Correlation of Behavioral Interviewing Performance With Obstetrics and Gynecology Residency Applicant Characteristics☆,☆☆

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OBJECTIVE: To determine which individual residency applicant characteristics were associated with improved performance on standardized behavioral interviews. Behavioral interviewing has become a common technique for assessing resident applicants. Few data exist on factors that predict success during the behavioral interview component of the residency application process.

DESIGN: Interviewers were trained in behavioral interviewing techniques before each application season. Standardized questions were used. Behavioral interview scores and Electronic Residency Application Service data from residency applicants was collected prospectively for 3 years.

SETTING: It included the Accreditation Council for Graduate Medical Education–accredited obstetrics-gynecology residency program at a Midwestern academic medical center.

PARTICIPANTS: Medical students applying to a single obstetrics-gynecology residency program from 2012 to 2014 participated in the study.

RESULTS: Data were collected from 104 applicants during 3 successive interview seasons. Applicant's age was associated with higher overall scores on questions about leadership, coping, and conflict management (for applicants aged $\leq$25, 26-27, or $\geq$28 y, mean scores were 15.2, 16.0, and 17.2, respectively; $p = 0.03$), as was a history of employment before medical school (16.8 vs 15.5; $p = 0.03$). Applicants who participated in collegiate team sports scored lower on questions asking influence/persuasion, initiative, and relationship management compared with those who did not (mean, 15.5 vs 17.1; $p = 0.02$).

CONCLUSIONS: Advanced applicant age and history of work experience before medical school may improve skills in dealing with difficult situations and offer opportunities in leadership. In the behavioral interview format, having relevant examples from life experience to share during the interviews may improve the quality of the applicant's responses. Increased awareness of the factors predicting interview performance helps inform the selection process and allows program directors to prioritize the most appropriate candidates for the match. (J Surg Ed ▮:▮▮▮-▮▮▮. © 2016 Association of Program Directors in Surgery. Published by Elsevier Inc. All rights reserved.)

KEY WORDS: applicant assessment, interpersonal and communication skills, medical residency

COMPETENCIES: Professionalism, Interpersonal Skills and Communication

INTRODUCTION

Behavioral interviewing consists of questions in which the applicant is asked to describe past experiences. Topics for the interview questions are selected by considering the essential qualities for job performance. Several studies have endorsed the practice of behavioral interviewing in residency selection.[1,2] Behavioral interviews can better predict noncognitive abilities compared with traditional interviewing techniques in radiology resident performance.[3] However, most residency applicants do not have full-time work experience outside of formal schooling, and thus their ability to provide relevant responses to questions regarding past professional behavior may be limited. Applicants with

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work experience before medical school or college may have a richer pool of experiences to describe in a behavioral interview. We hypothesized that past experiences of applicants may improve their performance in behavioral interviewing. The objective of this investigation was to determine whether characteristics of individual residency applicants were associated with improved performance on standardized behavioral interviews.

METHODS

Mayo Clinic institutional review board approval was obtained for the research. Data from 3 obstetrics and gynecology (OB/GYN) residency recruitment seasons (2012-2014) were collected prospectively. The Mayo Clinic OB/GYN residency program accepts 4 residents per-year level via the National Residency Program Match. Applications are received via the Electronic Residency Application Service (ERAS), and the residency program leaders score applicants on the basis of specific criteria. In any given year, 35 to 40 applicants are interviewed on site. Interviews are conducted by 2 panels, each composed of 1 resident and 1 or 2 faculty members.

Interview question domains were selected by considering Accreditation Council for Graduate Medical Education core competencies[4] and consensus was obtained from OB/GYN department faculty regarding characteristics of successful OB/GYN residents. Domains selected by the faculty included influence and persuasion, initiative, teamwork/relationship management, leadership, coping/decisiveness, and conflict management. Behavioral interview questions and scoring rubrics were selected from standardized items used by the Mayo Clinic Department of Human Resources. Questions were modified to reflect the resident applicants' professional experience. The Figure shows a sample question used in the leadership domain.

Interviewers were trained to use behavioral interview techniques before each interview season. The interviewers and program director met before each interview season to review the standardized question sets and scoring system. They also reviewed behavioral interviewing "dos and don'ts" guidelines from the institutional human resources department. Interviewers were instructed to use only integer scoring, use applicant-provided examples to determine each question's score, and determine a consensus score within the panel for each item. The interviewers also were instructed to not revise the questions and to avoid asking potentially illegal questions.

Each interview panel received the standard set of behaviorally oriented questions and a score sheet. Panel 1 was assigned questions regarding influence and persuasion, initiative, and teamwork/relationship management. Panel 2 was assigned questions regarding leadership, coping/decisiveness, and conflict management. The interview questions remained the same throughout the 3 interview seasons. The interview panel composition remained the same throughout a given interview season but did vary between seasons. Interview score data were collected prospectively. For each applicant, total scores for panels 1 and 2 were calculated by summing the average ratings for each domain. The total score could range from 5 to 21, with higher scores indicating better performance.

Application data were abstracted from each applicant's file in the ERAS system. Data abstracted from ERAS included age at the time of interview, United States Medical Licensing Examination scores, volunteer experiences, leadership experiences, employment before medical school, graduate degree completion, team sport participation, medical school grades, and research output.

Statistical Methods

Panel 1 and panel 2 scores were analyzed separately and are summarized using mean (standard deviation [SD]). As the distributions of many applicant characteristics were positively skewed, values were collapsed into 3 categories on the basis of tertiles of each distribution. For each characteristic, panel scores were compared univariately between categories through linear regression modeling. Correlations were estimated using Pearson correlation coefficients. All calculated p values were two-sided, and $p < 0.05$ was considered statistically significant. Statistical analyses were performed using SAS version 9.3 (SAS Institute Inc.) and R 3.1.1 (R Foundation).

RESULTS

We included data from all 104 applicants interviewed during the study period. In this group, 92 (88.5%) were female, the mean (SD) age was 26.7 (2.3) years (range: 23-34 y), and the mean (SD) United States Medical Licensing Examination step 1 and step 2 scores were 236.3 (14.2) and 251.8 (14.2), respectively. The panel scores ranged from 5 to 21, with mean (SD) scores of 16.7 (2.9) and 16.0 (3.0) for panels 1 and 2, respectively. The correlation between the panel 1 and panel 2 scores was 0.50, representing a moderate positive correlation. The Table summarizes the relationships between applicant characteristics and the scores from the 2 panels. We observed a positive but weak correlation between applicant age and panel scores ($r = 0.14$ and $r = 0.24$ for panels 1 and 2, respectively).

When analyzed univariately, only team sports participation was significantly associated with panel 1 scores (questions focused on influence/persuasion, initiative, and relationship management); those who participated in team sports scored lower than those who did not (mean, 15.5 vs 17.1; $p = 0.02$). Although panel 1 scores were higher in applicants who lacked volunteer experience before medical school and those who were employed before medical school,