




“Must Love Rock Climbing?” Emergency Medicine Applicants’ Hobbies from Two Academic Institutions

Benjamin Holden Schnapp ^{1,*}, Justin Purnell¹ and Kevin McConkey¹

¹Department of Emergency Medicine, University of Wisconsin School of Medicine and Public Health, Wisconsin, USA

*Corresponding author: Department of Emergency Medicine, University of Wisconsin School of Medicine and Public Health, Wisconsin, USA. Email: bschnapp@gmail.com

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Abstract

Background: Hobbies may be used on the residency application to communicate similarity or uniqueness to other members of their desired specialty.

Objectives: This study aimed to determine the most common hobbies among emergency medicine (EM) applicants and whether they differ from the reported hobbies of other applicants.

Methods: This was a two-center retrospective application review study at large U.S. midwestern academic institutions with a 3- and a 4-year EM residency program. Data from the “hobbies and interests” field of the Electronic Residency Application Service (ERAS) application from 2015 - 2019 were reviewed. Hobbies data were individually coded by two independent physician coders into 19 defined hobby types. EM applicants were compared to plastic surgery and psychiatry applicants.

Results: A total of 2675 individual hobbies were initially identified, with strong agreement between raters ($\kappa = 0.92$). The most commonly listed EM hobbies were sports (25.0%), outdoor (19.3%), and fitness (9.6%). Sports and outdoor hobbies were also listed most frequently by applicants to psychiatry and plastic surgery. While there were several significant differences between EM and other specialties, these differences were minimal overall.

Conclusions: Active hobbies appeared most prominently for all applicants. Less stereotypical EM hobbies, including literary arts and cooking, were also frequently noted, suggesting that applicants may have motivations beyond communicating similarity when listing hobbies.

Keywords: Emergency Medicine, Academic Institutions, Hobbies

1. Background

Matching senior medical students to residency programs is a long and complex process and the hobbies and interests section of the Electronic Residency Application Service (ERAS) presents a particular enigma to applicants and programs. Applicants can opt for complete honesty, but many are advised to be strategic, including avoiding generic interests (1) and hobbies that indicate the potential for distraction (2). For programs, hobbies may be an important component of evaluating fit and holistic review, as some hobbies have been shown to be associated with decreased burnout (3, 4). However, they may also be a factor that can perpetuate bias (5).

Identity theory suggests that humans are apt to behave more favorably towards members of their own groups over non-group members, across a variety of different group types (6). This suggests that applicants would benefit most from conveying popular hobbies within their chosen specialty on their application, as hobbies are frequently uti-

lized as a subject for conversation and bonding during the interview process (7).

EM physicians are commonly discussed within medicine as outdoorsy, adventurous team players, and an EM “personality” has been defined (8). This would suggest that EM residents are more likely than other specialties to list active hobbies, such as sports and fitness, although some studies have shown that not all common stereotypes are accurate in this group (9). No previous work has sought to verify whether EM applicants uniquely list hobbies that align with the EM stereotype on their residency applications.

2. Objectives

Our hypothesis was that EM applicants at two institutions would most commonly list hobbies that conform to the EM stereotype and that differ from the reported hobbies of applicants to other specialties.

3. Methods

This was a retrospective application review study at two large midwestern academic institutions one with a 3-year EM residency program and one with a 4-year EM program.

Data from 5 cycles of applications to the University of Wisconsin (UW) EM residency program (2015 - 2019) was downloaded from the ERAS servers by the EM residency program coordinator. Data from the 2019 cycle of applications to the Northwestern University (NW) EM residency, the UW plastic surgery residency program, and the UW Psychiatry residency program was downloaded by their coordinators as comparators. These specialties were chosen for comparison as they each had strong associated stereotypes that differed significantly from the EM stereotype (10).

To ensure representation from all types of applicants throughout the rank list, the top 25 applicants on the rank list (approximately 20% of total rank list) from each year and the 25 applicants appearing lowest on the rank list from each year were used. To maintain the confidentiality of applicants, all applicant data other than hobbies were deleted prior to coding and analysis. Potentially personally identifiable information, such as pets' names, were also stripped from the hobbies data by the program coordinator, while leaving the content intact as much as possible (eg, if the stated hobby was "walking my dog Misty," only "Misty" would be removed). As personally identifiable data was not included in the analysis, all applicants' hobbies data were eligible for inclusion; there were no exclusion criteria.

