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Do looks matter? The role of the Electronic Residency Application Service photograph in dermatology residency selection

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Abstract

Background

There is a lack of research on the impact of the Electronic Residency Application Service (ERAS) photograph on the residency selection process.

Objective

We sought to elucidate the role of the ERAS photograph in the dermatology residency selection outcome and to determine if photographs submitted by matched applicants differ from those of unmatched applicants.

Methods

We analyzed ERAS photographs submitted by dermatology residency applicants based on photograph characteristics related to composition, attire, facial expression, hairstyle, and accessories.

Results

Candidates who smiled, wore glasses, and wore jackets in their photographs were more likely to match. There was no difference in the rate of matching among applicants depending on whether their photograph was of professional quality or whether they wore formal attire in their pictures. Gender specific characteristics were not found to be influential in the match outcome for male applicants. Among female applicants, having hair to the shoulders or longer was associated with a positive match outcome.

Conclusion

Certain characteristics of the ERAS photographs were found to be associated with a more favorable match outcome. Further biases inferred from these photographs might be present in the dermatology selection process. We suggest blinding the selection committees to ERAS application photographs prior to granting residency interviews.

Keywords: residency selection, residency application, dermatology, ERAS photograph, physical appearance

Introduction

Matching into a dermatology residency program is a highly competitive process. Although the main criteria for dermatology residency selections are the interview, letters of recommendation, and United States Medical Licensing Examination (USMLE) scores [1], in a nationwide dermatology program director survey, personal appearance was listed as a “fairly important” selection criterion [1]. Although prior studies have demonstrated a certain bias in evaluation of medical residency applicants based on their personal appearance [2], there is a lack of research on whether the ERAS photograph has an impact on the residency application review and selection process. In this study, we evaluated ERAS photographs submitted by dermatology residency applicants to an academic residency program and sought to determine whether photographs submitted by matched applicants differ from those of unmatched candidates.

Methods

We analyzed the ERAS photographs of all candidates (n=422) who applied to the University of North Carolina dermatology residency program in the year of 2012. The photographs were deidentified and were analyzed based on attire, facial expression, hairstyle, presence of accessories. In addition, whether or not the images were professionally taken was assessed. The presence or absence of gender

Table 1. Characteristics of ERAS photographs submitted by dermatology residency applicants.

Factor		Successful Matching		RR (95% CI)	P value
		Yes (%)	No (%)		
Submitted picture	Yes	306 (75.56)	99 (24.44)	1.83 (1.04-3.25)	0.037
	No	7 (41.18)	10 (58.82)	—	—
Smiling	Yes	294 (78.19)	82 (21.81)	1.89 (1.22-2.92)	0.004
	No	12 (41.38)	17 (58.62)	—	—
Glasses	Yes	24 (92.31)	2 (7.69)	1.24 (1.09-1.41)	<0.001
	No	282 (74.41)	97 (25.59)	—	—
Professional quality picture	Yes	205 (76.21)	64 (23.79)	1.03 (0.91-1.16)	0.671
	No	101 (74.26)	35 (25.74)	—	—
Formal attire	Yes	292 (76.04)	92 (23.96)	1.14 (0.84-1.55)	0.402
	No	14 (66.67)	7 (33.33)	—	—
Frame	Headshot	24 (61.54)	15 (38.46)	0.80 (0.62-1.03)	0.083
	Shoulders and above	115 (74.68)	39 (25.32)	0.98 (0.87-1.10)	0.749
	Waist and above	167 (78.77)	45 (21.23)	1.09 (0.98-1.22)	0.118
Top	Blazer	176 (80.00)	44 (20.00)	1.14 (1.02-1.28)	0.027
	White coat	19 (73.08)	7 (26.92)	0.97 (0.76-1.23)	0.771
	Graduation gown	2 (50.00)	2 (50.00)	0.66 (0.25-1.76)	0.406
	Other	109 (70.32)	46 (29.68)	0.89 (0.79-1.01)	0.065

specific clothing items, accessories, and hairstyle were also noted. Additionally, data on the match outcome of each applicant was obtained through the National Resident Matching Program website. A randomly generated identification number was used to link the data describing the photograph characteristics with the match outcome of the respective candidate.

Risk ratio (RR) and corresponding 95% confidence intervals (CIs) calculations were performed based on specific photograph characteristics and the match status of the applicants. Chi-square and Fisher's exact test were used to test whether observed differences were statistically significant. A value of $P < 0.05$ was used to determine statistical significance. All statistical analyses were performed using Stata 14 software (College Stations, TX: StataCorp LP). This study was approved by the University of North Carolina Institutional Review Board.

Results

Overall, applicants who submitted a photograph were more likely to successfully match compared to those who did not provide a picture with their application (RR 1.83, 95% CI=1.04-3.25), (**Table 1**).

Several photograph characteristics were found to be associated with a successful match outcome. For example, candidates who smiled in their photographs were more likely to have a successful match (RR 1.89, 95% CI= 1.22-2.92), (**Table 1**). Similarly, applicants who wore glasses in their applicant picture were also more likely to match (RR 1.24, 95% CI=1.09-1.4). Submitting a professional quality photograph and wearing formal attire were not associated with a higher rate of matching. Although some applicants chose to wear a graduation gown, white coat, or shirt, most applicants wore blazers in their pictures, which was also associated with a slightly better chance of successfully obtaining a residency position in dermatology.

