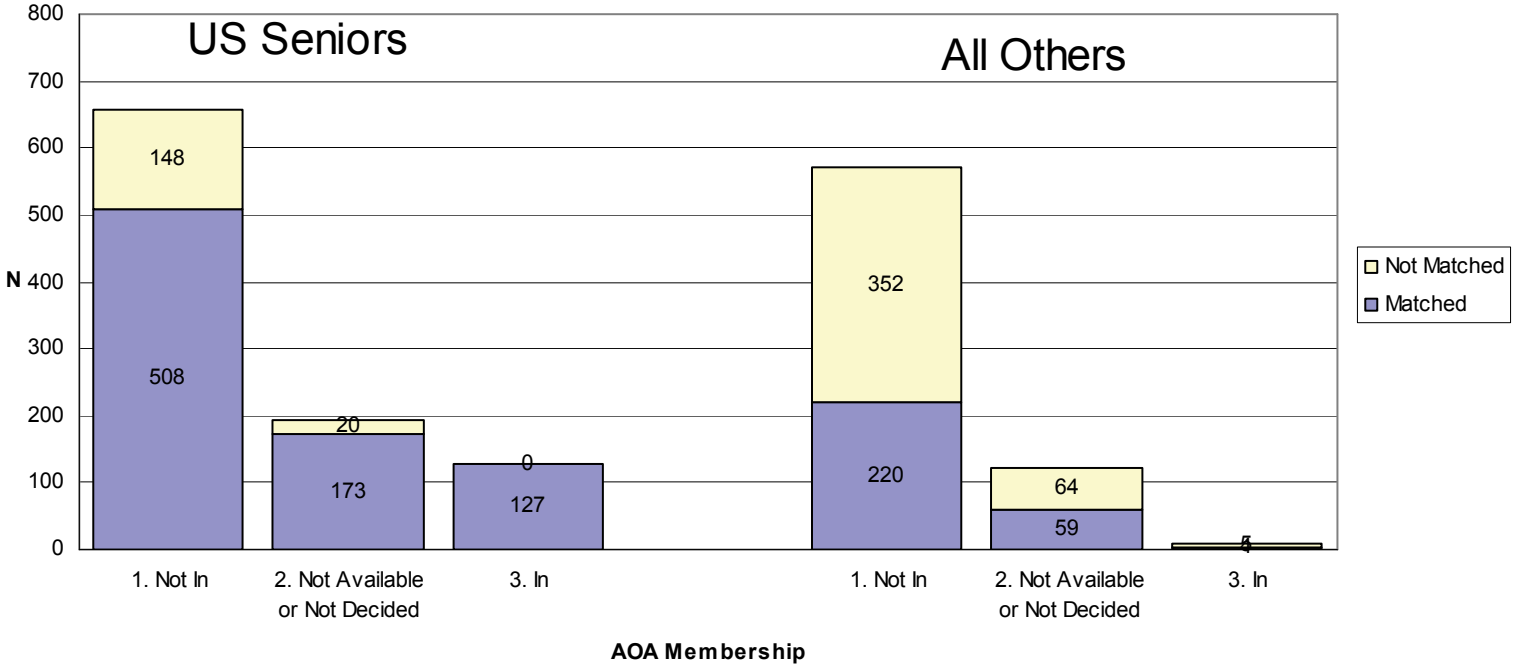
Source: NRMP Data Warehouse and AAMC USMLE Data Warehouse. USMLE scores by permission of NBME and ECFMG.

Surgery-General - Length of Contiguous Rank Order List



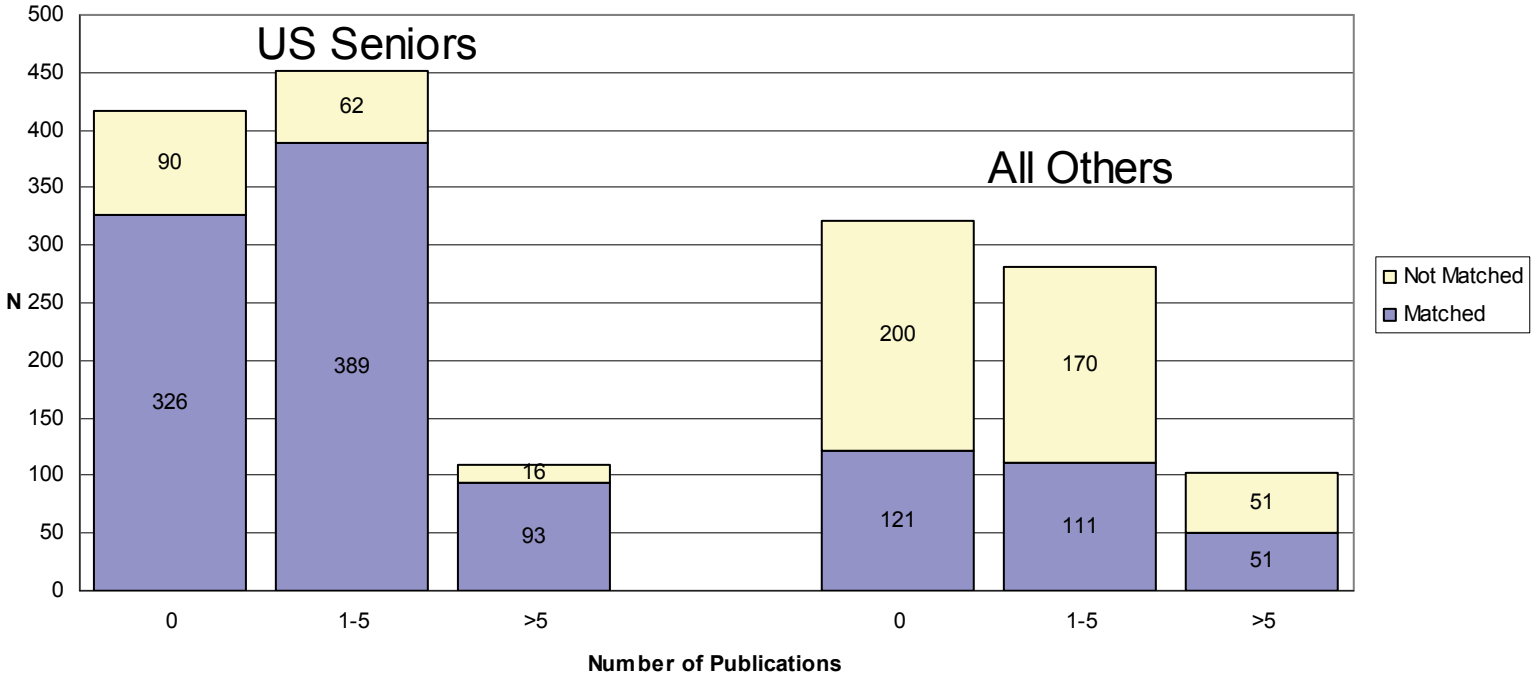
Source: NRMP Data Warehouse Data Warehouse

