Letter to the Editor: Virtual Residency Training Interviews in the Age of COVID-19 and Beyond

The traditional application process for specialty residency training in the United States has involved a series of on-site interviews to which selected applicants are invited at various cities across the country. During this period, residency applicants would travel for a median of 21 days and spend a median of $4000.[1,2] However, with the coronavirus disease 2019 (COVID-19), the medical community is facing a challenge because the necessary travel for on-site interviews has the potential to increase the spread of the disease. Therefore, the Association of American Medical Colleges[3] and The Society of Neurological Surgeons[4] have recommended the suspension of all on-site interviews and the use of virtual assessments in the selection process.

Because this is not a practice the medical community is accustomed to, we simulated virtual residency training interviews and compared 2 models to assess the feasibility and uncover the technical challenges in preparation for the upcoming interview season.

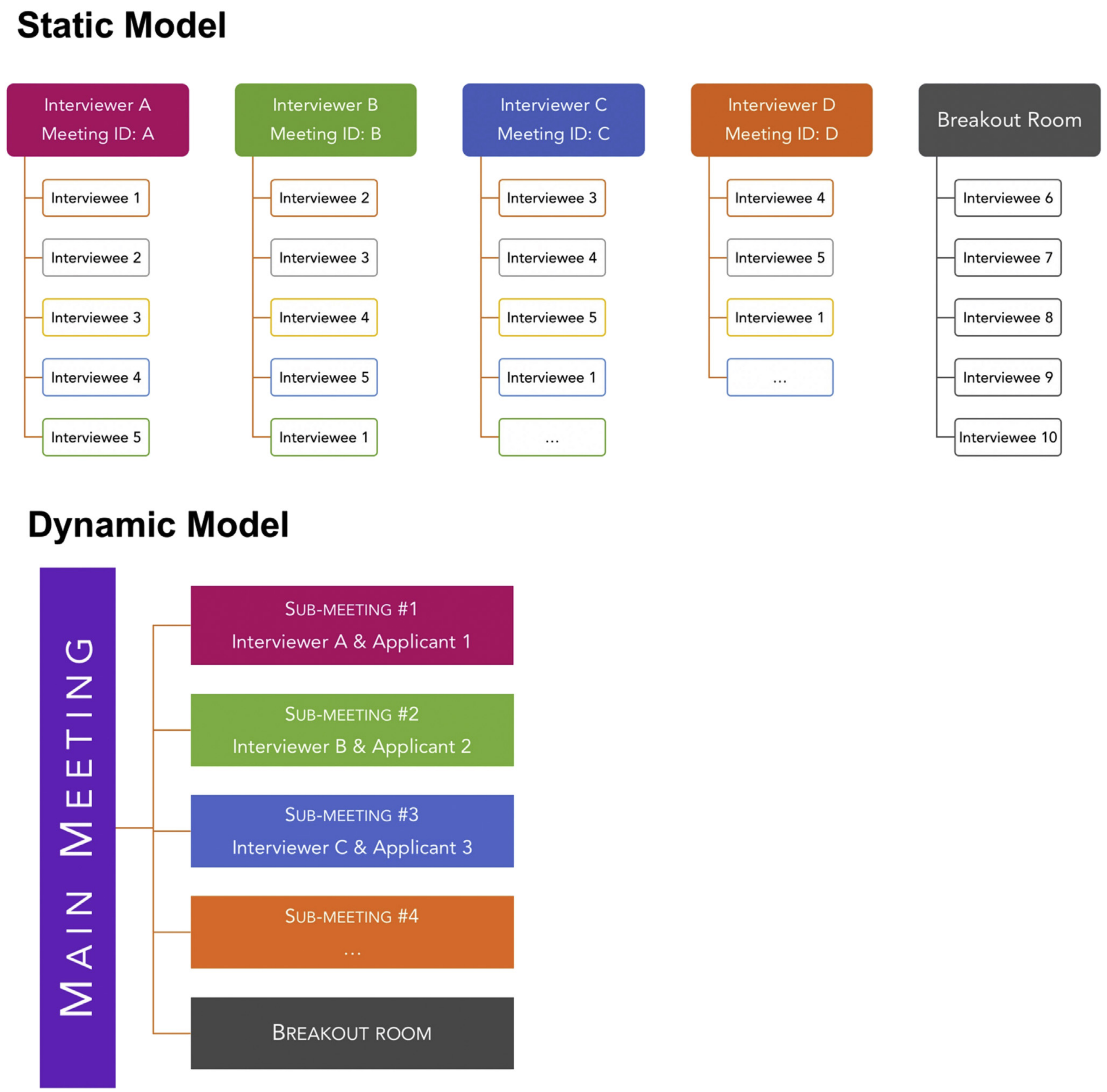

Figure 1. Schematic of both models used for simulation of virtual residency interviews.

