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# Determining the relationship between Myers-Briggs Type Indicator (MBTI) personality type and preference of USMLE Step 1 study resources.

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## Introduction

At Cooper Medical School of Rowan University (CMSRU), the Myers-Briggs Type Indicator (MBTI) assessment tool has set the foundation for student interactions in an academic environment. Medical students' personality types have been used to form diverse and balanced active learning groups to facilitate a conducive and collaborative setting to learn. While the MBTI assessment tool has helped CMSRU medical students gain awareness of their learning preference, there is still a gap in understanding how MBTI results can help students maximize their learning of medical information to best prepare them for the USMLE Step 1 exam. To date, there is no published data on correlations between MBTI results and Step 1 study resources found to be most effective for learning.

## Research Question

Is there a relationship between a medical student's MBTI personality type and USMLE Step 1 study resource preference, in terms of resource efficacy?

## Hypothesis

There is a correlation between MBTI personality types of medical students and their respective USMLE Step 1 study resources that they found to be most effective in their test preparation.

The 4 nominal scales of the MBTI, Extroversion-Introversion (E-I), Sensing-Intuition (S-N), Thinking-Feeling (T-F), and Judgment-Perception (J-P), are used to stratify individuals based on unique character traits applied during interpersonal interactions and decision-making. It is believed that individuals of similar personality types will prefer similar modalities for learning.

## Methods

This study is a quantitative descriptive research design that utilized a pilot survey. Third- and fourth-year CMSRU medical students during the 2020-2021 academic year were asked to complete an online survey via Qualtrics. The survey asked participants for their first and last name and permission for a third-party member to access their MBTI results from the CMSRU Learning Specialist Office. This allowed for the survey data to be deidentified. The survey consisted of 11 questions, asking participants to:

- Identify which USMLE Step 1 study resources were utilized from 3 main categories: Question Banks (Q-Banks), Flashcards, Videos
- Rate satisfaction of each resource chosen on a scale from 1-5 to indicate level of resource efficacy. 1 is "not effective". 5 is "very effective".

## Results

The study survey was completed by 64 current third- and fourth-year CMSRU medical students during the 2020-2021 academic year. All 16 possible MBTI personality types were represented in the data analyzed. Statistical significance was computed as a Wilcoxon two-sample test, calculated separately for each study resource compared between each nominal scale of E-I, S-N, T-F, and J-P.

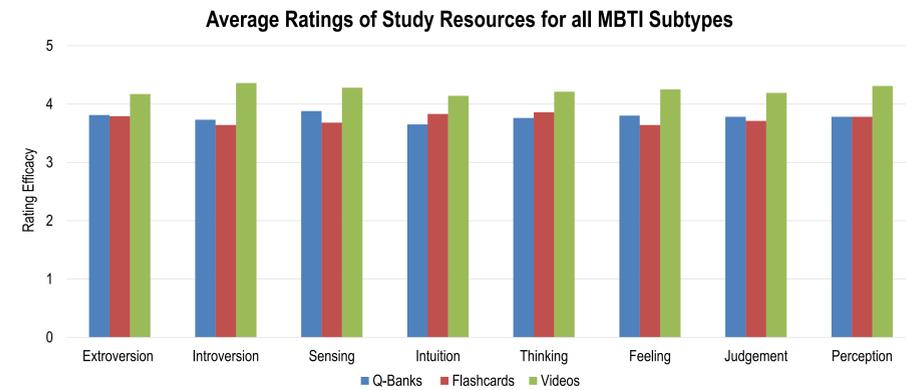


Figure 1. The average rating of efficacy of the 3 study resource categories polled in the survey amongst all 8 subtypes of MBTI results.