Surgery-General - Membership in AOA



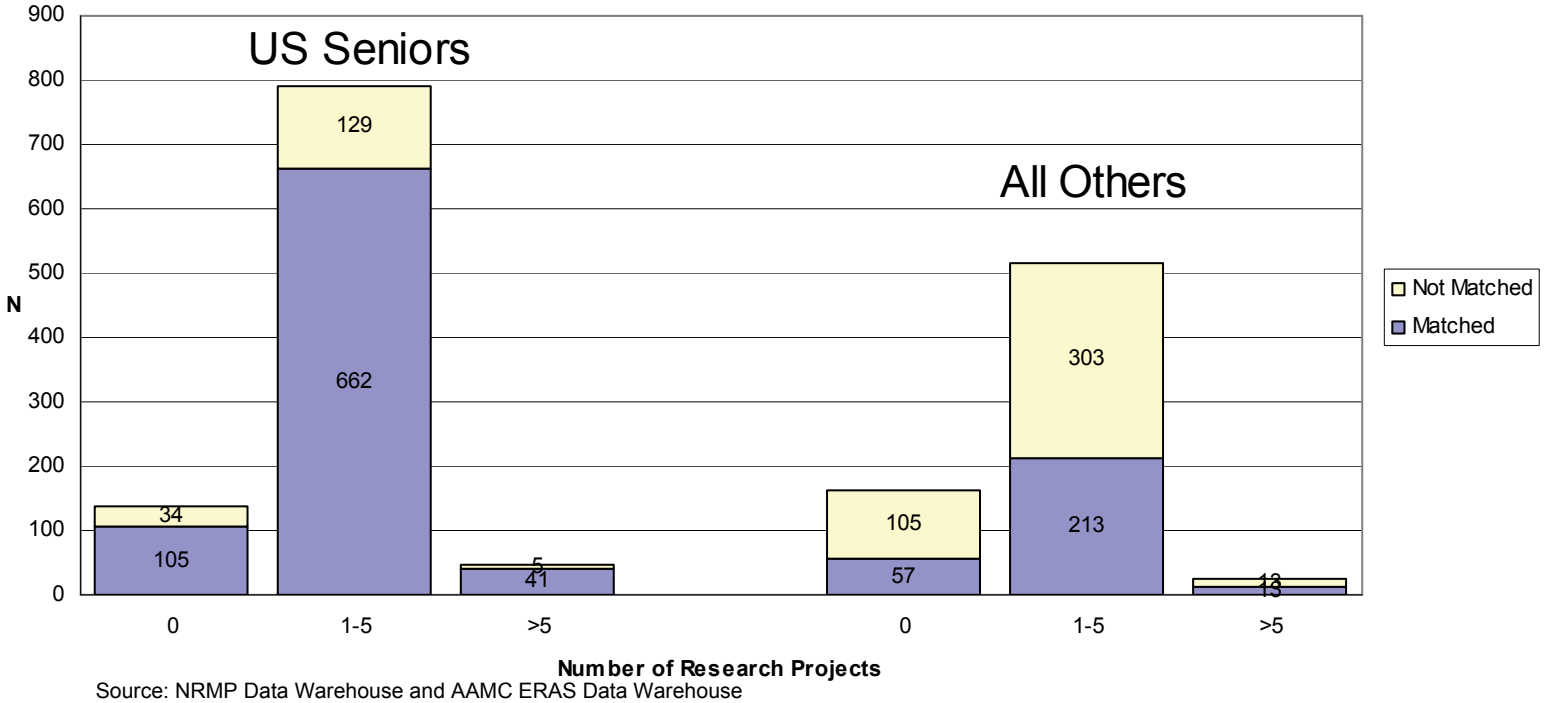
Source: NRMP Data Warehouse and AAMC ERAS Data Warehouse

