



Original research

Adult Reconstruction Fellowship Interviewee Perceptions of Virtual vs In-Person Interview Formats

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ARTICLE INFO

Article history:

Received 7 December 2020
Received in revised form
28 February 2021
Accepted 23 April 2021
Available online xxx

Keywords:

Education
Fellowship applications
Arthroplasty

ABSTRACT

Background: Owing to COVID-19, arthroplasty fellowship programs will be required to interview virtually for the current application cycle. Unrelated to COVID-19, our arthroplasty fellowship offered the 2019-2020 interviewees the option of an in-person or virtual interview. The purpose of the present study is to compare interviewee perceptions regarding in-person vs virtual interview formats from that application cycle at a single institution.

Methods: A 17-question survey was sent to all 26 interviewees (13 in-person and 13 virtual) shortly after the rank-list submission deadline. Interviewees were asked to what extent they agreed or disagreed with several statements, ranging from whether the interview was enjoyable to whether interviewees felt they were being adequately evaluated. In this Likert scale rating system, “strongly agree” was given 5 points (more positive outlook), and “strongly disagree” was given 1 point (more negative outlook). Chi-square analyses were performed.

Results: Seventeen interviewees (8 in-person and 9 virtual) returned questionnaires (response rate: 65%). Both in-person and virtual interview ratings were similar when averaged across all statements (4.5 vs 4.4, $P = .67$). In-person and virtual ratings were also similar for each individual statement (all $P > .05$). On average, interviewees spent \$557/in-person interview. Fifteen (88%) said virtual interviews were more convenient, and 14 (94%) said they were more cost-effective.

Conclusion: At a single institution, perceptions on interview format, as quantified through Likert scale ratings, were similar between in-person and virtual groups. The vast majority also viewed virtual interviews as more convenient and cost-efficient. These findings have immediate implications for future fellowship application cycles.

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Introduction

Over the last 3 decades, there has been a trend within the field of orthopedic surgery for employers to increasingly seek subspecialty fellowship-trained applicants [1]. Correspondingly, the number of orthopedic surgery residents who go on to complete a subspecialized fellowship has also risen, which was estimated to be around 90% in 2013 [2].

Similar to any job, before becoming an orthopedic surgery fellow, applicants are interviewed and evaluated for their potential

fit and ability to fulfill duties. The interview also serves as an opportunity for applicants to learn about programs. Among varying fellowships, interview performance has been reported as a critical factor in determining how an applicant will be ranked [3,4]. Despite its perceived importance, most residency program directors report the fellowship interview process is extremely disruptive to their program, with a given resident who is applying to fellowship attending on average 11 interviews, missing 11 days of training (excluding travel time for those interviews) [5,6]. Furthermore, there is a substantial cost burden to the interviewees, with an average cost of \$5875 throughout the interview process for the applicant [5].

Owing to the COVID-19 pandemic, nearly all residency and fellowship programs are requiring interviews to be conducted virtually for the 2020-2021 application cycle. In the orthopedic

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literature, a study by Healy and Bedair surveyed 47 virtual interviewees at a single adult reconstruction fellowship program [7]. The authors found that 85% of these interviewees felt that they were able to satisfactorily present themselves to the program; however, 19% of these applicants had concerns about ranking a program after a video-interview alone, and 30% believed that video-conference interviews were not a good format for fellowship interviews [7].

Although insightful in providing a better understanding of the capabilities and limitations of video interviews, this referenced study did not have an in-person interview group for comparison [7]. Unrelated to COVID-19, our arthroplasty fellowship offered the 2019-2020 interviewees the option of either an in-person or virtual interview, mainly for convenience and to provide direct access for west-coast and military residents, who may otherwise have had difficulty traveling to east coast interviews. The purpose of the present study was to compare perceptions of interview format (virtual vs in-person) among applicants interviewing for a single orthopedic adult reconstruction fellowship program. The present study hypothesized that in-person interviews would be viewed more favorably by applicants.

Materials and methods

Before the COVID-19 pandemic, our adult reconstruction fellowship decided to offer the option of virtual or in-person interviews. The in-person interview format consisted of a 30-minute informational PowerPoint presentation followed by 3 in-person, one-on-one interviews with the faculty. The online interview format consisted of the candidate being asked to view a recording of the same informational presentation, followed by a single, 30-minute online Zoom interview conducted with the program director and 1-2 additional faculty members. The same section faculty members participated in both our in-person and online interview sessions. In addition, a group of standardized questions were used for all interview formats to help minimize interviewer bias during the interview process.