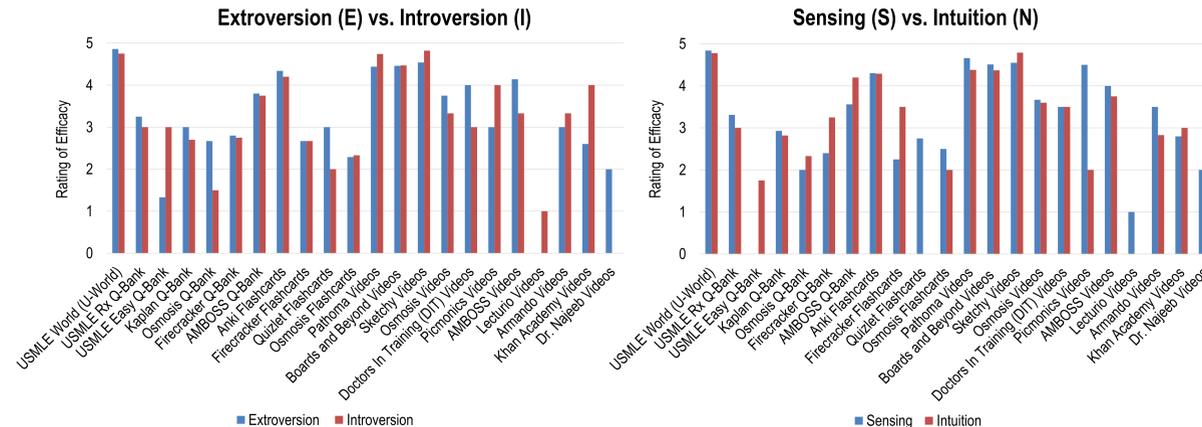


Figure 2. The average rating of efficacy of all study resources polled in the survey compared between the MBTI nominal scale of Extroversion-Introversion (E-I).

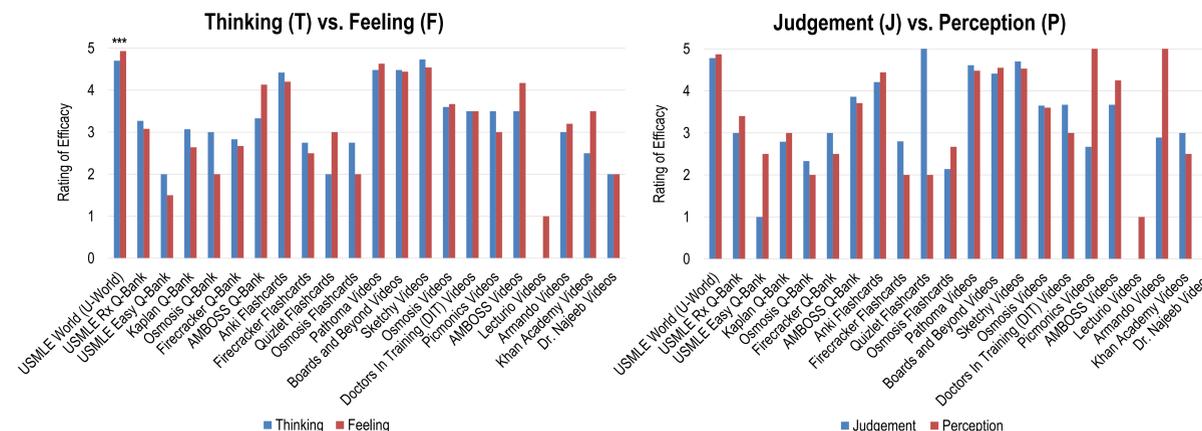


Figure 3. The average rating of efficacy of all study resources polled in the survey compared between the MBTI nominal scale of Sensing-Intuition (S-N).

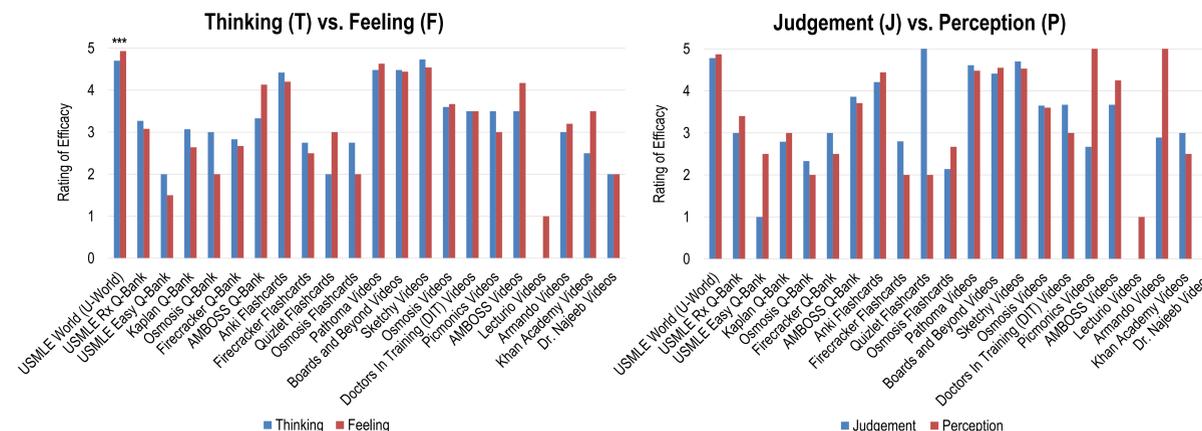


Figure 4. The average rating of efficacy of all study resources polled in the survey compared between the MBTI nominal scale of Thinking-Feeling (T-F). \*\*\*p<0.05