Surgery-General - Publications



Source: NRMP Data Warehouse and AAMC ERAS Data Warehouse

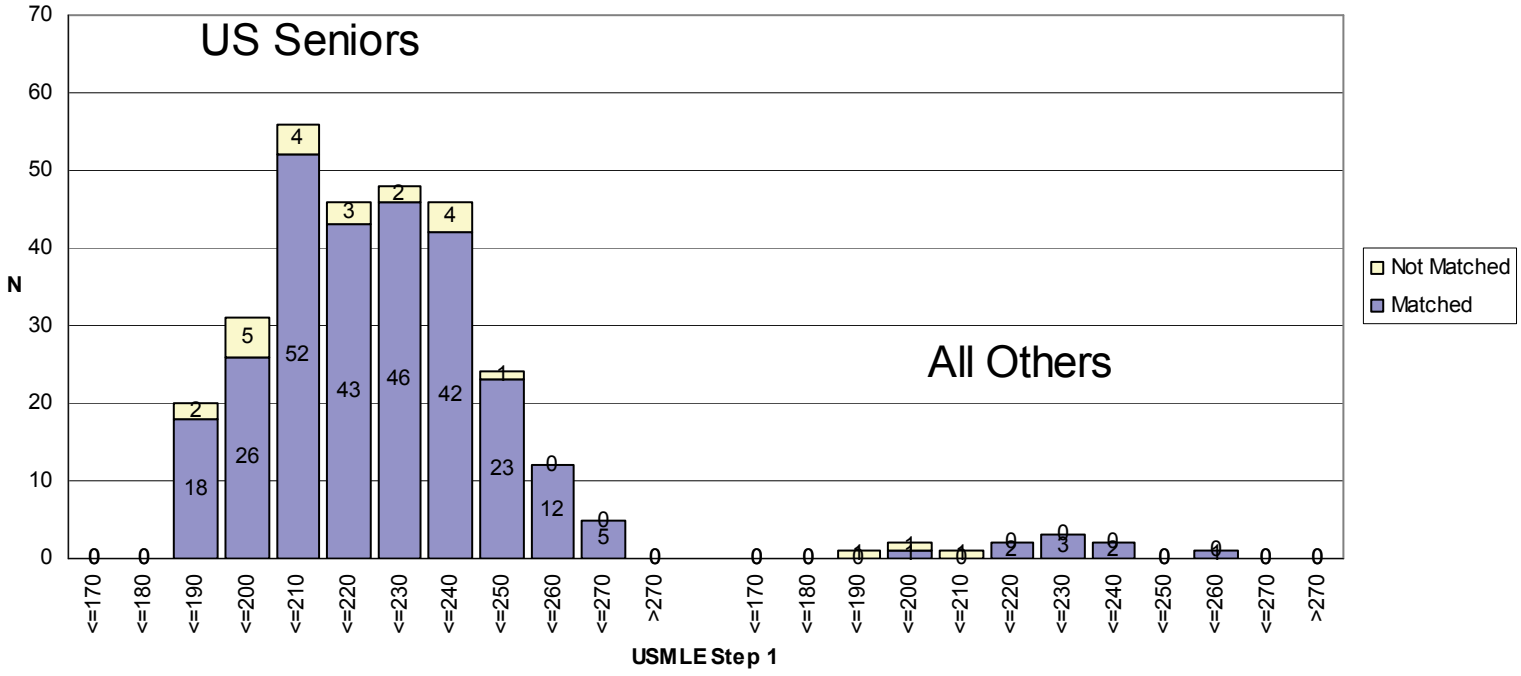
Surgery-General - Participation in Research Projects



Source: NRMP Data Warehouse and AAMC ERAS Data Warehouse

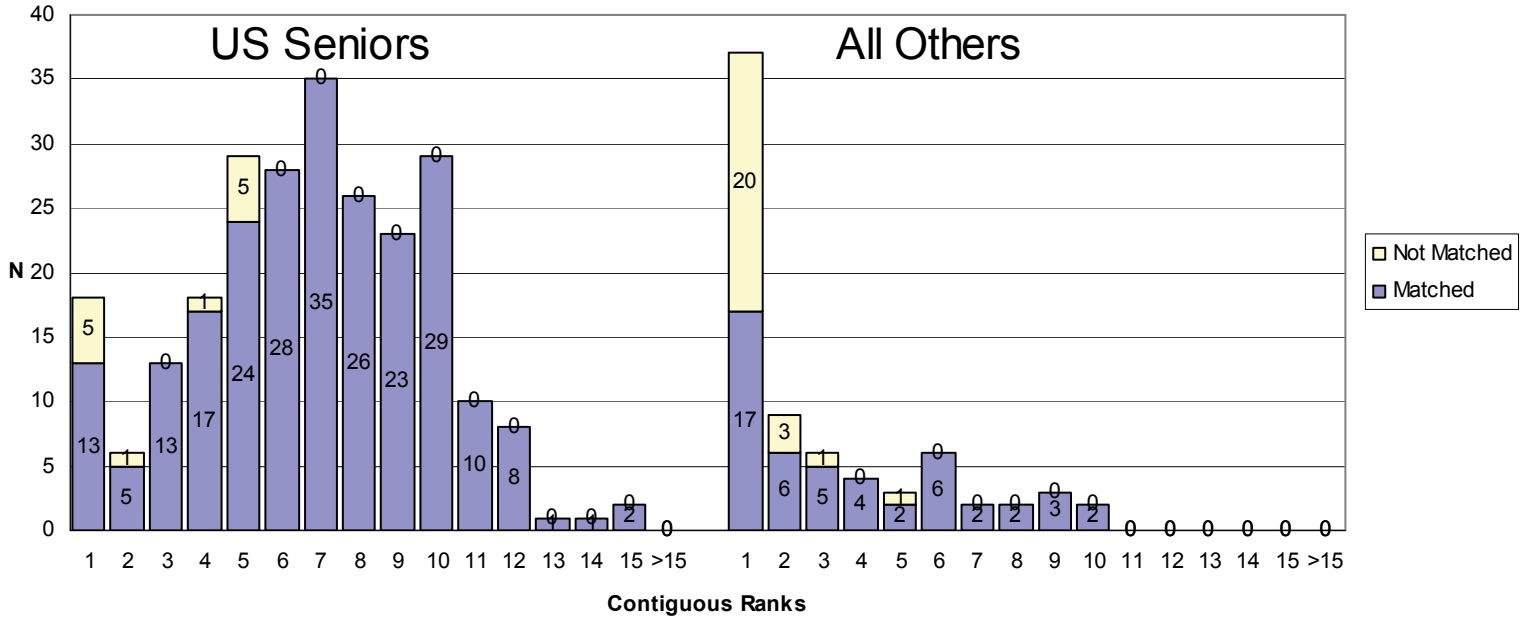
Internal Medicine/Pediatrics		
	U.S. Seniors	All Others
Number of Applicants	289	87
Applicants per position	0.74	0.22
Mean USMLE Step 1 Score	219	214
Mean Contiguous Ranks	6.9	3.7
Percent AOA	13	0
Percent with publications	50	42
Percent with research projects	78	64
Number of Positions in Main Match	390	