Our prospective, questionnaire-based study was completed in 2020 after the rank list deadline for fellowship applicants had passed. In total, 26 candidates were chosen for interviews for the 2019-2020 application cycle. Thirteen chose to interview virtually, and 13 chose to interview in person. The Zoom Video Communications, Inc. (San Jose, CA) platform was used for all virtual interviews. Most of these were conducted in a group format with the fellowship program director and 1-2 additional faculty members present.

After all candidates had interviewed, a seventeen-question survey was created with the purpose of understanding interviewee perceptions of these 2 interview formats. Once the questionnaire was finalized, institutional review board approval was applied for and received.

After the fellowship rank list deadline had passed, this questionnaire was electronically and anonymously sent to all 26

interviewees who interviewed at our institution for the adult reconstruction fellowship. It was made clear to applicants that the questionnaire would not impact fellowship selection results, as the rank list deadline had passed.

The questionnaire first asked interviewees whether other programs also offered virtual interview formats. Interviewees were then asked to identify whether they interviewed virtually or in-person at our institution. If questionnaire recipients interviewed virtually, they were asked if there were any technical difficulties during the interview. There were also general questions on whether virtual interviews held value in terms of cost-savings and convenience.

The second part of the questionnaire involved interviewees reading a series of 5 statements and marking to what extent they agreed or disagreed. Statement topics ranged from whether the interview was enjoyable to whether interviewees felt they were being adequately evaluated. A Likert scale rating system was developed: “strongly agree” was given 5 points (maximum score; indicating a more positive outlook), while “strongly disagree” was given 1 point (minimum score; indicating a more negative outlook). A copy of the questionnaire is included as an appendix. Comparisons were made via chi-square analysis between the virtual and in-person interview groups.

Statistical analyses were executed through Stata version 13.0 (StataCorp LLC, College Station, TX) and Microsoft Excel. Statistical significance was defined as $P < .05$.

Results

Seventeen interviewees (8 in-person and 9 virtual) returned questionnaires (response rate: 65%). On average, respondents spent an average of \$557 (range: \$200-\$2000) per interview attended in-person. Eleven respondents indicated that only 1 to 5 programs during their application cycle offered the option of a virtual interview. Seventy-six percent of survey respondents indicated that they desired an in-person interview at every adult reconstruction fellowship program.

Fifteen (88%) said universal, virtual interviews would be more convenient, and 14 (82%) said virtual interviews would be more cost-efficient. Furthermore, of the respondents who interviewed virtually at our program, none experienced any technical difficulties during the interview.

Analyses of the Likert scale ratings were then performed (Table 1). First, both in-person (4.5) and virtual interviewee groups viewed their interview format as enjoyable (4.4) ($P = .83$). Then, both groups felt their interview format was adequate in effectively transmitting their personality (in-person: 4.8, virtual: 4.4, $P = .23$). In-person and virtual groups also felt that their interviewer was able to adequately evaluate them during the interview (4.6 and 4.6, $P = .78$). When assessing whether enough information was provided before and during the interview, both in-person (4.1) and virtual (4.3) interviewee groups felt that a sufficient amount of information was provided ($P = .58$). Finally, both in-person (4.6)

Table 1
Comparison of likert ratings for in-person versus virtual interview experiences.

| Statement | In-person likert rating | Virtual likert rating | Comparison (P value) |
|------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|-----------------------|-------------------------|
| I found my interview experience to be enjoyable. | 4.5 | 4.4 | $P = .83$ |
| I found that my interview format (whether in-person or virtual) was effective in adequately transmitting my personality and presenting my best self. | 4.8 | 4.4 | $P = .23$ |
| I felt that my interviewer was able to adequately evaluate me during the interview. | 4.6 | 4.6 | $P = .76$ |
| There was a sufficient amount of information provided before and during the interview. | 4.1 | 4.3 | $P = .58$ |
| After my interview, I felt that all of my questions about the fellowship program had been answered. | 4.6 | 4.4 | $P = .49$ |

and virtual interviewees (4.4) agreed that all their questions were adequately answered during the interview process at our institution ($P = .49$).

When Likert scale ratings were averaged across all statements, there was no significant difference found between both groups (in-person: 4.5, virtual: 4.4, $P = .67$).

