

Introduction

- Integrated plastic surgery is one of the most competitive residency specialties to match in.
- With the change of board exam and school grading to pass/fail and removal of Alpha Omega Alpha (AOA) chapters, research productivity remains an increasingly important quantifiable measure of applicant competitiveness.
- More medical students are taking dedicated research years to strengthen their application and improve their chance of matching.
- While there is a significant financial cost associated with dedicated research years including living costs and delayed attending salary, the actual benefits are unknown.
- Previous studies examining the benefit of research years are based on survey data, which may be inaccurate due to sampling bias.
- We examined the effects of a research year on an applicant's ability to match using application data from the 2022-2023 National Resident Matching Program (NRMP) match cycle.

Objectives

- Evaluate the effect of a dedicated research year on an applicant's probability of matching in an integrated plastic surgery program.
- Perform subgroup analyses to evaluate the benefit of a research year for medical students with no home program.
- Evaluate the effect of a dedicated research year on an applicant's probability of matching in a highly funded research institution.

Materials and Methods

- Review of applications to the Johns Hopkins integrated plastic surgery residency program during 2022-2023 NRMP match cycle.
- Exclusion of IMG, FMG, and repeat applicants.
- Collection of application variables including: type of degree (i.e. MD vs DO), USMLE step 2 scores, AOA membership, research productivity (number of articles / abstracts, number of oral and poster presentations), presence of a home program, experience participating in a research year, size of research funding awarded by the National Institutes of Health (NIH) to the medical institution affiliated with the medical school and residency program, additional degrees, match result.
- Descriptive statistics to compare baseline application characteristics between applicants who participated in a research year and those who did not.
- Multiple logistic regression analysis to identify predictors of matching in a plastic surgery residency and a NIH top 40 funded medical institution.
- Subgroup analysis to identify predictors of matching in plastic surgery for applicants without home programs.

Results

- A total of 254 applications were reviewed.
- 81 (31.9%) participated in a dedicated research year.
- Students who participated in research years had significantly more articles, abstracts, and presentations compared to those who did not.
- On multiple regression analysis, AOA membership and step 2 score were predictors for matching in plastic surgery.
- A larger number of articles and abstracts, a higher USMLE Step 2 score, and attending a NIH top 40 funded medical school were significant predictors for matching in a NIH top 40 funded medical institution for residency.

Table 1. Comparison of characteristics between non-research year and research year applicant cohorts

Characteristic	Non-research year (n=173)	Research year (n=81)	P-value
Osteopathic school applicant	5 (2.9%)	0 (0%)	0.181
NIH top 40 funded medical school	50 (28.9%)	34 (42.0%)	0.039
Presence of home program	113 (65.3%)	59 (72.8%)	0.232
Advanced degree (e.g. PhD, MPH)	38 (22.0%)	23 (28.4%)	0.264
No. articles / abstracts (median)	4	12	<0.001
No. presentations (median)	8	18	<0.001
Matched in plastic surgery	120 (69.4%)	61 (75.3%)	0.329

Figure 1. Multiple logistic regression: predictors of matching in plastic surgery for all applicants