Among male applicants, gender specific factors such as the presence of facial hair, use of hair product, or the presence of a tie were not found to be influential in the match outcome (**Table 2**). Similarly, among female applicants there was no difference in the probability of matching based on wearing jewelry. However, having hair to the shoulders or longer was associated with a positive match outcome (RR 1.41, 95% CI=1.05-1.89)(**Table 3**).

Table 2. Gender specific photograph characteristics of ERAS photographs submitted by male dermatology residency applicants.

Factor		Successful Matching		RR (95% CI)	P value
		Yes (%)	No (%)		
Jewelry	Yes	108 (72.48)	41 (27.52)	0.94 (0.82-1.08)	0.363
	No	92 (77.31)	27 (22.68)	-	-
Hair to shoulders or longer	Yes	179 (77.83)	51 (22.17)	1.41 (1.05-1.89)	0.023
	No	21 (55.26)	17 (44.74)	-	-
Hair worn up or pulled back	Yes	10 (71.43)	4 (28.57)	0.95 (0.68-1.34)	0.789
	No	21 (51.22)	20 (48.78)	-	-
Collared shirt	Yes	91 (81.25)	21 (18.75)	1.16 (1.01-1.33)	0.03
	No	109 (69.87)	47 (30.13)	-	-
Neckline lower than standard male shirt	Yes	114 (77.03)	34 (22.97)	1.07 (.93-1.24)	0.322
	No	86 (71.67)	34 (28.33)	-	-

Table 3. Gender specific photograph characteristics of ERAS photographs submitted by female dermatology residency applicants.

Factor		Successful Matching		RR (95% CI)	P value
		Yes (%)	No (%)		
Facial hair	Yes	16 (69.57)	7 (30.43)	0.89 (0.67-1.18)	0.421
	No	90 (78.26)	25 (21.74)	-	-
Hair product	Yes	47 (71.21)	19 (28.79)	0.87 (0.72-1.05)	0.143
	No	59 (81.94)	13 (18.06)	-	-
Tie	Yes	101 (78.91)	27 (21.09)	1.58 (0.84-2.95)	0.153
	No	5 (50.00)	5 (50.00)	-	-

Discussion:

Physical appearance is an important aspect of self-presentation in all social contexts, including that of applying for a job or obtaining a residency position. Previous studies have indicated that aspects of physical appearance, specifically those related to neatness and grooming, may have an impact on the selection decision process of residency applicants [2]. Our study sought to further elucidate the role of physical appearance depicted in applicants' photographs in the residency application process in order to inform both prospective candidates and the selection committees of trends seen in these photographs and identify potential selection biases related to these submissions.

Applicants who smiled in their picture had better odds of matching into a dermatology residency position. This is likely related to the fact that smiling is often perceived as a reflection of an applicant's positive personality traits, such as extroversion and agreeableness, which as expected, have been shown

to correlate positively with both high residency rankings and higher likelihood of being hired following a job interview [2, 3]. Moreover, the relationship between positive interpersonal qualities and physical attractiveness, both of which are independent factors of success in professional employment, has been found to be mediated through modifiable behaviors, such as smiling and grooming [4]. This can be explained by the fact that extraverted or agreeable people are perceived to be more attractive because they engage in behaviors that enhance their appearance and makes them more pleasing [4]. By smiling in their photographs, applicants can therefore present themselves in a manner that is more appealing and also convey positive aspects of their personality.

Another modifiable dimension of personal appearance is grooming practice, which we assessed by analyzing the presence of accessories and gender specific clothing and styling items. Consistent with

previous studies, wearing a jacket or a blazer (layering) is viewed favorably and enhances selection decision for both sexes [5]. Additionally, consistent with our findings that show that applicants who wore glasses in their application photograph matched at a higher rate, are the observations of Harris et al., who found that men and women who wear glasses are perceived as relatively more intelligent, successful, and hard-working [6]. Male sex-specific grooming and styling practices were not found to be influential in the match outcome. For female applicants, on the other hand, longer hair was found to be favorable in terms of matching. This can be explained by the fact that the impact of physical appearance on professional employment is particularly strong for women [2] and that longer hairstyles could be associated with perceived female attractiveness and femininity, cues which have been shown to influence hiring decisions in certain job types [7].

Finally, the dermatology residency selection is a rigorous, complex process based on candidates' academic credentials and interview performance [2]. Nonetheless, social psychology "zero-acquaintance" research reveals that naïve observers, when presented with only a photograph of a subject, are likely to make inferences about the subject's personality based on physical appearance alone [8]. Judgments based on physical appearance are ubiquitous, instinctive, and consequential, and without doubt influence the dermatology residency selection process. As the applicants' appearance is unavoidably revealed to the selection committees during the in-person interviews, it is unrealistic to

endeavor to completely exclude appearance biases from the selection process. However, by withholding applicants' photographs prior to the interview, appearance biases can be eliminated from the decision on whether or not to offer an interview. These images can then be released to the selection committee after interviews have been granted, therefore reducing the influence of potential biases based on physical appearance. This policy would still maintain the utility of having applicants' photographs in identifying candidates on the interview day and as a visual memory aid when creating rank lists.

Conclusion

Both selection committees and applicants should be cognizant of the inherent biases and inferences made about applicants' personality and qualifications based on physical appearance. We examined these biases by analyzing objective components of physical appearances depicted in ERAS application photographs and found that certain elements of dressing style, facial expression, grooming, and accessories are associated with a more favorable match outcome. The subjective perceptions of applicants' appearance and personality traits inferred from their application photographs by the selection committees and the degree to which these perceptions impact the match outcome need to be further elucidated. Until such information becomes available, we suggest blinding the selection committee to candidates' ERAS application photographs prior to granting residency interviews.

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