

# What Sorts of Residents Get What Sorts of Ratings? An Analysis of Quantitative Ratings of Resident Competencies and Descriptive Adjectives

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## INTRODUCTION

- ▶ Residents are evaluated by a Clinical Competency Committee (CCC)
- ▶ The CCC must consider many different performance assessments
- ▶ Quantitative ratings are convenient but have limited validity
- ▶ Qualitative comments are more informative, but cumbersome for raters and the CCC
- ▶ Combining qualitative and quantitative evaluations can inform best practices
- ▶ We used quantitative ratings with menus of qualitative adjectives to elucidate qualities associated with quantitative ratings of residents

## METHODS

- ▶ Rating form was developed in coordination between GME Office and Family Medicine Program Director
- ▶ The form was published in the residency learning management system and used by faculty and attendings to assess all residents
  - ▶ 4 years (July through June, 2017-18 through 2020-21).
  - ▶ Raters rated resident competencies (5-point scale)
  - ▶ Raters chose 4 adjectives from menu to describe resident
- ▶ Adjective frequency of use was computed and the most frequently used were included in further analysis
- ▶ For each resident we computed:
  - ▶ Mean competency ratings were computed for each resident  
Overall, Medical Knowledge, Patient Care, Professionalism, Practice-Based Learning and Improvement, Communication Skills
  - ▶ Percentage use of each adjective
- ▶ Linear regression of each mean competency rating by adjective use identified resident qualities significantly related to each competency rating

## FIGURES

Adjectives used at least twice by raters:

Adjective	# Uses	% Uses
Capable	331	45%
Organized	289	39%
Logical	284	38%
Mature	260	35%
Resourceful	253	34%
Conscientious	214	29%
Attentive	213	29%
ClearThinking	187	25%
Dependable	157	21%
Considerate	153	21%
Confident	140	19%
Friendly	130	18%
Cooperative	129	17%
Efficient	111	15%
Honest	94	13%
Poised	91	12%
Tactful	73	10%
Understanding	69	9%
Wise	39	5%
Unorganized	5	1%
Dangerous	4	1%
Insecure	4	1%
Indifferent	3	0%
Careless	2	0%
Irresponsible	2	0%
Obnoxious	2	0%
Undependable	2	0%

Adjectives used in 10% or more of rating forms were included in regression models

Raters rarely used negative adjectives

+ Adjectives were used significantly more for **higher** rated residents

- Adjectives were used significantly more for **lower** rated residents

Some adjectives were not related to ratings

	Overall	Medical Knowledge	Communication Skills	Professionalism	Patient Care	Practice-Based Learning and Improvement
Organized	+	+	+	+	+	+
Efficient	+	+	+	+	+	+
Logical	+	+	+	+	+	+
Clear-Thinking		+	+	+	+	+
Resourceful	+					
Tactful				+		
Poised	-		+	+		
Conscientious	-					
Mature	-					
Honest		-				-
Confident	-		-	-		
Friendly		-	-	-	-	-
Cooperative		-	-	-	-	-
Considerate		-	-	-	-	-
Capable						
Attentive						
Dependable						

## RESULTS

- ▶ 742 ratings of 55 unique residents by 10 unique raters
- ▶ Positive adjectives were most used
- ▶ 17 adjectives were used on 10% of the rating forms or more. These 17 explained a significant amount of variance for Overall ( $R^2 = .13$ ), and all competency ratings ( $R^2 = .24$  to  $.28$ ).
- ▶ Adjectives showed different patterns of association with ratings.
  - ▶ **High** scorers on all ratings were judged as: Organized, Efficient, Logical
  - ▶ **High** Communication scorers were more Poised
  - ▶ **High** Professionalism scorers were more Poised and Tactful
  - ▶ **Low** Overall scorers were more Poised, Conscientious, and Mature
  - ▶ Prosocial adjectives were associated with **low** scores:
    - Low Communication scorers were Confident, Friendly, Cooperative
    - Low Medical Knowledge and Practice-Based Learning scorers were Honest
- ▶ Some adjectives (Capable, Dependable, Attentive) showed no significant relationship to competency ratings
- ▶ Anecdotal evidence suggests faculty chose pro-social adjectives as ways to be complimentary of lower-performing residents

## CONCLUSIONS

- ▶ Faculty and attendings may value behaviors and preferences that may not be intuitive to administrators and program leadership tasked with evaluating residents' strengths and weaknesses.
- ▶ Care must always be taken when interpreting quantitative ratings, even when rating criteria appear straightforward.
- ▶ More initiatives to elicit and understand qualitative information is crucial for assessors to understand how residents perform in their work environment.