UBC Faculty of Medicine The Impact of Technical Difficulties on Virtual Multiple Mini-Interviews

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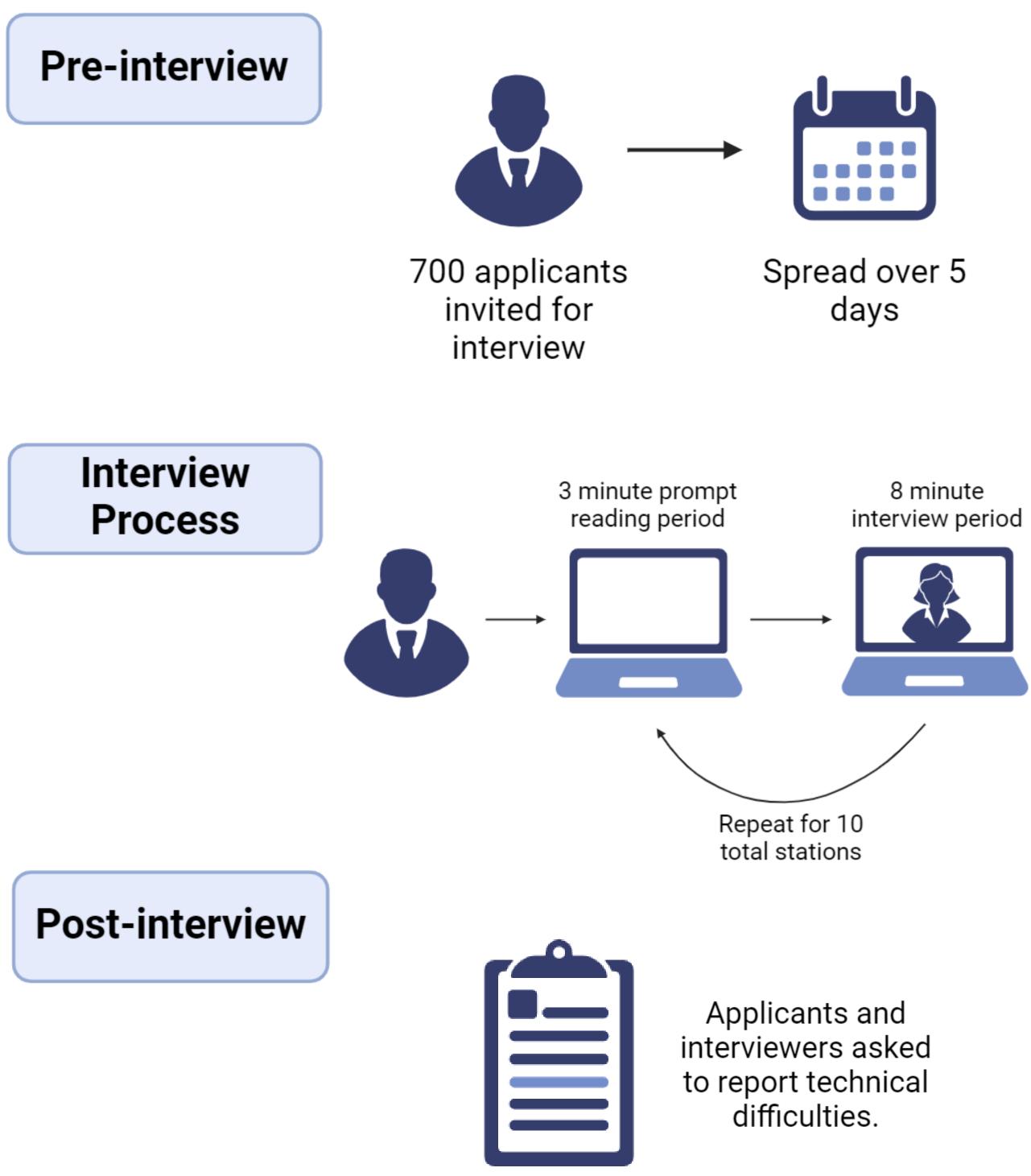
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Background

- > Due to the pandemic and equity issues, many medical school admissions interviews are now conducted virtually.¹⁻⁴
- > The risk of technical difficulty negatively impacting selection processes may be particularly great for Multiple Mini-Interviews, which involve large numbers of people.
- \succ To ensure fairness and validity we must determine the impact such problems have on applicant performance and interview reliability.