To account for the wide variety of phrasings used to convey similar hobbies (eg, "cooking," "baking," and "new recipes"), it was determined that a word frequency analysis would miss relevant nuance in the data. Therefore, hobbies were individually coded by two EM resident physicians independently into 19 defined hobby types across 5 categories based on previously defined academic work on leisure activities (11). See Table 1 for categories, types and example hobbies. Coders could also decide that a listed activity (eg, "informatics") did not represent a true hobby. Cohen's kappa was used to assess agreement between the initial type assignments. Disagreements in assigned types were resolved by discussion between the coders; if they were unable to reach agreement, the final assigned type would be decided by a third physician as there was no gold standard available for comparison. Descriptive statistics were calculated and two sample z-tests for proportions were performed between the groups. All statistics were performed using SPSS (IBM, Armonk, NY) and Excel (Microsoft, Redmond, WA).

This project was determined to be exempt quality im-

Table 1. The 19 Hobby Types and 5 Categories Used in this Study, with Example Hobbies. Adapted from Hobbies (12).

Categories	Examples
Collecting	
Physical	Action figures, cards, coins, insects, minerals, stamps
Records	Genealogy, scrapbooking, movie memorabilia
Spotting	Astronomy, bird watching, geocaching, metal detecting
Making	
Clothing	Cross-stitch, jewelry, knitting, leather crafting, quilting, sewing
Cooking	Baking, coffee roasting, cooking, home brewing
Garden	Gardening, hydroponics, topiary
Model	3D printing, blacksmithing, pottery, taxidermy, woodworking
Utility	Home building, knife making, programming, vehicle restoration
Activity	
Animal	Beekeeping, horseback riding, pets
Outdoor	Backpacking, climbing, kayaking, biking, sailing
Travel	Cruise, excursion, exploration, road trip, traveling, sightseeing
Play	
Fitness	Aerobics, gymnastics, jogging, martial arts, weightlifting, yoga
Games	Board games, cosplaying, fantasy sports, poker, puzzles
Sports	Baseball, bowling, boxing, cricket, curling, roller derby, triathlon
Arts	
Dance	Ballet, ballroom, Bollywood, hip hop, jazz, Latin, salsa, waltz
Music	Classical, country, electro, jazz, singing, saxophone, vocal, violin
Theatre	Acting, drama, juggling, magic, puppetry, stand-up comedy
Visual	Drawing, graffiti, painting, photography, sculpting, sketching
Literary	Creative writing, language learning, reading, writing

provement under the UW School of Medicine and Public Health Institutional Review Board.

4. Results

Raters initially identified 2675 potential hobbies across EM, plastic surgery, and psychiatry. Agreement between the raters was strong ($\kappa = 0.92$). After reconciling rater disagreements, a total of 1868 EM hobbies were identified,

with an average of 6.2 hobbies per applicant. Absolute number and percentage of individual hobbies are listed in Tables 2-5. The most commonly identified hobbies were sports (25.0%), outdoor (19.3%), and fitness (9.6%). The least commonly identified hobbies were records (0.1%), spotting (0.4%) and theatre (0.6%). Clothing related hobbies appeared significantly less in the top 25 group than in the bottom 25 group ($P < 0.05$); there were no other differences between the top 25 and bottom 25 EM applicants.

Table 2. Number and Percentage of Each Type of Hobby in EM Residents

Categories	No. (%)
Collecting (1.2%)	
Physical	14 (0.7)
Record	1 (0.1)
Spotting	7 (0.4)
Making (11.6%)	
Clothing	15 (0.8)
Cooking	123 (6.6)
Garden	29 (1.6)
Model	25 (1.3)
Utility	25 (1.3)
Activity (30.8%)	
Animal	90 (4.8)
Outdoor	360 (19.3)
Travel	126 (6.7)
Play (38.0%)	
Fitness	179 (9.6)
Games	63 (3.4)
Sports	467 (25.0)
Arts (18.4%)	
Dance	21 (1.1)
Music	115 (6.2)
Theatre	11 (0.6)
Visual	40 (2.1)
Literary	157 (8.4)
Total	1868 (100.0)

5. Discussion

This is the first study to analyze the ERAS application to examine EM applicants' listed hobbies and how they compare to the hobbies of other specialties. Active, outdoor hobbies appear most frequently for EM applicants in our cohort, but also for applicants to psychiatry and plastic surgery.

