
Meta-Analysis of Survey Data Related to Advising, 2012-2017

Purpose & Sources

Purpose

- What do undergraduate student surveys from the past five years tell us about student perceptions of advising?
- What factors are associated with higher or lower perceptions of advising?
- Do we see similar findings at peer schools?

Sources of Data

- Senior Survey
 - 2012, 2014, 2016
 - Peer data available
- Enrolled Student Survey
 - 2015
 - Peer data available
- Student Quality of Life Survey
 - 2013, 2017
 - No peer data

Approach

- Create composite variable to measure quality of academic advising that carries across surveys.
- Perform pairwise analysis of advising measure with various demographics
 - Where available, replicate analysis for peers.
- Use linear regression analysis to determine survey questions that significantly relate to perceptions of academic advising.

Creating Composite Variable

- Began with broad list of faculty-related variables that on their face might be related to advising, e.g., satisfaction with quality of advising in major, satisfaction with helpfulness of faculty outside the classroom, number of faculty who know me well enough to write a letter of recommendation, faculty members treat me fairly, etc.
- Used Principal Components Analysis (PCA) to look at students' patterns of responses to the different variables to determine if the variables were suitable to be combined into a single advising scale.

All Faculty Variables are Not Alike

- Below is an example of how 11 variables from Enrolled Student Survey group when using PCA.
- These variables are correlated but appear to be measuring something different.

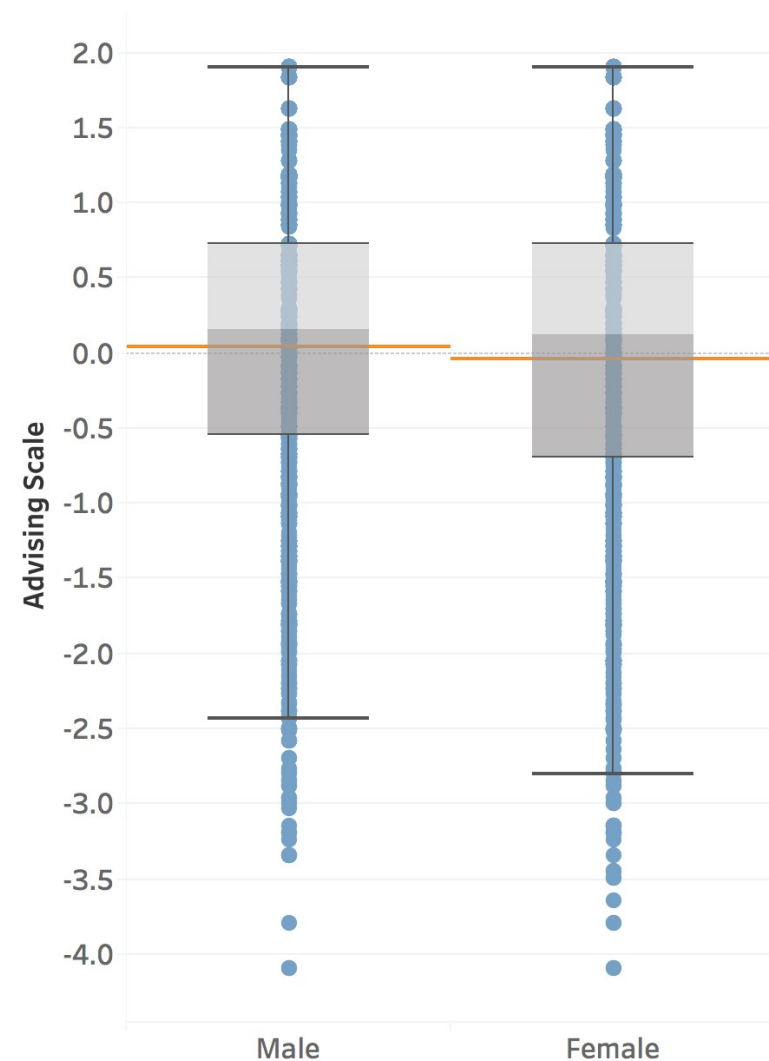
1. Faculty members give me positive reinforcement
2. Faculty members care about me as a person
3. Faculty members treat me fairly
4. Faculty members are willing to talk with me individually
5. How many faculty members know you well enough to provide a letter of recommendation in support of an application for a job, internship, fellowship, or advanced degree work?
6. Discussed your post-college plans with a faculty member
7. Had an intellectual discussion with a faculty member outside of class
8. Is there at least one faculty member at MIT who has taken a personal interest in your success?
9. Satisfaction with academic advising
10. I can talk with my academic advisor(s) when I need to
11. During the current academic year, have you sought advice from your academic advisor(s)? If so, did it help you?