Discussion

The present study aimed to compare applicant perceptions between virtual and in-person interviews at an adult reconstruction fellowship program. In our questionnaire-based study, results indicate that applicants perceive virtual interviews as both cost-efficient and convenient. Likert scale ratings suggest that interviewees may have similar perceptions on virtual and in-person interviews.

The motivation of the present study stems from the importance of the interview in selecting residency and fellowship applicants; interview performance has been cited as the most important factor in selecting applicants for orthopedic adult reconstruction fellowships [8]. Given the significant shift in interview format for the current application cycle, studying applicants' views on virtual interviews can yield valuable insights to help programs better structure the 2020–2021 interview process (and beyond). Consequently, the present study aimed to compare applicant perceptions between virtual and in-person interviews at a single adult reconstruction fellowship program.

Recently, a few studies have been published in light of the disruption the COVID-19 pandemic has had on the residency and fellowship application process [9–12]. Bamba et al. found that plastic surgery interviewees who interviewed virtually at one institution were less satisfied with their interview experience than in-person interviewees [10]. However, a similar study performed among minimally invasive gastroenterology fellowship applicants who interviewed on the Zoom platform found that the majority viewed the experience to meet or exceed expectations [11].

In the present study, the response rate of our survey assessing perceptions on interview experience was 65%, with most interviewees in both the virtual and in-person groups returning surveys. Our response rate fits within the range of response rates (44–85%) that were found in previous studies focused on interview perceptions [10–12].

The large majority of respondents in the present study indicated that the virtual interview format would be cost-effective (82%) and more convenient overall (88%). However, interestingly, 76% of the respondents desired an in-person interview at every program that they chose to interview. The results may suggest that applicants would ideally prefer to have an in-person interview option, despite understanding the monetary benefits and overall convenience of virtual interviews.

There were no differences in perception on interview format as quantified by Likert scale ratings provided in the survey. Both virtual and in-person interviewees perceived their interview experience as enjoyable. Furthermore, both groups felt that their interview format allowed them to best transmit their personality and adequately be evaluated by the interviewers. These findings suggest that arthroplasty applicants may not perceive a difference in interview experience between virtual and in-person formats. The present findings are in contrast to a study performed in plastic surgery, in which in-person interviewees provided higher ratings than virtual interviewees [10].

Virtual interviews raise the challenge of ensuring applicants are able to fully grasp the breadth of what fellowship programs have to offer [13]. To address this issue, the present study also asked interviewees to rate whether they felt a sufficient amount of

information was provided and whether all their questions had been answered by the end of the interview. At our program, an informational PowerPoint presentation was created to provide detailed information about our institution, the local community, and the details of our arthroplasty fellowship. This presentation was given in person and also recorded and electronically sent to virtual interviewees to help inform them in an identical manner. Both in-person and virtual interview groups exhibited similar, favorable ratings for this presentation.

There are several limitations to the present study. First, the investigation is based on a sample size at a single institution, and data from multiple institutions will be valuable to provide more informative decisions when structuring virtual interviews. However, each arthroplasty fellowship program interviews a very limited number of applicants each year, and very few programs offered virtual interviews before the 2020–2021 application cycle, making it very difficult to secure a large sample size of respondents for this study purpose. In fact, our fellowship program only has one spot per year, and only 26 applicants were interviewed in that application cycle; accordingly, a small sample size was an unavoidable limitation to the present study. Second, response bias is a potential limitation given the response rate of 65%. It is possible that applicants who attended an in-person interview were more interested in our program; however, all applicants received our survey after the completion of the interview cycle. It is indeed possible that applicants who did not return surveys may have had a differing opinion regarding their interview experiences. Nonetheless, our response rate does fit the range of prior response rates on previously published manuscripts on interview perceptions [10–12], and the majority of both virtual and in-person interviewees completed the questionnaire in our study.

Conclusion

Despite these limitations, the present study is the first to directly compare in-person and virtual interviewee perceptions on the interview experience at a single adult reconstruction fellowship program. The present findings indicate that applicants view virtual interviews as cost-efficient and convenient. Moreover, there were no differences in Likert scale ratings between in-person and virtual groups, indicating that interviewees may have similar perceptions on virtual and in-person interview formats. These findings have immediate and substantial implications for the present and future adult reconstruction fellowship application cycles.