Internal Medicine/Pediatrics - USMLE Step 1 Scores



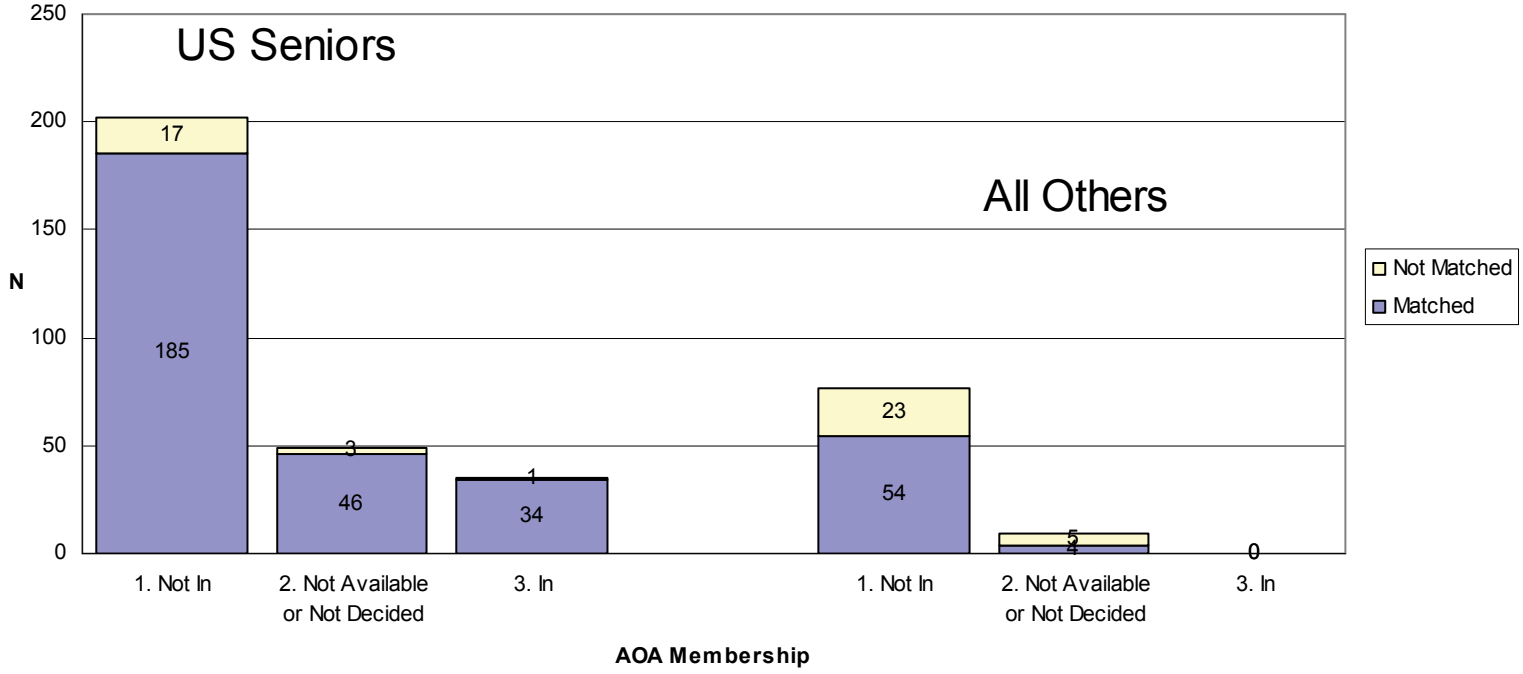
Source: NRMP Data Warehouse and AAMC USMLE Data Warehouse. USMLE scores by permission of NBME and ECFMG.

Internal Medicine/Pediatrics - Length of Contiguous Rank Order List



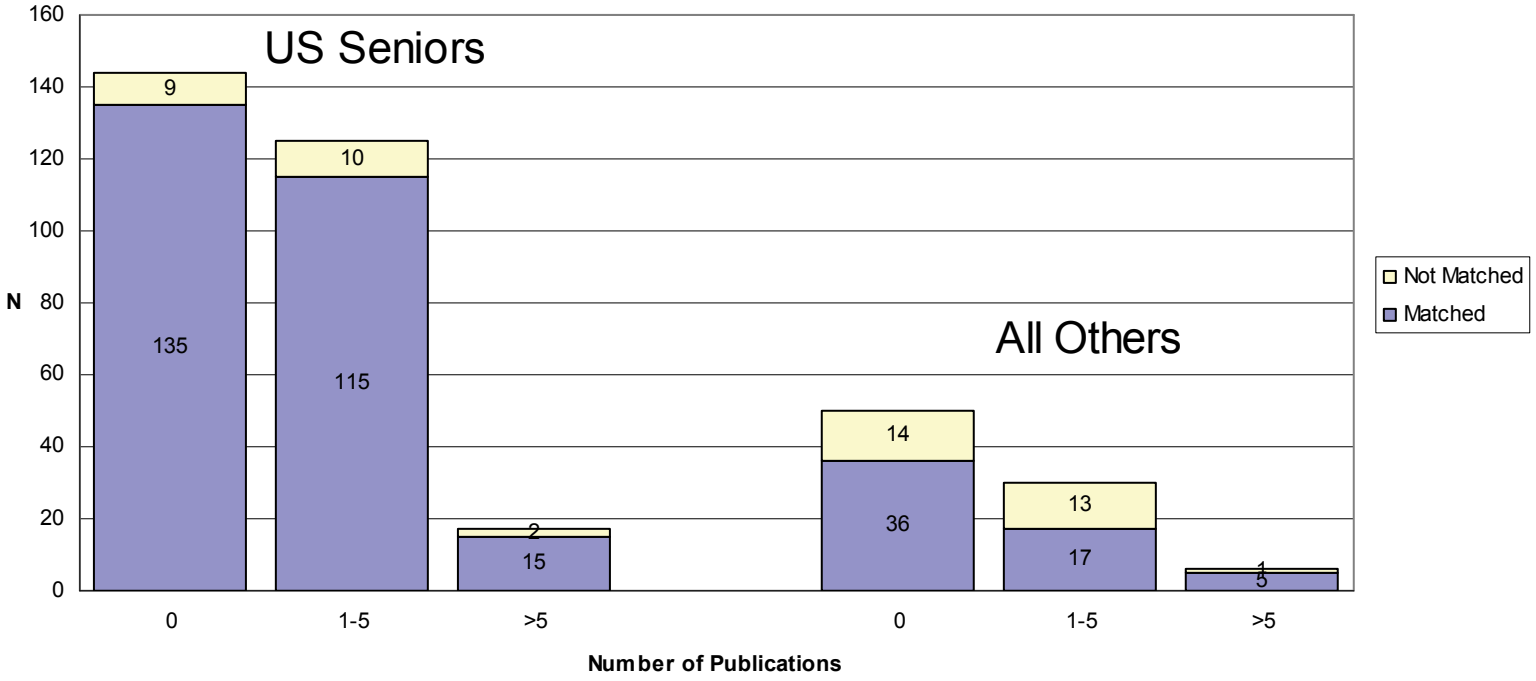
Source: NRMP Data Warehouse Data Warehouse

