

# The Internal Medicine Clerkship: Negative Preconceptions into Positive Impressions



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## Background

Nearly all medical students complete a series of core clerkships such as family medicine, psychiatry, obstetrics / gynecology, surgery, pediatrics, internal medicine and so forth prior to graduation. Most students have a defined educational experience during the third year of medical school that may have a positive or negative impact on their views of their clerkships as clinical specialties<sup>1,2</sup>.

There is, however, an underdeveloped understanding of how clerkships experiences have an impact on students' perceptions of specialties and potential career choices. It is unclear what attitudinal or affective impact clinical clerkship experiences have on medical student perceptions of individual specialties.

Students arrive at the start of clerkships with preconceived notions, attitudes and affect that may be favorable, neutral, or unfavorable. After the clerkship educational experience, students then leave with an overall impression of the specialty that is influenced by their clinical experiences.

Interactions with house staff and faculty have been shown to have an impact these impressions,<sup>1,2,3</sup> and passion for patient care and interest in teaching can influence medical students' interests in the specialty such as internal medicine.<sup>4</sup>

Information regarding how the clerkship experience itself influences a student's impressions of the specialty is sparse. Data are available regarding why students do or do not choose the specialty as a career following the core clerkship, but pre- and post-clerkship analysis of their perceptions have not been previously systematically evaluated.<sup>5</sup>



## Methods

480 / 720 (66.7%) medical students (273 men, 56.9%; 207 women, 43.1%) from the classes of 2009-2014 at Wake Forest School of Medicine voluntarily completed checklists both before and after their internal medicine clerkship.

(Rank) Adjective	Before Clerkship % (n)	After Clerkship % (n)
1. Challenging	71.4 (237)	77.1 (256)*
2. Intimidating	49.7 (165)	18.4 (61)*
3. Busy	44.6 (148)	61.1 (203)*
4. Complex	43.1 (143)	55.7 (185)*
5. Demanding	41.0 (136)	46.4 (154)*
6. Exciting	38.6 (128)	37.0 (123)
7. Professional	37.7 (125)	48.5 (161)*
8. Purposeful	36.7 (122)	44.3 (147)*
9. Involved	36.4 (122)	48.5 (161)*
10. Intellectual	25.9 (86)	64.5 (214)*
11. Micro-Managed	9.9 (33)	25.9 (86)*
12. Redundant	9.3 (31)	21.7 (72)*
13. Boring	6.3 (21)	13.3 (44)*
14. Compulsive	3.0 (10)	4.2 (14)

Table 1: Percentage and Number of Students Selecting Adjectives Before and After a Clerkship Experience in Internal Medicine Ranked Based on Pre-Clerkship Selection

\*p<0.1

Individual student impressions of internal medicine were collected immediately before and at the end of the clerkship. Participants received a list of fourteen adjectives (see Table 1) ranging from positive to neutral to negative and chose as many adjectives that described their pre-clerkship impressions of internal medicine as a specialty. At the close of the clerkship, students chose again from the same list.

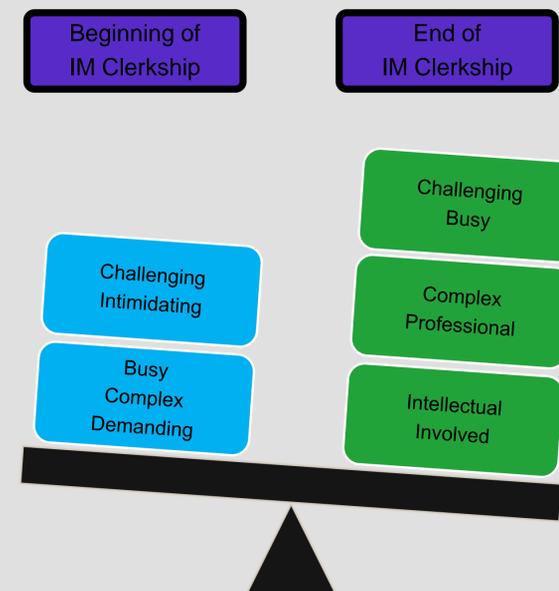
Analysis of students' adjective choices was performed to assess for overall positive or negative impressions: Chi-square ( $X^2$ ) was employed to test whether this change was due to the clerkship experience. Factor analyses – a statistical method used to describe variability among the correlated variables (i.e., adjectives in the present study) that reduces the number of underlying variables or factors – were conducted employing the adjectives both before and after the clerkship. The factor analyses allowed us to determine which adjectives clustered together.

The present study was approved by the Institutional Review Board at Wake Forest School of Medicine.

## Results

One-fifth of students (21.5%) selected seven or more adjectives during the initial assessment while nearly one-third (31.6%) selected seven or more adjectives after the clerkship.

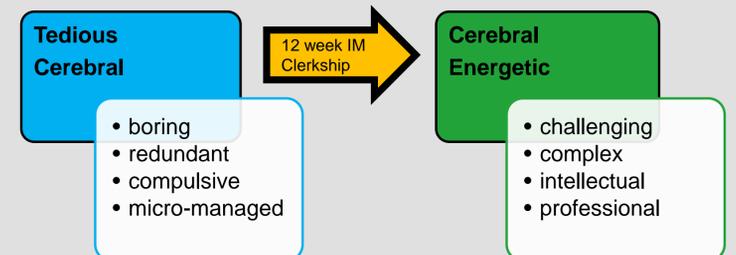
There was a significant difference ( $p < .05$ ) in frequency for all adjectives selected before and after the clerkship except for "exciting" and "compulsive" (see Table 1). Challenging was the most frequently selected adjective before the clerkship and the frequency significantly increased ( $p < .01$ ) at the end of clerkship assessment. The largest increases in frequency before and after the clerkship were "micro-managed" ( $X^2 = 41.87, p < .01$ ), "boring" ( $X^2 = 37.56, p < .01$ ), "purposeful" ( $X^2 = 35.47, p < .01$ ), "involved" ( $X^2 = 22.53, p < .01$ ), and "complex" ( $X^2 = 20.44, p < .01$ ). Only one adjective ("intimidating") decreased in frequency after the clerkship experience ( $p < .01$ ).



## Discussion

The present study is the first to rigorously assess the preconceptions of medical students regarding the specialty of internal medicine before experiencing the core clinical clerkship and compare them directly to impressions formed at the end of the clerkship. We found that there was adequate reliability for internal consistency of item selection, and the mean number of adjectives selected after the clerkship increased compared to before the clerkship.

That the mean number of adjectives selected increased after the internal medicine clerkship experience suggests a greater intensity or emotional response towards internal medicine compared to before the clerkship. These results indicate an increase in engagement by adjective description as a result of the internal medicine clerkship experience. Therefore, we were able to measure the degree of emotionality or "passion" for internal medicine based on adjective selection which has not been done in other studies of clerkship impact.<sup>1,5,6</sup>



The change in frequency of adjective selection suggests that students' perceptions shift towards a more positive evaluation of internal medicine, based on experience of the clerkship, interacting with internal medicine residents and faculty. This positive shift in perceptions and attitudes towards specialty is consistent with findings for other specialties such as family medicine, surgery and general practice.<sup>7</sup>

## Conclusions

- In the present study, we found short-term increase in "passion" or positive attitudes towards internal medicine as a result of the clerkship but longitudinal studies are required to determine the staying-power of these increased positive perceptions.
- While these findings are provocative and interesting, further research is required to identify specific experiences and pedagogical strategies that have an impact on emotional engagement and perceptions of internal medical as a specialty, such as during the preclinical curriculum.

## References

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