Hobbies listed by applicants did not appear to uniformly conform to the stereotypically EM hobbies that would be predicted under identity theory. Uniqueness theory, or the idea that individuals are motivated to maintain a sense of moderate distinctiveness, in contrast to identity theory, may play a role as well (13). This motivation to stand out may be more significant given the large number of applicants involved in the EM residency application process, creating a justifiable fear of being "lost in the crowd." The hobbies and interests field of ERAS allows applicants to list as many hobbies as desired, so it is possible that both theories may explain applicant behavior to some extent; this represents an avenue for future exploration.

Attentiveness, adaptability, and practicality are what set EM physicians apart from physician norms (8). It is not surprising to find that the most common hobbies of EM applicants include sports and outdoor activities, which emphasize similar characteristics. However, much of clinical medicine demands excellent teamwork and communication skills daily. Perhaps it should not be surprising then that psychiatry and plastic surgery applicants also enjoy sports and outdoor activities, at similar levels to EM applicants. Future research could explore whether these trends extend to specialties with more independent work such as radiology. While it initially appeared that there were many other differences between EM and psychiatry applicants, when psychiatry applicants were compared to the NW EM residency applicants only there was only one significant difference noted (NW EM applicants listed travel more frequently than psychiatry applicants, 12% vs. 7%), suggesting that these may not represent systematic differences between the two specialties.

Applicants and programs will find it interesting to note that many hobbies identified more frequently in the study cut against the widely held EM physician "adrenaline junkie" stereotype: cooking and literary arts appear frequently as well. This suggests that EM applicants need not adhere to any preconceived notions about how they should present themselves on their application. It is also of interest to note that there were few differences found between applicants in the top 25 and the bottom 25 on the rank list, further reinforcing the idea that applicants may safely be genuine when listing hobbies without disadvantaging their application.

There were notable differences between the hobbies of EM applicants at UW and NW. There were significantly more applicants that listed travel and arts hobbies from NW, perhaps due to its proximity to world-class museums and a major international airport. Similarly, more UW applicants listed outdoor hobbies; applicants may be attracted in part to the area's easy access to lakes and trails. Previous research has shown differences in physician sat-

Table 3. Emergency Medicine Applicant Hobbies, by School

Categories	UW	% of Total	NW	% of Total
Collecting (1.2%)				
Physical	11	0.7	3	1.1
Record	1	0.1	0	0.0
Spotting	6	0.4	1	0.4
Making (11.6%)				
Clothing	12	0.7	3	1.1
Cooking	101	6.3	22	8.4
Garden	25	1.6	4	1.5
Model	20	1.2	5	1.9
Utility	23	1.4	2	0.8
Activity (30.8%)				
Animal	84 ^a	5.2 ^a	6 ^a	2.3 ^a
Outdoor	327 ^a	20.3 ^a	33 ^a	12.6 ^a
Travel	94 ^a	5.8 ^a	32 ^a	12.3 ^a
Play (38.0%)				
Fitness	154	9.6	25	9.6
Games	58	3.6	5	1.9
Sports	416 ^a	25.9 ^a	51 ^a	19.5 ^a
Arts (18.4%)				
Dance	16	1.0	5	1.9
Music	95	5.9	20	7.7
Theatre	9	0.6	2	0.8
Visual	30 ^a	1.9 ^a	10 ^a	3.8
Literary	125 ^a	7.8 ^a	32 ^a	12.3 ^a
Total	1607	100.0	261	100.0

^a Significant differences.

isfaction by region and setting (rural vs. urban), which may relate in part to access to desired recreational activities (14). Further, resident physicians have little time to partake in recreational activities (15), so understanding and offering easy access to their hobbies may play an important role in preventing burnout; more research is needed in this area.