Internal Medicine/Pediatrics - Membership in AOA



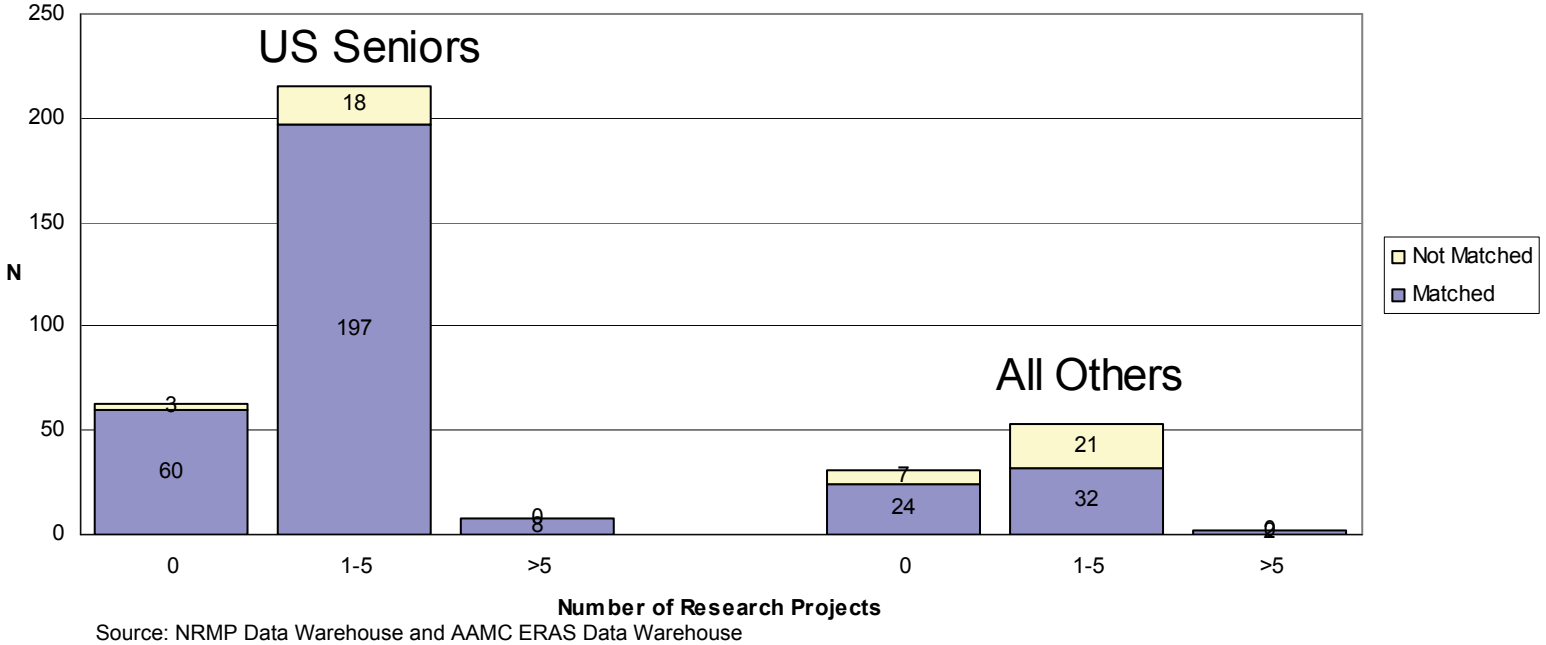
Source: NRMP Data Warehouse and AAMC ERAS Data Warehouse

