

## KEY POINTS

- The multiple mini interview can generate reliable data when used as an assessment strategy in an end-of-first-year capstone.
- The 3-factor Multifaceted Rasch Measurement (MFRM) analysis explained **58.9% of the total variance** in student scores.<sup>1</sup>
- Students agreed they were able to effectively demonstrate their skills when completing the capstone multiple mini interview.

## INTRODUCTION

- The multiple mini interview (MMI) is a popular assessment strategy to assess social and behavioral skills at admissions.<sup>2</sup>
- The MMI has *not* been explored within PharmD curricula to assess social and behavioral skills.<sup>1</sup> Distinct advantages may include:<sup>3</sup>
  - targeting specific social and behavioral constructs,
  - focusing and exploring participants' thought processes, and
  - informing decisions and feedback to improve performance.
- Purpose:** Describe the design and quality of the MMI as an assessment strategy during an end-of-first-year capstone.

## METHODS

### MMI Design & Data Collection

- Students rotated through stations measuring five constructs consistent with the UNC admissions MMI<sup>4</sup>: (1) *integrity*, (2) *empathy*, (3) *adaptability*, (4) *giving instructions*, and (5) *receiving instructions*.
- Each student was evaluated on four criteria using a **10-point scale** by one trained reviewer: (1) *construct of interest*, (2) *communication*, (3) *critical thinking*, and (4) *pharmacy appreciation*.
- Following the capstone, students attended a large-group **feedback session**, were provided **strategies for improvement**, and were **surveyed** about their capstone MMI experience.

### Data Analysis

- Principal Component Analysis (PCA)** verified if the factor structure was consistent with the five individual stations as expected.
- Multifaceted Rasch Measurement (MFRM)** investigated the variability in student MMI scores related to: (1) *student ability*, (2) *rater severity*, and (3) *station difficulty*.

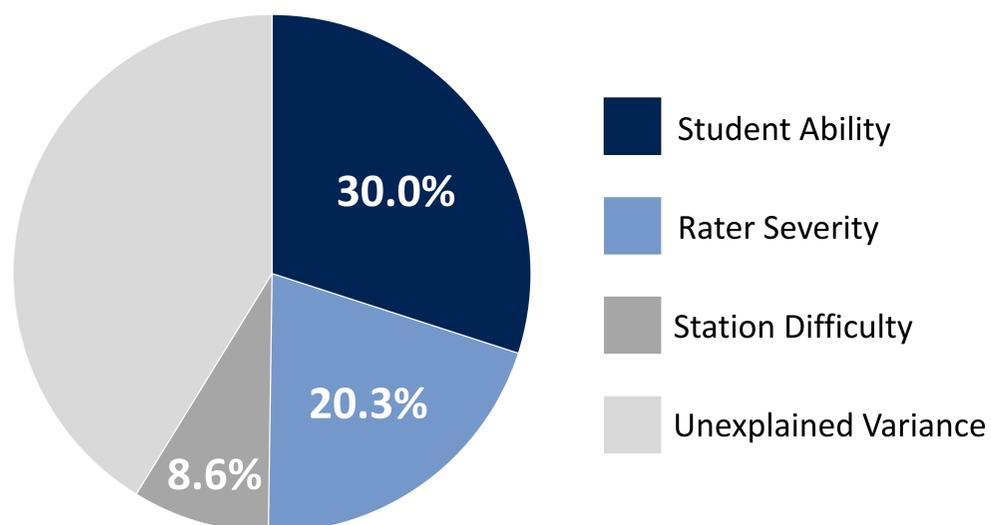
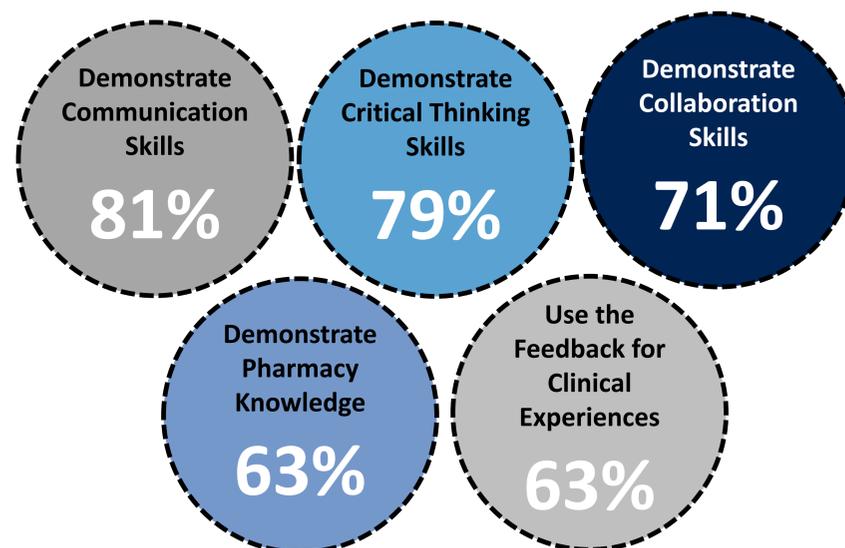
## RESULTS

### Participant Demographics (N = 148)



### Participant Perceptions (N = 146)

Students agreed or strongly agreed the MMI allowed them to:



**FIGURE 1** Student score variance explained by MFRM analysis

**TABLE 1** Student performance statistics for each station [N=148; mean(SD)]

STATION	GIVING INSTRUCTIONS	RECEIVING INSTRUCTIONS	ADAPTABILITY	INTEGRITY	EMPATHY
Construct	6.20 (2.00)	6.50 (1.73)	6.91 (2.08)	7.86 (1.66)	7.22 (2.00)
Communication	6.45 (1.87)	6.72 (1.640)	6.85 (2.03)	7.29 (1.94)	7.37 (1.73)
Critical Thinking	6.31 (1.69)	6.77 (1.48)	6.37 (2.07)	7.23 (2.08)	7.14 (1.73)
Pharmacy Appreciation	7.30 (1.62)	7.19 (1.51)	7.16 (1.78)	7.61 (1.70)	7.58 (1.62)
Overall	6.56 (1.84)	6.80 (1.61)	6.79 (2.01)	7.50 (1.87)	7.35 (1.78)

**TABLE 2** Pearson correlations and reliabilities (Cronbach alpha) of the MMI constructs

STATION	GIVING INSTRUCTIONS	RECEIVING INSTRUCTIONS	ADAPTABILITY	INTEGRITY	EMPATHY
Giving Instructions	(0.86)	0.45	0.14	0.02	0.13
Receiving Instructions	---	(0.88)	0.13	0.10	0.13
Adaptability	---	---	(0.90)	0.35	0.22
Integrity	---	---	---	(0.88)	0.14
Empathy	---	---	---	---	(0.90)

## CONCLUSION

- The MMI can be a valuable assessment strategy within PharmD curricula.
- MFRM results were consistent with the literature and showed an appreciable amount of variance was explained by the three factors; additional rater training may be warranted to reduce its contribution to MMI score variability.
- Future research should explore the impact of using the MMI as a formative and longitudinal assessment strategy in the health professions.

## REFERENCES

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