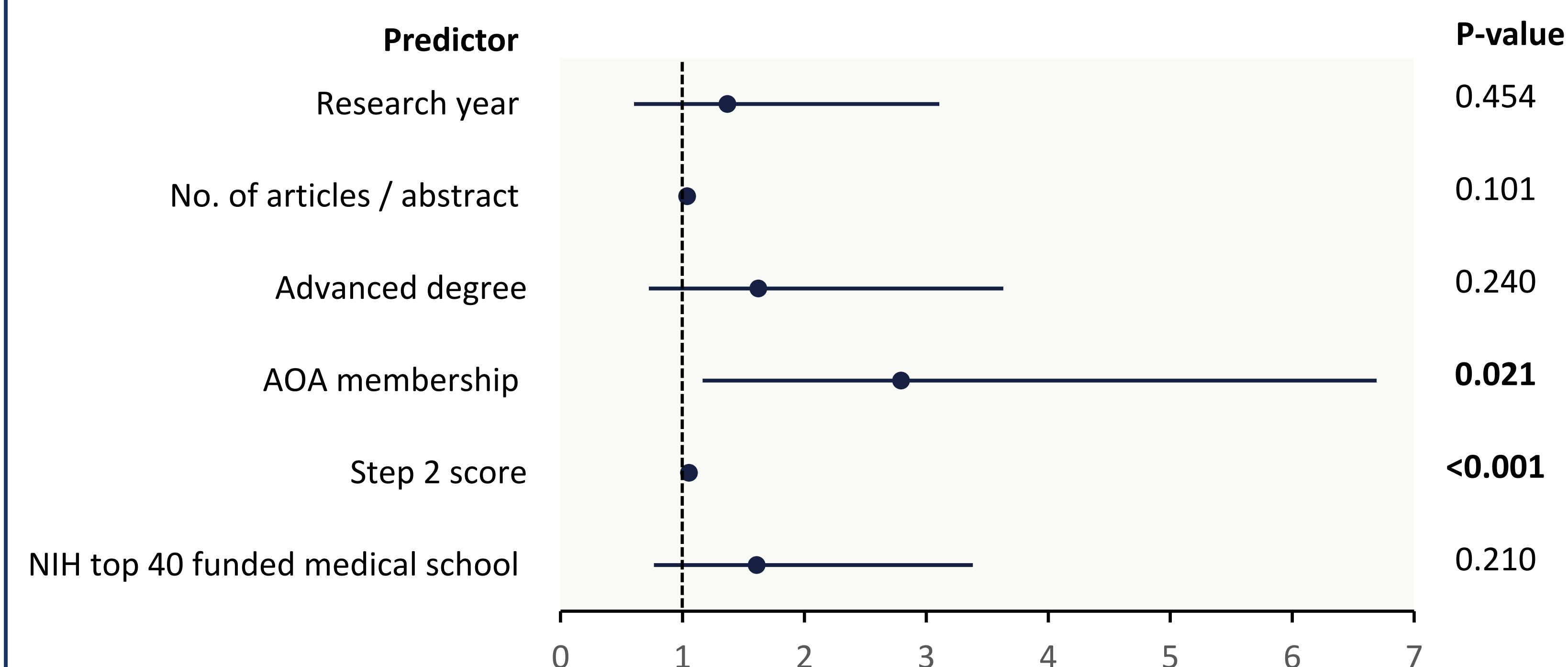


Figure 2. Multiple logistic regression: predictors of matching in plastic surgery, applicants without home residency programs only