Internal Medicine/Pediatrics - Publications



Source: NRMP Data Warehouse and AAMC ERAS Data Warehouse

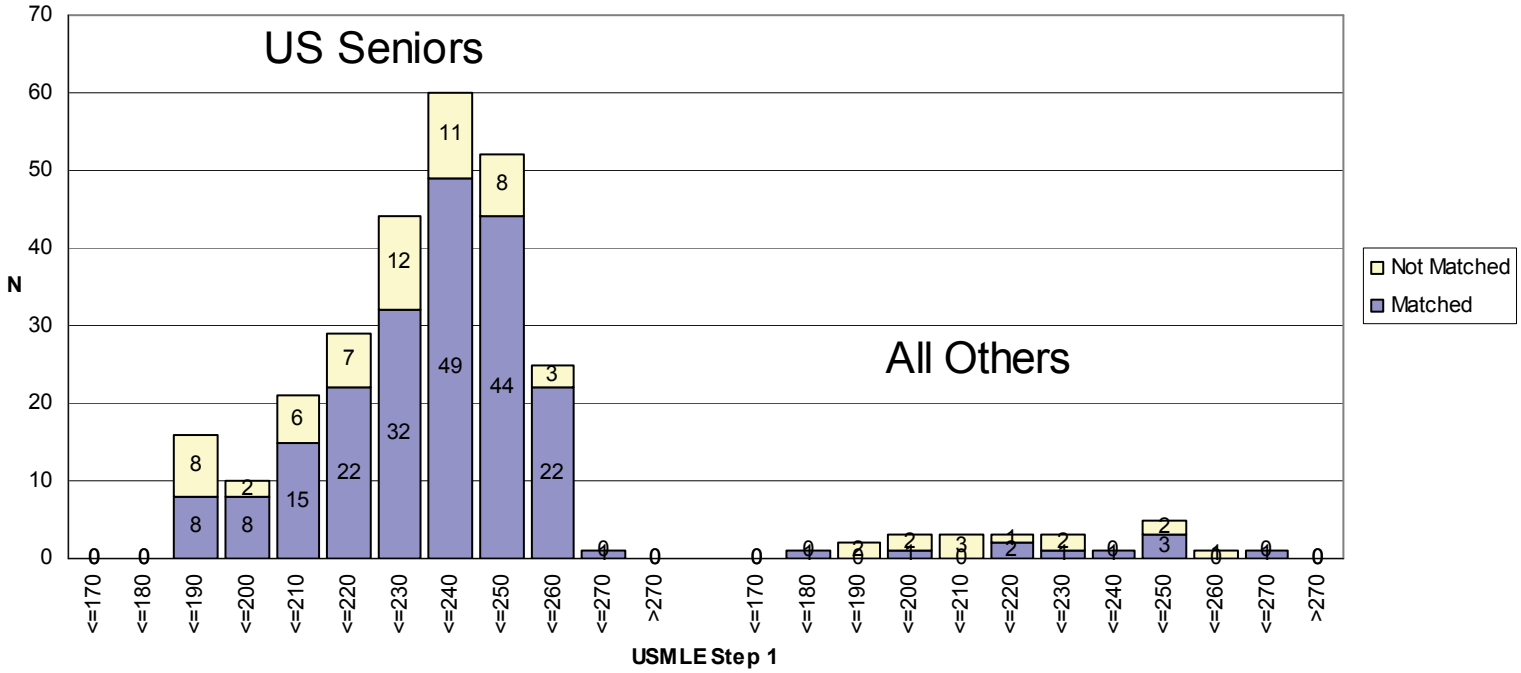
Internal Medicine/Pediatrics - Participation in Research Projects



Source: NRMP Data Warehouse and AAMC ERAS Data Warehouse

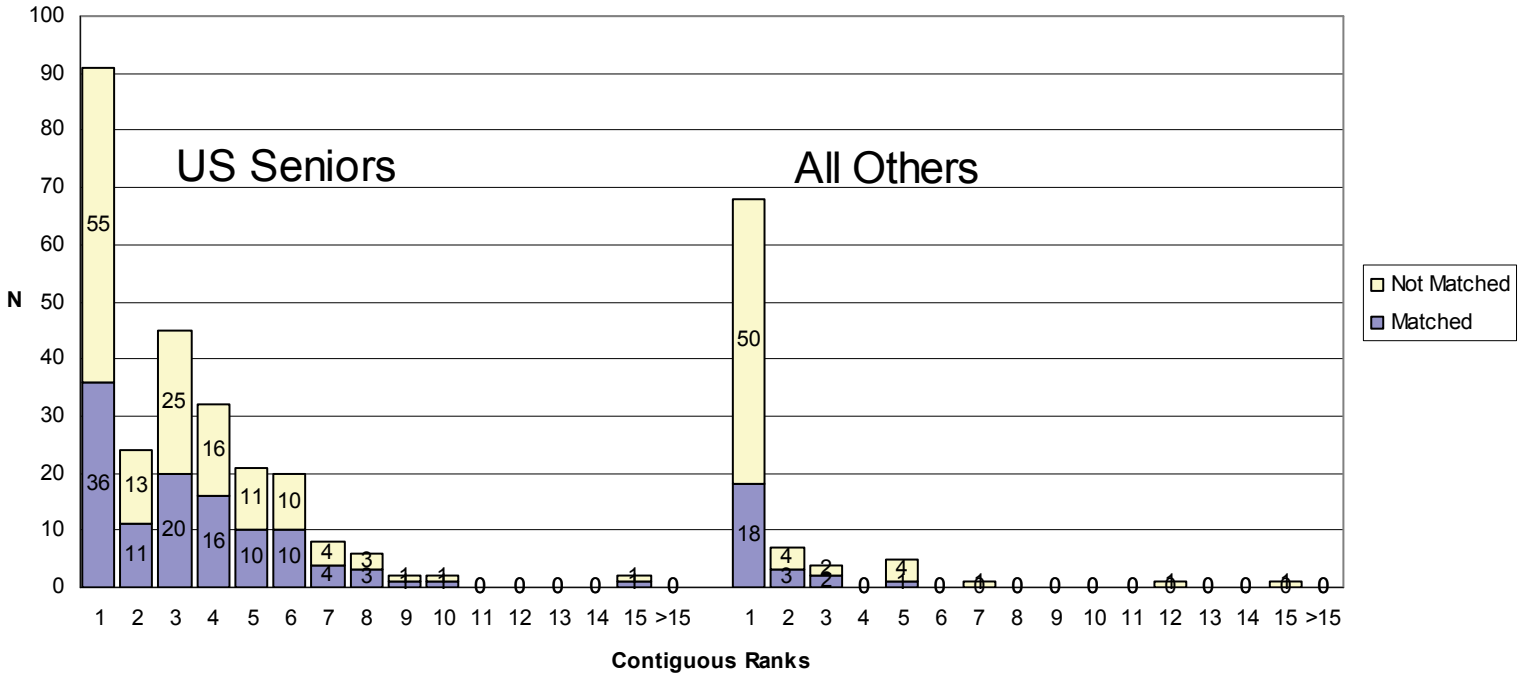
Transitional Year		
	U.S. Seniors	All Others
Number of Applicants	260	78
Applicants per position	0.26	0.08
Mean USMLE Step 1 Score	229	221
Mean Contiguous Ranks	3.4	1.5
Percent AOA	26	4
Percent with publications	63	57
Percent with research projects	95	79
Number of Positions in Main Match	1017	