General Findings

- Positive experiences with academic advising positively related to having meaningful relationships with faculty, in a variety of settings.
- Having positive view of MIT administrative and academic support is positively related with perceptions of academic advising.
- Higher levels of stress (specifically stress related to balancing family obligations) and higher levels of extra-curricular engagement are negatively associated with perceptions of advising.
- There is a small, positive association between GPA and advising. For each one point change in GPA (e.g., moving from 4.0 to 5.0), we see nearly a 3/10ths of a standard deviation increase in the advising score.

Male > Female at MIT but Not Peers

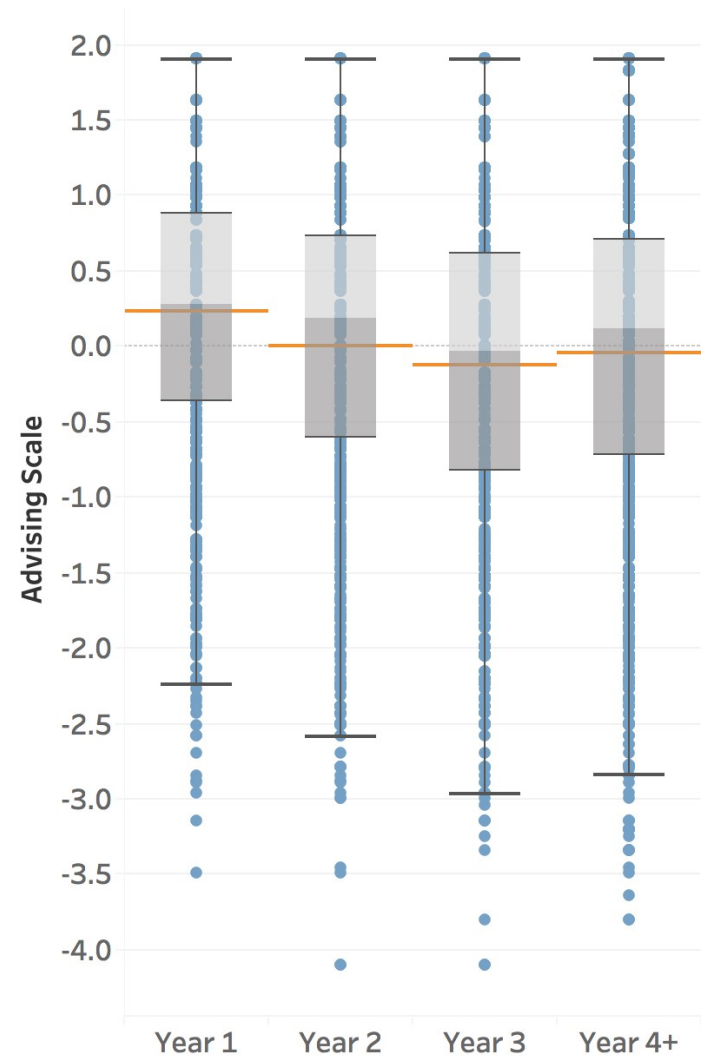
- Across all surveys, all years, male students at MIT report higher perception of advising than female students.
- But difference is small (less than $1/10^{\text{th}}$ of a standard deviation).
- No significant gender difference at Non-Ivy and Ivy peers.