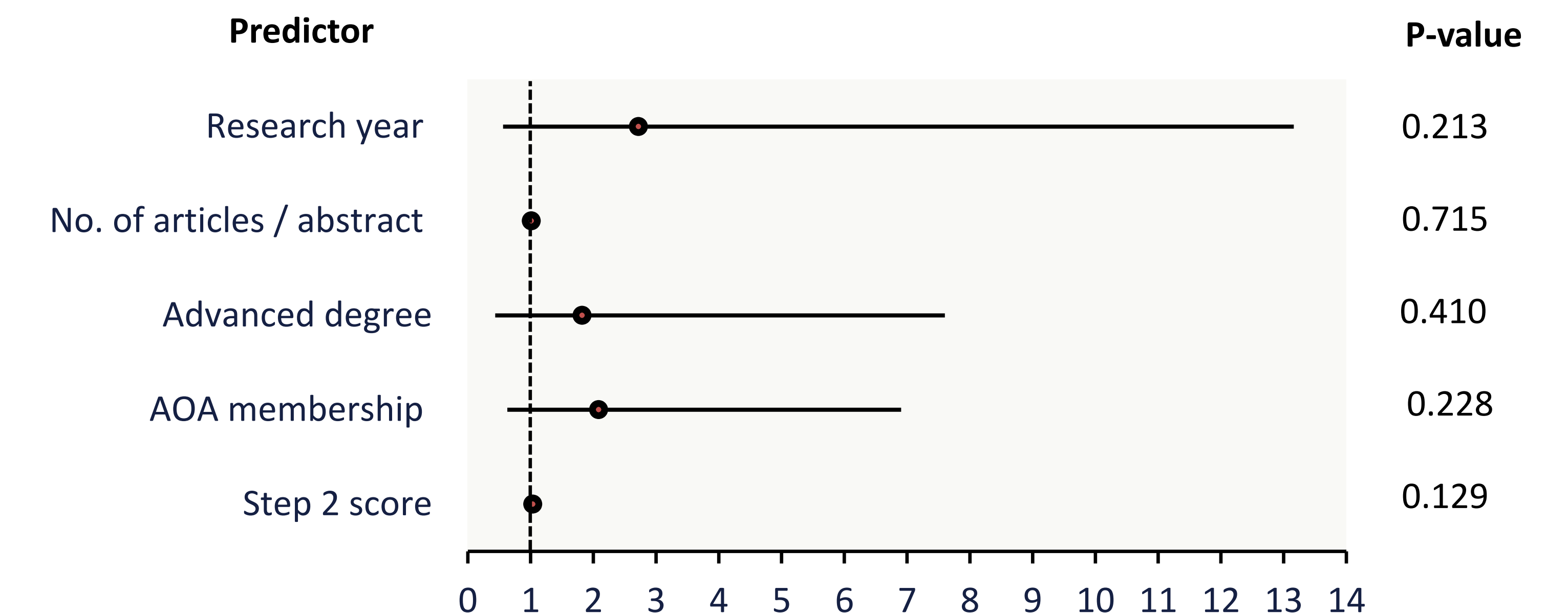
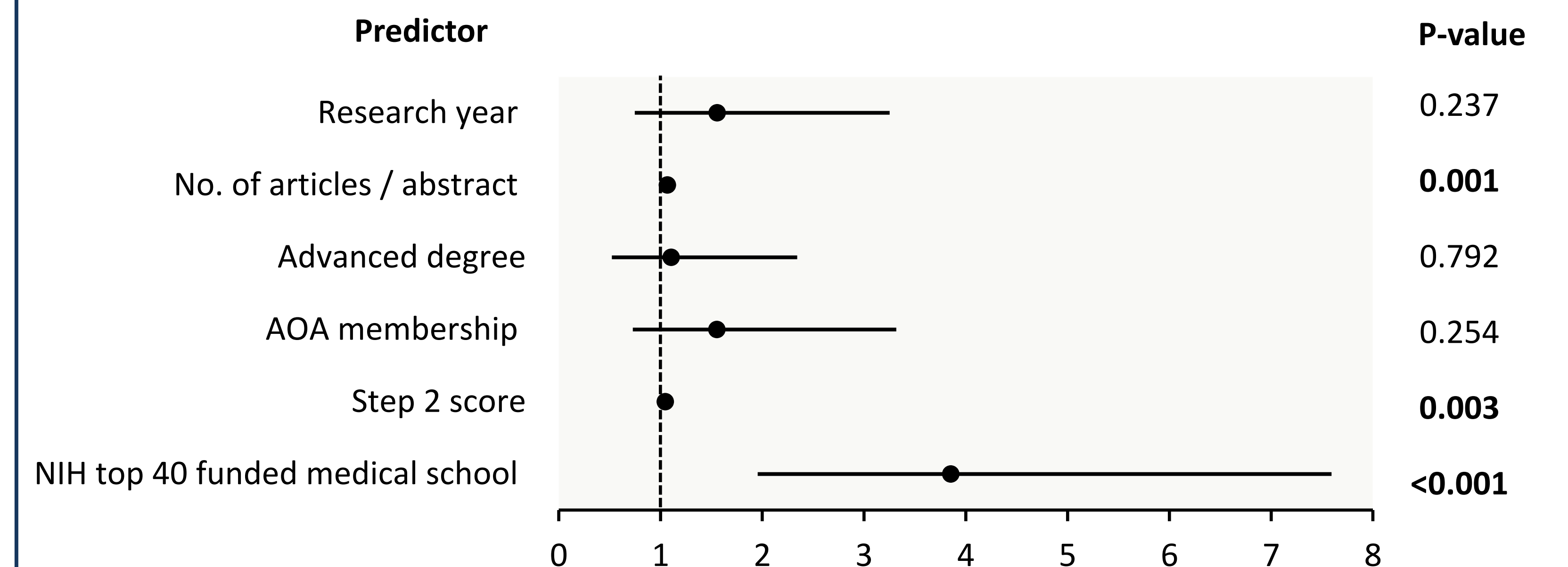


Figure 3. Multiple logistic regression: predictors of matching in a NIH top 40 funded medical institution



Conclusion

- In our study sample, a research year did not have a significant impact on an applicant's ability to match in plastic surgery, regardless of whether they had a home program.
- High research productivity was predictive of matching in a highly funded research institution. For applicants who are interested in such a program but lacking research experience, a dedicated research year may help achieve said goal.