Transitional Year - USMLE Step 1 Scores



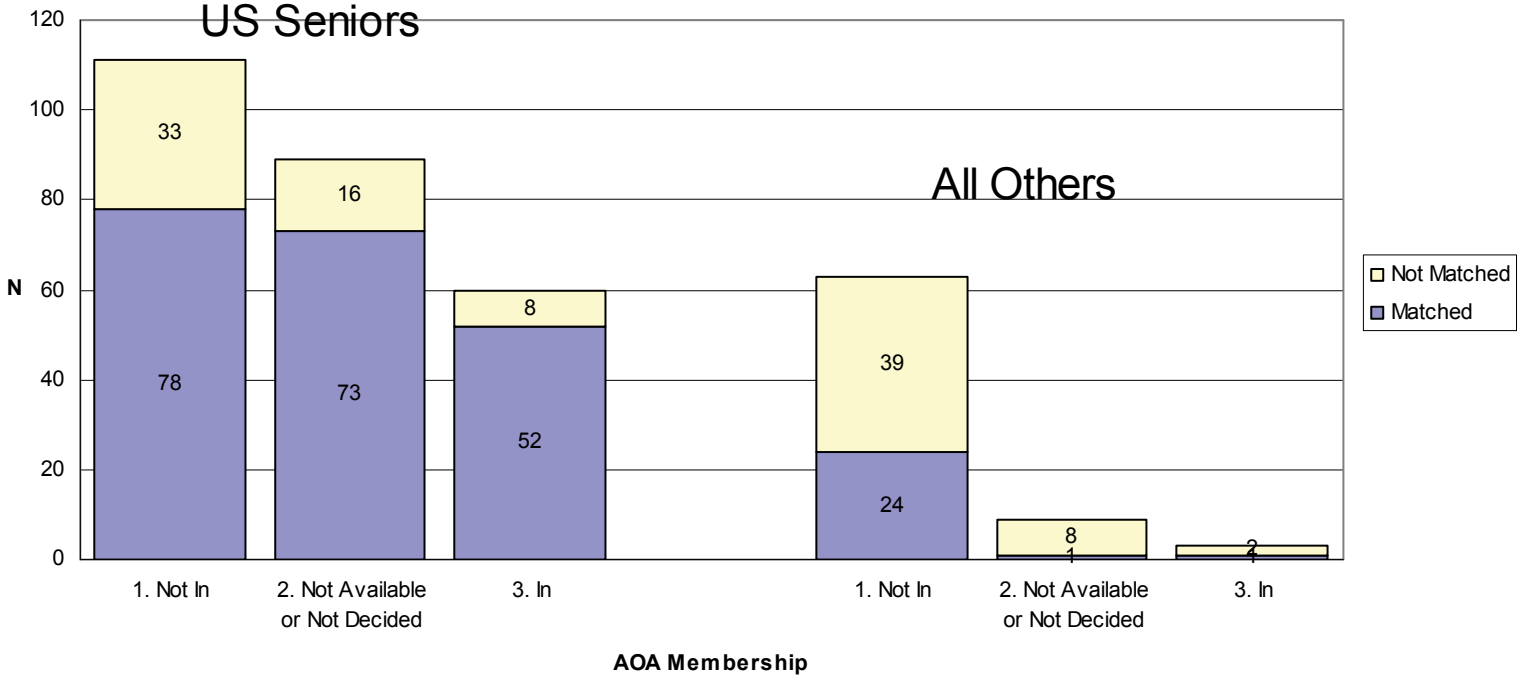
Source: NRMP Data Warehouse and AAMC USMLE Data Warehouse. USMLE scores by permission of NBME and ECFMG.

