

Rachel Baker ([rachelbb@uci.edu](mailto:rachelbb@uci.edu))  
FHDA Research Memo

### A network analysis of major consideration

**Background:** Recent research in economics, sociology, and marketing has shown that the traditional model of decision making (we are aware of all options available to us, we carefully weight all options along a host of dimensions, we choose the option that maximizes our utility...) is unreasonable and unrealistic, particularly in situations where there a lot of options and the options vary along a number of dimensions. A more plausible model is a multi-stage model in which people are only aware of a subset of the available options, and only seriously consider a small subset of the options of which they are aware. In this study I employed such a model to examine which majors students are most likely to be aware of and to consider choosing.

**Data:** The data used in this study come from a survey I administered to ~300 students at De Anza in the spring of 2014.

**Research Design:** I conducted a network analysis of students' consideration sets. That is, I examined the groups of majors that tend to move together. For example, when students say that they would consider choosing English, what other majors would they consider choosing? I conducted this network analysis for the full sample of students as well as particular subgroups. For each consideration network, I examined two statistics: overall clustering (of how likely majors' "friends" are to be "friends" with each other) and homophily (how similar "friends" are to each other).

**Findings:** I found that there are clear trends in the kinds of majors that travel together (shown in Figure 1). Overall, students tend to consider similar majors (homophily is high) and there are a couple of distinct clusters (both of these are shown in the network diagram in Figure 2). Latino, Asian, and older students (older than 21) have the highest clustering. Male and Asian students have the highest levels of homophily. Understanding this process could help schools make decisions about how introductory classes are organized (for example, maybe business administration and marketing should share introductory classes, so students can choose a major after taking these classes) or make curricular changes that could reduce segregation (for example, many female students who are considering child development are also considering administrative justice—could changes to these programs affect the number of students who ultimately choose these majors?).



## Consideration Network, All Students

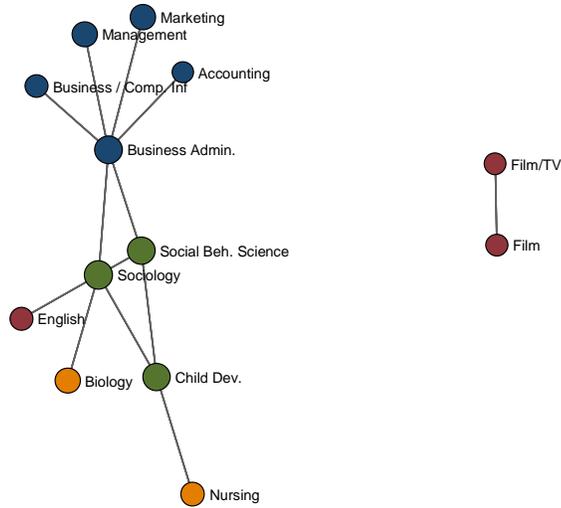


Diagram does not show majors without any links.

Thin (thick) ties indicate that >20% (>40%) of students would consider both majors.

Colors: Yellow = Sci/Math/Eng., Blue = Bus/CS/Tech, Green = Human./Soc. Sci, Red = Arts/Lang

Nodes are sized by prop. of studs. who would consider.