Orange line = Average

More pronounced differences by class

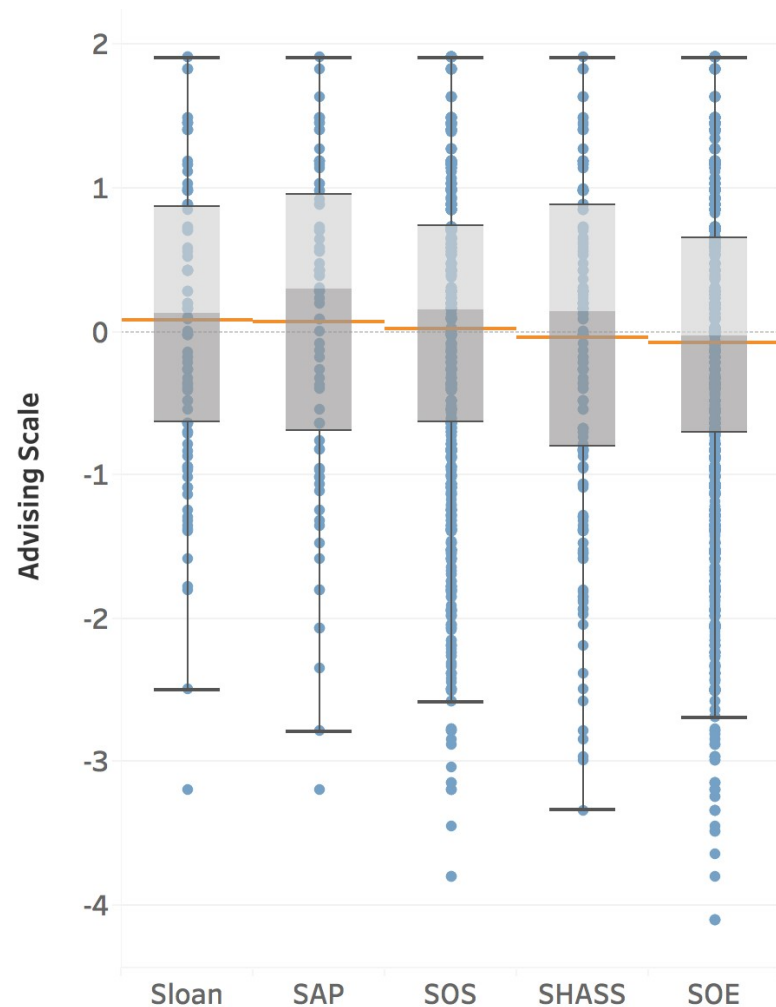
- Underclassmen at MIT, particularly freshmen, have higher ratings than upperclassmen.
- Similar findings at peer schools.



Orange line = Average

Science > Engineering

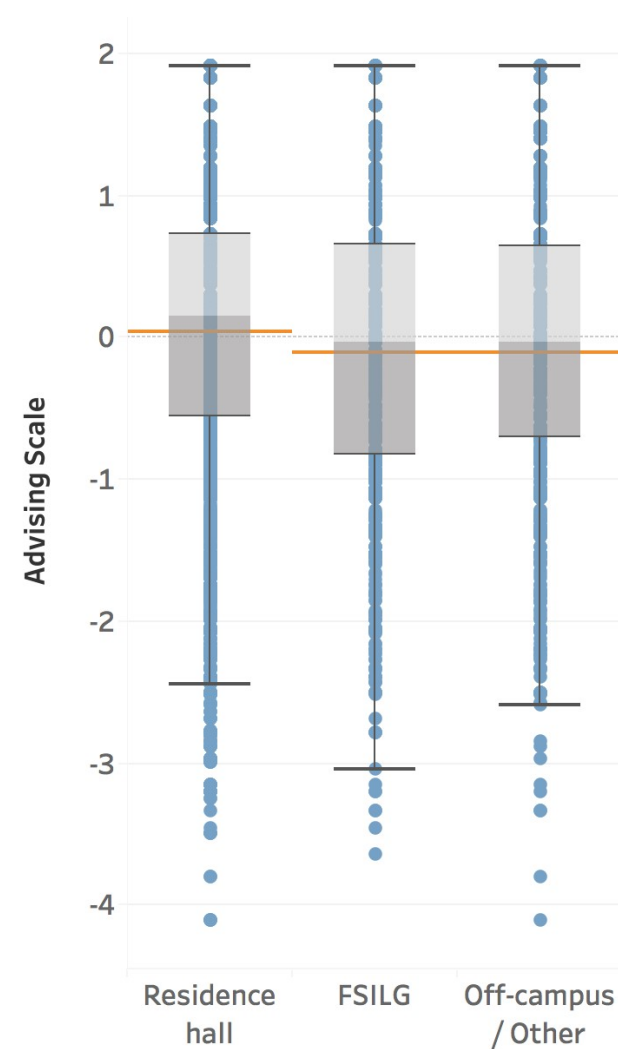
- Among MIT students with a declared major, School of Science majors have higher perceptions of advising than School of Engineering majors. Other differences not statistically significant.
- At peer schools, Engineering lower than other majors.



Orange line = Average

Residence Hall > Other Settings

- At MIT, living in a residence hall is associated with higher advising ratings than other living arrangements.
- Peer survey asked about membership in fraternity or sorority. Membership is associated with lower advising ratings at peer schools.



Orange line = Average