Transitional Year - Length of Contiguous Rank Order List



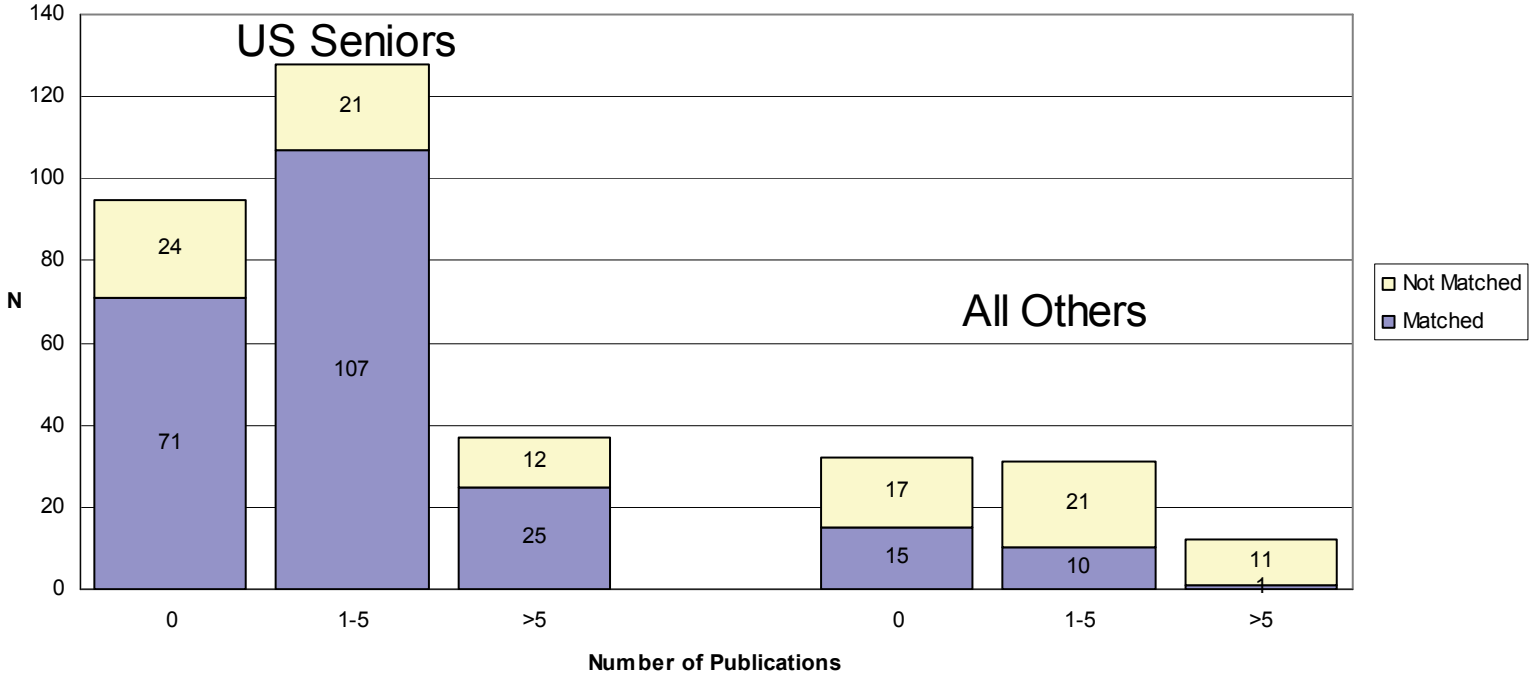
Source: NRMP Data Warehouse Data Warehouse

Transitional Year - Membership in AOA



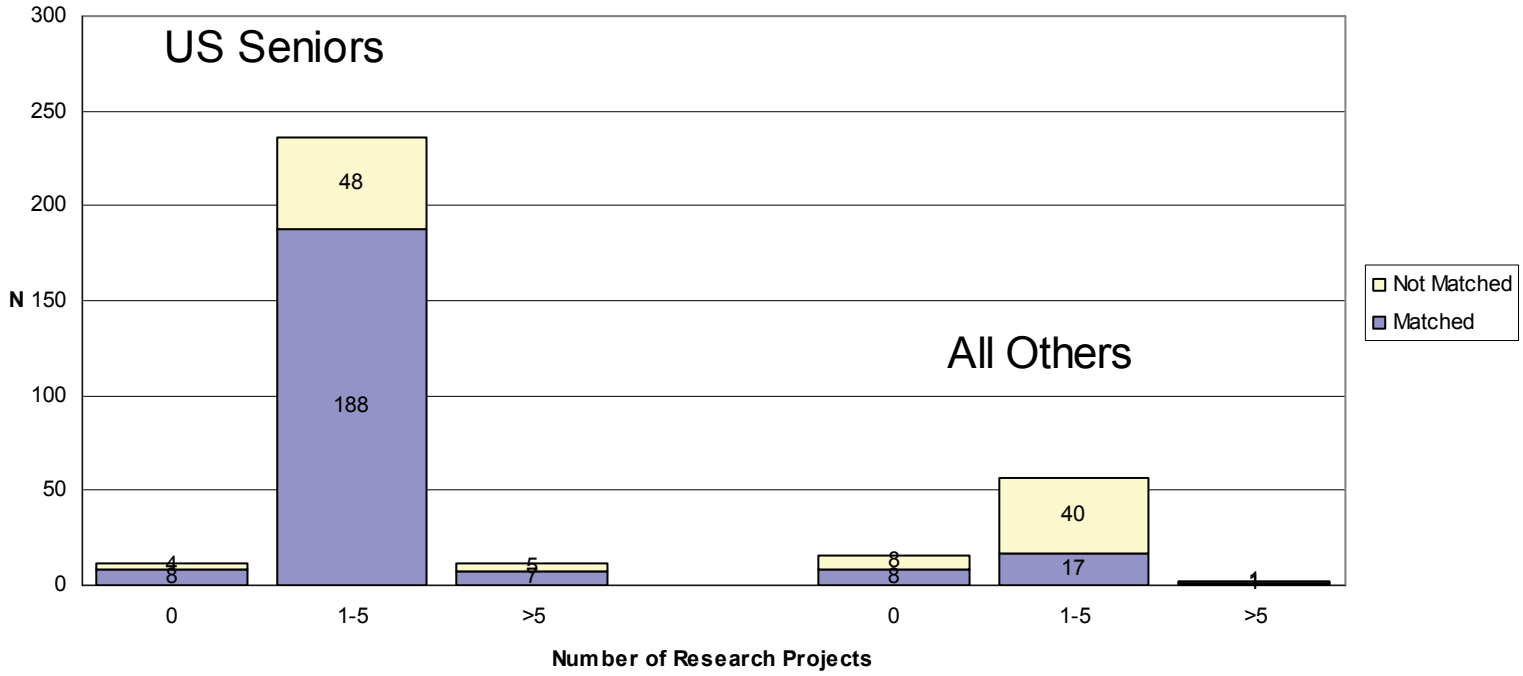
Source: NRMP Data Warehouse and AAMC ERAS Data Warehouse

Transitional Year - Publications



Source: NRMP Data Warehouse and AAMC ERAS Data Warehouse

Transitional Year - Participation in Research Projects



Source: NRMP Data Warehouse and AAMC ERAS Data Warehouse

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The report was designed and prepared by AAMC Senior Associate Vice President Paul Jolly, PhD.