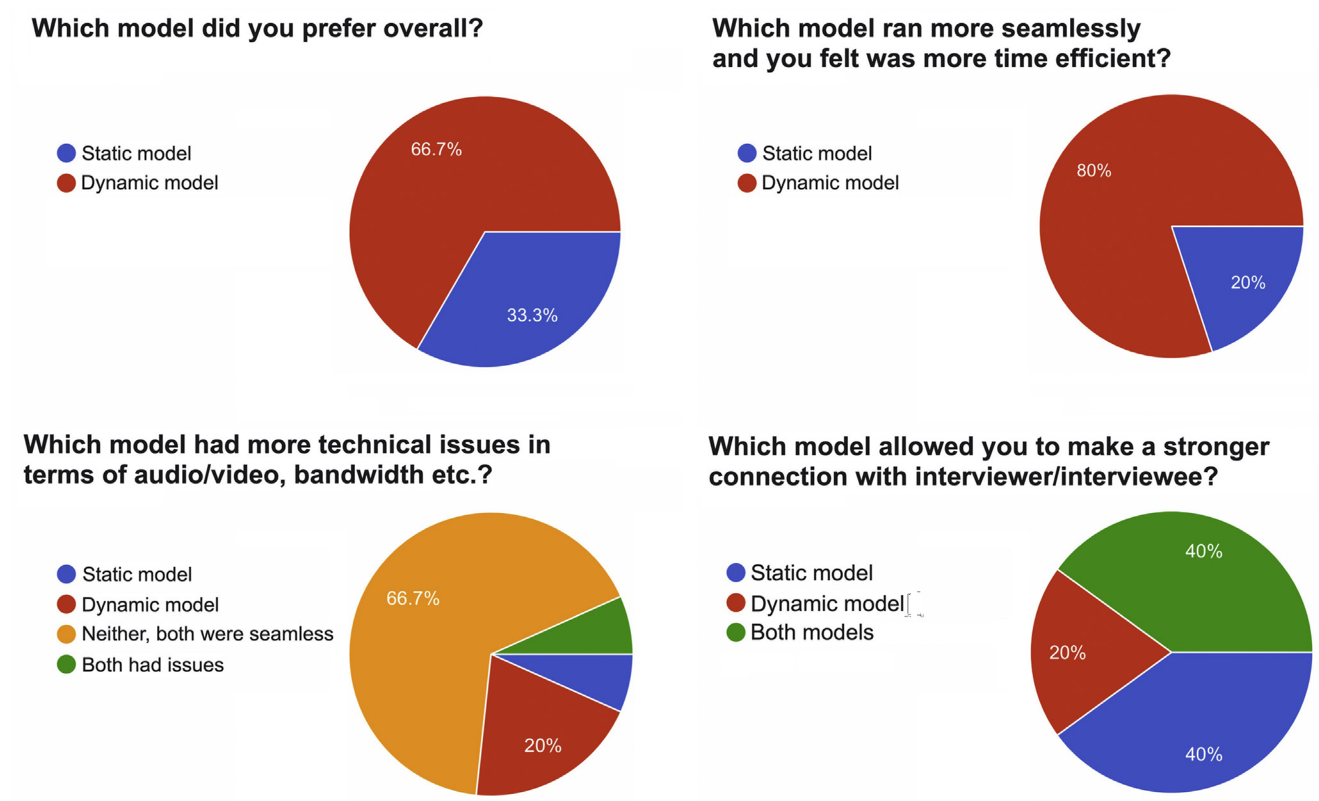

Figure 2. Pie charts illustrating the obtained survey results.

Using 5 interviewers and 10 interviewees consisting of senior neurosurgery residents and fourth-year medical students, respectively, we authors devised 2 models using the Zoom platform (Zoom Inc., San Jose, California, USA) to simulate the interviews (Figure 1).