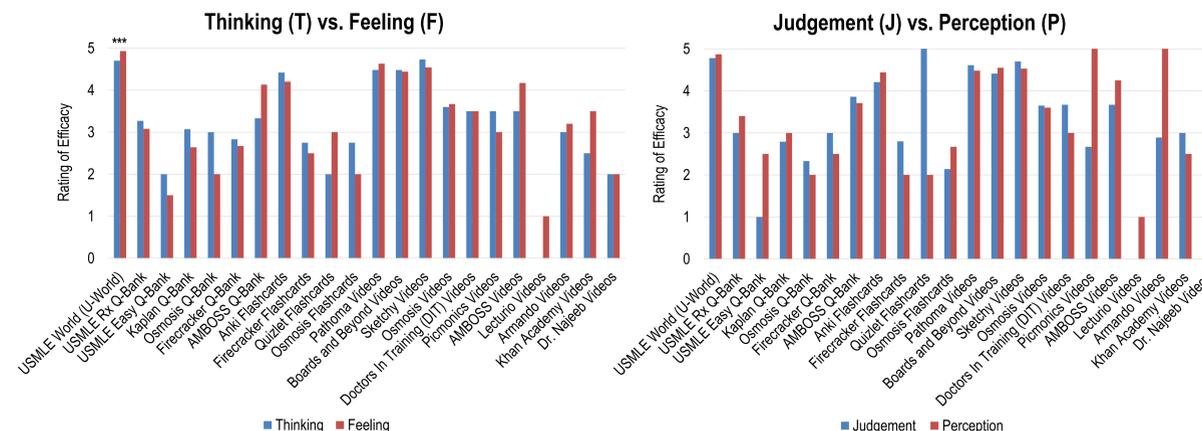


Figure 5. The average rating of efficacy of all study resources polled in the survey compared between the MBTI nominal scale of Judgement-Perception (J-P).

## Discussion

The number of USMLE Step 1 study resources offered to medical students can be overwhelming. This study evaluated if shared MBTI personality types could be a better metric in helping medical students find effective study material. Overall, this study revealed a statistically significant difference between T-F for the U-World Q-Bank resource. Using the Wilcoxon two-sample test, the calculated p-value was 0.0429 (p<0.05). Therefore, Feeling individuals may find the U-World resource more effective in their studies than Thinking individuals. There were no other statistically significant differences in the rating of resource efficacy compared between each nominal scale of E-I, S-N, T-F, and J-P. However, correlations were still identified:

- For all MBTI subtypes, Video resources had the highest average efficacy rating (min: 4.14, max: 4.36) out of the 3 main resource categories.
  - But USMLE World (U-World) Question Bank had the highest efficacy rating out of all resources (min: 4.70, max: 4.93).
- For Q-Banks, Sensing individuals had the highest average rating of 3.88; Intuition individuals had the lowest average rating of 3.65.
- For Flashcards, Thinking individuals had the highest average rating of 3.86; Introversion and Feeling individuals had the lowest average rating of 3.64.
- For Videos, Introversion individuals had the highest average rating of 4.36; Intuition individuals had the lowest average rating of 4.14.

## Conclusion

MBTI personality type was examined in this study in the context of USMLE Step 1 study resource preferences. The overall goal of this study is to help incoming medical students understand and discover which medical resources are most complementary to their MBTI type based on shared MBTI types with upperclassmen. Thus, incoming medical students may have a more personalized approach in determining which Step 1 study resources are most compatible with their learning style. While the results did show statistical significance for the U-World resource between T-F, this Q-Bank resource had the highest efficacy rating out of all resources for all MBTI subtypes. Future studies can address the limitations of this current study, such as obtaining a larger sample size and including clearer study survey instructions to ensure that all resources are appropriately rated.

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