5.1. Limitations

This study used two EM departments and two comparator departments; these applicants and rank lists may not be representative of applicants elsewhere. We were able to obtain more data from our own program than from the NW EM program and the comparator departments; a smaller sample size may have created spurious results through random variation. Some items listed under hob-

bies (such as “family”) were discarded, as they did not clearly fit our hobby schema. A small minority of applicants also communicated academic interests in this section of their application; as these were not a focus of this study, these too were discarded.

Categorizing hobbies is a subjective process; there is no gold standard to verify self-reported hobbies. Applicants may have withheld true hobbies that they did not deem acceptable for a residency application or inflated casual interests into hobbies in an effort to appear impressive, a phenomenon seen in other parts of the residency application (16). Categories used in this study may also be too broad to create worthwhile groupings; a high percentage of residents interested in “sports” may mean lots of baseball players or biathletes.

Table 4. Emergency Medicine Applicant Hobbies Compared to Plastic Surgery Applicant Hobbies^a

Categories	EM	% of Total	Plastics	% of Total
Collecting (1.1%)				
Physical	14	0.7	0	0.0
Record	1	0.1	0	0.0
Spotting	7	0.4	1	0.3
Making (11.6%)				
Clothing	15	0.8	4	1.3
Cooking	123	6.6	19	6.0
Garden	29	1.6	5	1.6
Model	25	1.3	7	2.2
Utility	25	1.3	1	0.3
Activity (30.1%)				
Animal	90	4.8	12	3.8
Outdoor	360	19.3	48	15.2
Travel	126	6.7	20	6.3
Play (37.4%)				
Fitness	179	9.6	28	8.9
Games	63	3.4	10	3.2
Sports	467	25.0	69	21.9
Arts (19.9%)				
Dance	21	1.1	6	1.9
Music	115	6.2	21	6.7
Theatre	11	0.6	19	6.0
Visual	40	2.1	22	7.0
Literary	157	8.4	23	7.3
Total	1868	100.0	315	100.0

^a Significant differences are noted in italics.**Table 5.** Emergency Medicine Applicant Hobbies Compared to Psychiatry Applicant Hobbies^a

Categories	EM	% of Total	Psych	% of Total
Collecting (1.5%)				
Physical	14	0.7	7	2.3
Record	1	0.1	2	0.7
Spotting	7	0.4	1	0.3
Making (12.4%)				
Clothing	15	0.8	7	2.3
Cooking	123	6.6	34	11.4
Garden	29	1.6	4	1.3
Model	25	1.3	5	1.7
Utility	25	1.3	2	0.7
Activity (29.9%)				
Animal	90	4.8	10	3.4
Outdoor	360	19.3	41	13.8
Travel	126	6.7	21	7.0
Play (36.8%)				
Fitness	179	9.6	27	9.1
Games	63	3.4	10	3.4
Sports	467	25.0	52	17.4
Arts (19.3%)				
Dance	21	1.1	4	1.3
Music	115	6.2	22	7.4
Theatre	11	0.6	5	1.7
Visual	40	2.1	13	4.4
Literary	157	8.4	31	10.4
Total	1868	100.0	298	100.0

^a Significant differences are noted in italics.

5.2. Conclusions

EM applicants at two institutions listed similar hobbies overall as two other specialties on their ERAS application. The hypothesis that applicants solely use hobbies to communicate similarity to the EM stereotype was not supported. Further, EM applicants do not appear to have a monopoly on interest in active, outdoor hobbies in this study population. Future work may explore whether there is regional variation in applicants' hobbies, whether applicants are choosing programs in part due to their ability to partake in their hobbies while there, and whether programs can benefit from selecting applicants that are able to participate in their hobbies during residency.

Footnotes

Authors' Contribution: KM and BS conceptualized and designed the study. KM and JP acquired and coded the data and drafted the manuscript. BS analyzed the data, drafted and revised the manuscript.

Conflict of Interests: None for any author.

Ethical Approval: This project was determined to be exempt quality improvement under the UW School of Medicine and Public Health Institutional Review Board.

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