The "static model" followed the traditional on-site interview structure, in which the interviewees rotate through several rooms meeting with different interviewers for ~10 minutes each. Using Zoom, the physical rooms were replaced with meeting identifications (IDs). Each interviewer was assigned an individual "static" meeting ID and was joined by the interviewee at a given time for 10 minutes.

In the "dynamic model," 1 meeting was joined by all study participants (interviewers and interviewees) and a meeting administrator. After a brief overview, the administrator paired each interviewer with 1 interviewee in a submeeting to start a 10-minute interview. At the end of each interview, the interviewees were dynamically moved to the next submeeting. Those who were on a break were kept in a "breakout room," where they could communicate with each other using video and audio. Brief notifications were sent by the administrator to all participants when the end of an interview was approaching.

At the conclusion of the simulation, a web-based survey was conducted to assess the strengths and weaknesses of both models. The survey response rate was 100%. In most cases (66.7%), the participants had experienced no technical issues with video or audio in either model (Figure 2). Any technical issues encountered were transient and were related to the audio. Of the 15 participants, 80% reported that the dynamic model ran more seamlessly and was more time efficient. Also, the dynamic model was preferred by two thirds of the participants. The participants reported that both models allowed them to connect with each other during the interviews. However, the dynamic model allowed the interviewees to feel more natural and comfortable.

Interviews are an integral part of residency applications, allowing both applicants and programs to get to know one another to ensure the best fit. Applicants are able to gauge the character and city of the program, and the programs rank applicants according to their views of the best fit. However, because of the COVID-19 pandemic, this opportunity is no longer possible. Thus, it is imperative that an alternative method is developed and used to simulate the normal interview process to the greatest extent.

The goal of our simulation was to find a model that would give applicants the most natural feel and allowing interviewers an adequate opportunity to assess their prospective residents. Most of our participants (applicants and interviewers) favored the dynamic model. They reported that the dynamic model provided smoother transitions, allowed the applicants to be more comfortable, and gave participants a more natural feel.

The dynamic model also removed the onus of the interview away from the applicants and placed more emphasis on a third party, which was our residency coordinator. This allowed the already nervous applicants to focus more on their interview, rather than worry about the logistics of it. In the static model, the participants were required to keep track of separate meeting IDs, which can be overwhelming for applicants during the interview process.

One of the understated aspects of the interview trail is the ability to connect and form bonds with other medical students across the United States through travel. In the COVID-19 era, this experience has been removed. However, the use of the "breakout room" in the dynamic model might allow for some semblance of this experience.

When planning virtual interviews, one challenge will be scheduling applicants from different time zones. Both models can be used to accommodate applicants by offering multiple interview sessions at different times. In large specialties such as internal medicine, often ≤20 interviews will occur per season, and smaller specialties such as neurosurgery will have as few as 2 or 3 interviews. Because virtual interviews obviate the need to travel, more interviews can be planned to group the applicants from the same time zone.

Finally, because of the cost-saving potential of virtual interviews, this practice might extend beyond the COVID-19 era as an alternative to on-site interviews.

Virtual interviews are a necessary alternative to residency applications in the wake of COVID-19. Our simulation has shown that they can be performed seamlessly and efficiently using the 2 models we have provided, which can be adopted by other programs to assess applicants.

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Fadi Al Saiegh: Conceptualization, Methodology, data acquisition, data analysis, figure creation, data interpretation, Writing - original draft, Writing - review & editing, final approval. **Ritam Ghosh:** Conceptualization, Methodology, data acquisition, data analysis, data interpretation, Writing - original draft, Writing - review & editing, final approval. **Anthony Stefanelli:** Writing - review & editing, final approval. **Omaditya Khanna:** Writing - review & editing, final approval. **Ellina Hattar-Medina:** Writing - review & editing, final approval. **Michelle Hoffman:** Data acquisition, data analysis, data interpretation, Writing - review & editing, final approval. **Karim Hafazalla:** Writing - review & editing, final approval. **Victor Sabourin:** Data acquisition, data analysis, Writing - review & editing, final approval. **Christopher Farrell:** Conceptualization, Methodology, Writing - review & editing, final approval. **Stavropoula Tjoumakaris:** Data acquisition, data analysis, data interpretation, Writing - review & editing, final approval. **Pascal Jabbour:** Writing - review & editing, final approval. **Ashwini D. Sharan:** Conceptualization, Methodology, data interpretation, Writing - review & editing, final approval. **Robert H. Rosenwasser:** Conceptualization, Methodology, data interpretation, Writing - review & editing, final approval.

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