Methods

Interviews for admission to the UBC MD Program were conducted virtually in March 2020 for the 2020-2021 application cycle.





Results

Number of applicants Number who reported a technical issue Number of technical issues for those who reported at least one problem Number of minutes lost per station with Mean=2.4; Inter-Quartile Range=0 to 3.5 reported issue Number of issues reported by type of problem Connection problem 254 (78.4%) Communication problem 53 (16.4%) Both 17 (5.2%)

Figure 1: Effects of technical difficulty on virtual MMI scores (A) Candidates who reported a technical difficulty versus those who did not (B) Number of difficulties experienced by applicants

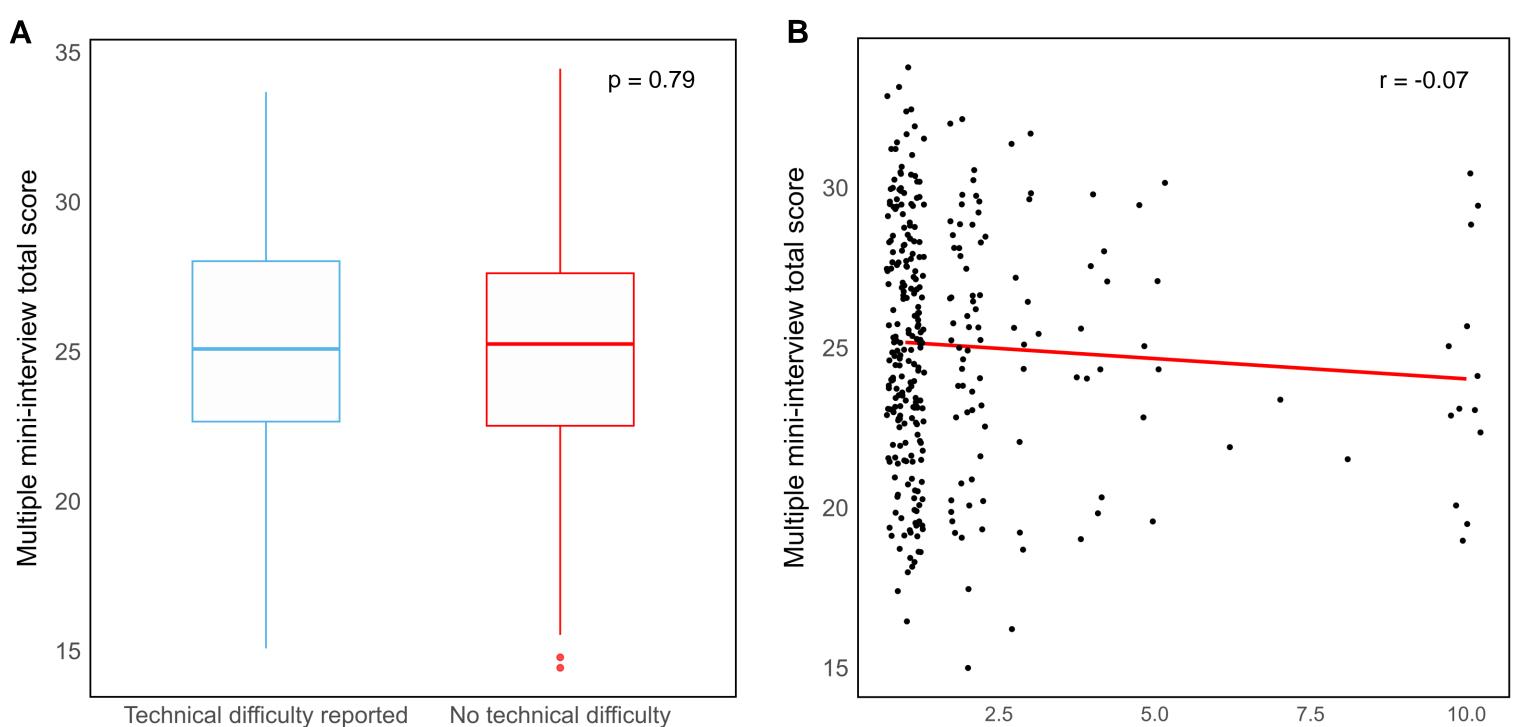
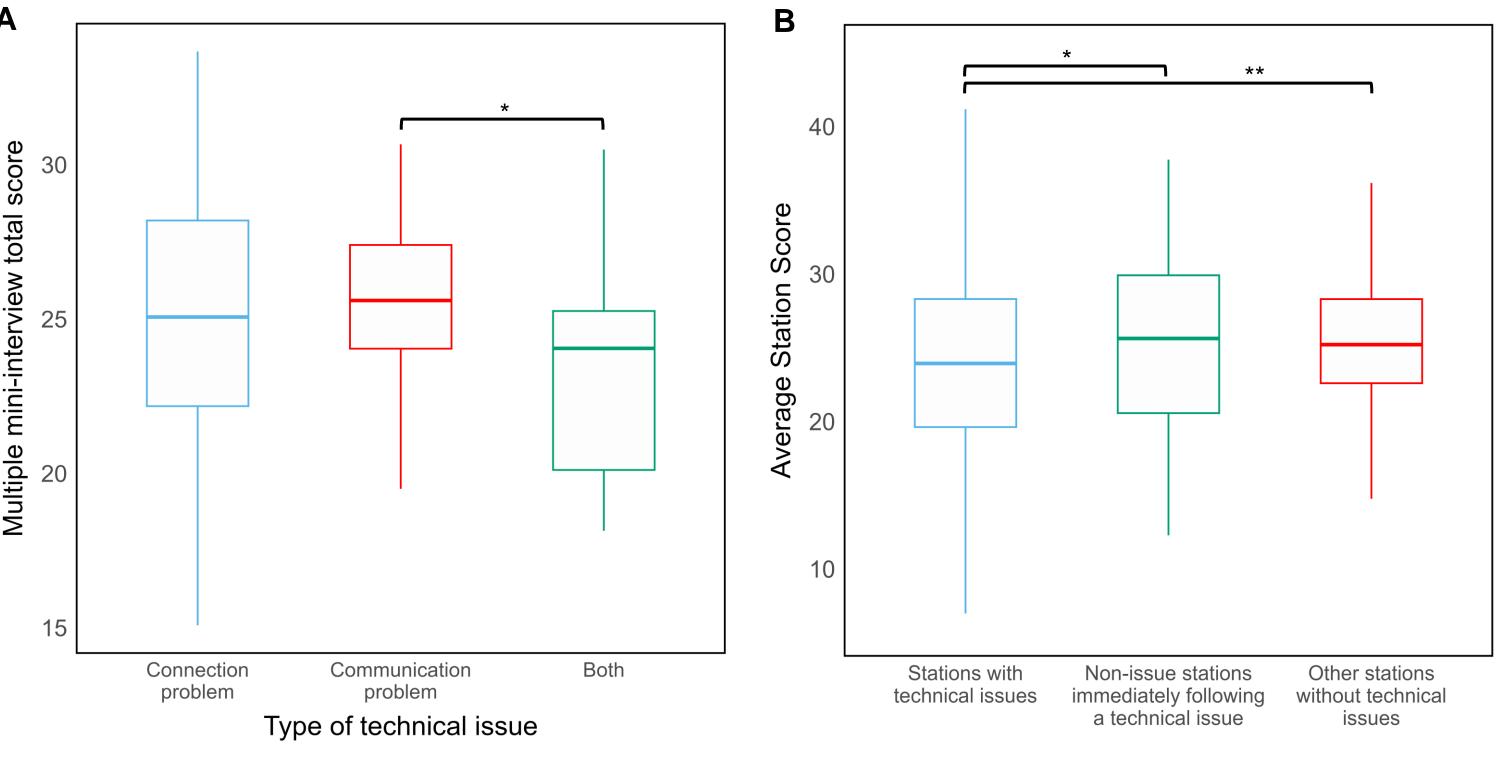


Figure 2: Type of technical difficulty experienced and downstream impact (A) Scores as a function of type of problem