Conflicts of interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this article.

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Appendix

Virtual vs In-Person Interviews in the Wake of the COVID-19 Pandemic

Thank you very much for interviewing with us recently for our Arthroplasty Fellowship. Unrelated to COVID-19, and before this year's fellowship interview cycle had commenced, we decided to offer our interviewees the option to interview virtually (through the Zoom video platform) if they were not able to travel to interview in person on the available dates. Interestingly, exactly half of our interviewees scheduled virtual interviews.

The purpose of this survey study is to better understand applicant perceptions of virtual vs in-person interview formats. Owing to the current COVID-19 pandemic, it may be necessary for programs to conduct interviews virtually for the next application cycle. The results of this anonymous survey study will be instrumental in informing national discussions on how future years of interviews may be held.

Please note that participation in this survey is voluntary, and *your responses will have absolutely no impact on rank list placement or the final match outcome*. Furthermore, all responses will be fully anonymized and blinded, with no personal information recorded whatsoever. The survey will take *less than 3 minutes to complete*, and by answering these questions, you are giving your consent to participate in the research study.

Thank you in advance for providing us with this critical feedback, and we extend our best wishes to each of you for continued good health and success in your career development.

Questionnaire

1. To your knowledge, excluding our program, did any other fellowship programs offer the option of virtual video interviews during the current arthroplasty interview cycle?
 - a. Yes
 - b. No
2. (Shown if candidate answered Yes to question 1): How many fellowship programs offered you the option to interview virtually?
 - a. 1-5
 - b. 6-10
 - c. 11-15
 - d. 16+
3. (Shown if candidate answered Yes to question 1): How many of these fellowship programs offered you the virtual video interview option prior to the outbreak of COVID-19 in March 2020?
4. For our fellowship program, did you interview virtually or in-person?
 - a. Virtually
 - b. In-Person
5. (Shown if candidate answered 'Virtually' to question 4): Were there any technical difficulties during your interview?
 - a. Yes; if so, please describe: _____
 - b. No
6. (Shown if candidate answered 'Virtually' to question 4): Did

you find that the recorded PowerPoint presentation (emailed out following the virtual interviews) provided detailed information and answered many of your questions about the program?

- a. Yes
- b. Somewhat
- c. No
7. Did you take a tour of the campus with one of our residents?
 - a. Yes
 - b. No
8. (Shown if candidate answered 'Yes' to question 7): Did you find the tour to be helpful and informative?
 - a. Yes
 - b. Somewhat
 - c. No
9. Did you desire an in-person interview at every fellowship program you interviewed at?
 - a. Yes
 - b. No
10. For each interview that you attended in person during the interview season, please estimate the average amount you spent (in USD) on housing, transportation, food, and other related expenses: _____
11. Do you feel that a virtual interview option for fellowship programs would offer value with regard to cost savings?
 - a. Yes
 - b. No
12. Do you feel that a virtual interview option for fellowship programs would offer value with regard to convenience?
 - a. Yes
 - b. No

For questions 13-17, please indicate to what degree you agree or disagree with the following statements regarding your interview at our arthroplasty fellowship program:

13. I found my interview experience to be enjoyable:
 - a. Strongly Agree
 - b. Somewhat Agree
 - c. Neutral
 - d. Somewhat Disagree
 - e. Strongly Disagree
 - f. Not Applicable
14. I found that my interview format (whether in-person or virtual) was effective in adequately transmitting my personality and presenting my best self:
 - a. Strongly Agree
 - b. Somewhat Agree
 - c. Neutral
 - d. Somewhat Disagree
 - e. Strongly Disagree
 - f. Not Applicable
15. I felt that my interviewer was able to adequately evaluate me during the interview:
 - a. Strongly Agree
 - b. Somewhat Agree
 - c. Neutral
 - d. Somewhat Disagree
 - e. Strongly Disagree

- f. Not Applicable
16. There was a sufficient amount of information provided before and during the interview:
- a. Strongly Agree
 - b. Somewhat Agree
 - c. Neutral
 - d. Somewhat Disagree
 - e. Strongly Disagree
 - f. Not Applicable
17. After my interview, I felt that all of my questions about the fellowship program had been answered:
- a. Strongly Agree
 - b. Somewhat Agree
 - c. Neutral
 - d. Somewhat Disagree
 - e. Strongly Disagree
 - f. Not Applicable