References ¹Domes T, Bueckert S, Tetyurenko G, Hall D, Ironside A, Stobart K. Conducting a synchronous virtual multiple mini-interview using Webex for medical school admissions. Canadian Medical Education Journal 2021;12(6):120-2. Turpin MAC, Steele K, Matuk-Villazon O, Rowland K, Dayton CB, Horn KV. Rapid Transition to a Virtual Multiple Mini-Interview Admissions Process: A New Medical School's Experience During the COVID-19 Pandemic. Academic Medicine 2021; 96(8):1152-5. Kok KY, Chen L, Idris FI, Mumin NH, Ghani H, Zulkipli IN, Lim MA. Conducting multiple mini-interviews in the midst of COVID-19 pandemic. Medical Education Online 2021: 26:1891610. ⁴Ungtrakul T, Lamlertthon W, Boonchoo B, Auewarakul C. Virtual Multiple Mini-Interview during the COVID-19 Pandemic. *Medical Education 2020;54*(8):764-65. ⁵Gordon AM, Malik AT, Scharschmidt TJ, Thomas J, Goyal KS. Cost Analysis of Medical Students Applying to Orthopaedic Surgery Residency: Implications for the 2020 to 2021 Application Cycle During COVID-19. JBJS Open Access 2021;6(1):e20.00158 ⁶Robinson KA, Shin B, Gangadharan SP. A Comparison Between In-Person and Virtual Fellowship Interviews During the COVID-19 Pandemic. Journal of Surgical Education 2021;78(4):1175-81 ⁷Domingo A, Singer J, Cois A, Hatfield J, Rdesinski RE, Cheng A, Aylor M, Sullenbarger J, Walker S, Hervey S, Stenson A. The Carbon Footprint and Cost of Virtual Residency Interviews. Journal of Graduate Medical Education 2023;15(1):112-6.

SCAN ME

Table 1: Incidence and impact of technical difficulties in virtual MMIs

700
324 (46.3%)
Mean=1.9; Inter-Quartile Range=1 to 2

Number of technical issues

(B) Scores as a function of timing of problem

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nterview date		lican 33)	ts	Applicants who reported a technical difficulty (n=258)								Applicants who did not (n=375)					
Day 1	0.75	(0.6	68– <i>0.</i>	81)			0.72	(0.60)—0.	82)			0.7	7 (0.	68–().84	<i>1)</i>
Day 2	0.71	(0.6	63– <i>0.</i>	78)			0.73	(0.59) —0.	84)			0.7	'0 <i>(0.</i>	60–0	0.78	3)
Day 3	0.67	(0.5	5 9 —0.	75)			0.66	(0.5	1—0.	78)			0.6	8 <i>(0.</i>	57–(0.77	7)
Day 4	0.77	(0.7	71—0.	82)			0.76	(0.65	5–0.	85)			0.7	7 (0.	70–0	0.83	3)
Day 5	0.79	(0.7	72–0.	85)			0.79	(0.7	1—0.	86)			8.0	81 <i>(0.</i>	64–().92	2)
Overall reliability	0.74	(0.7	71—0.	77)			0.74	(0.69) —0.	79)			0.7	'4 <i>(0</i> .	69–0	0.77	7)
Figure 3: The impact of excluding stations from the 10-station vMMI, as determined using the Spearman-Brown prophecy formula		Inter-station reliability (alpha)	0.80 0.70 0.60 0.50 0.40 0.30														

Discussion

- to be investigated.

 \succ Virtual interviews offer (a) cost savings,⁵ (b) fewer human resources, (c) convenience,⁶ and (d) sustainability.⁷

 \succ Technical difficulties are inevitable, but appeared to impact station scores only when the difficulties were more substantial (i.e., entailed connectivity **and** communication problems).

 \succ Such difficulties occurred only 5.2% of the time and, thus, were not detrimental enough to impact performance on the subsequent station, total score, or interview reliability.

> Whether the impact of other difficulties was minimal due to candidate resilience, interviewer adjustment or both remains

 \succ To protect against lost stations, we encourage programs to maximize station number as a means to enable robust measurements even if a station or two needs to be abandoned due to technical difficulties.