

# Associations Between Refrigerator Size, Type and Number of Household Members

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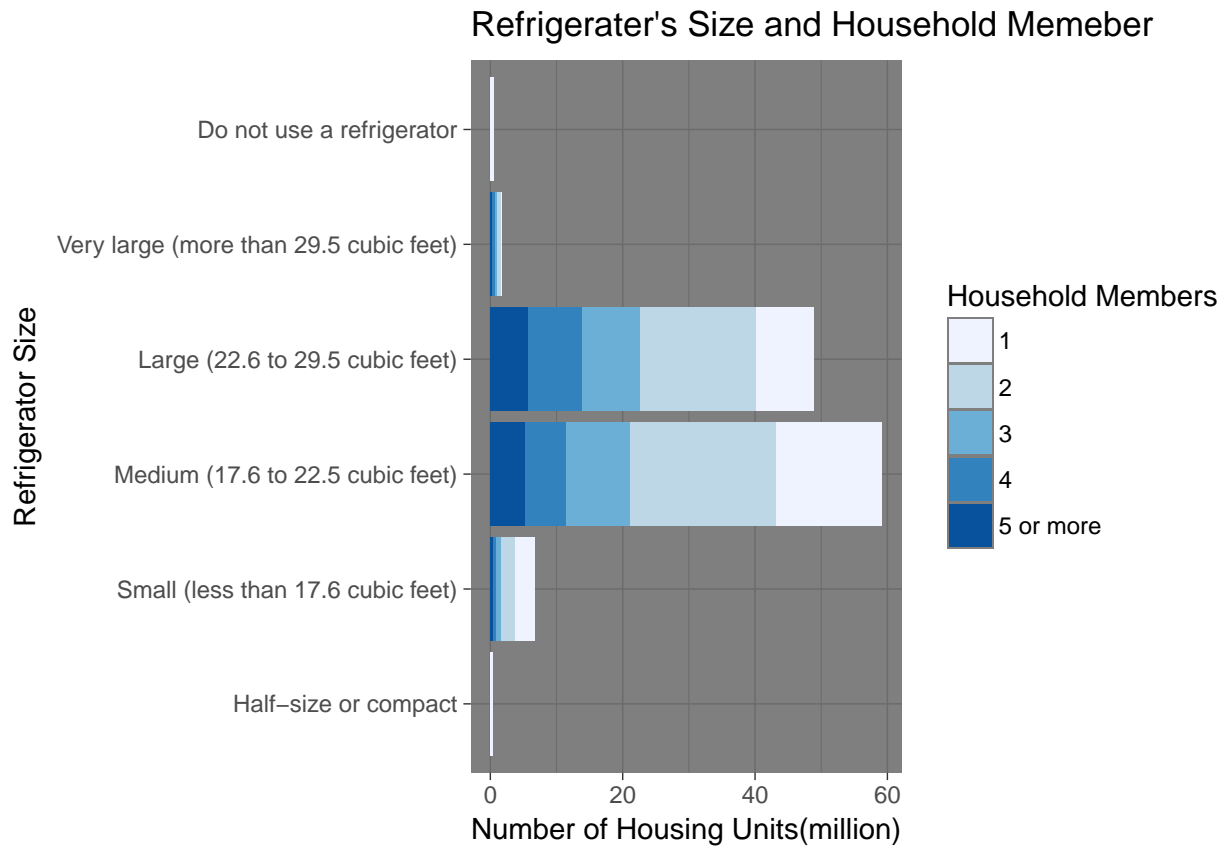
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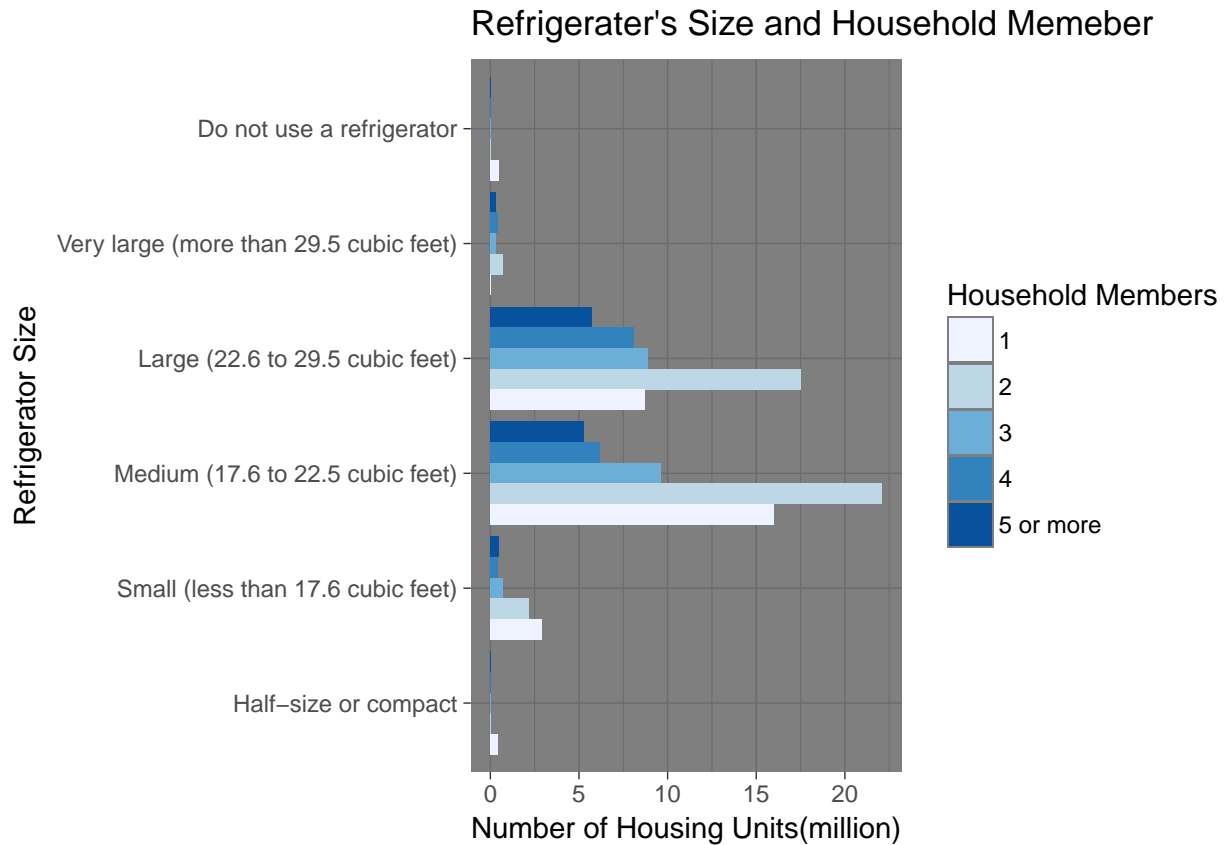
The purpose of this project is to help refrigerator manufacturer better evaluate the target consumer and the consumer demand. After analysing the refrigerator data from US. Energy Information Administration. We would like to explore the relation between the number of household members with the different size and type of refrigerators.

## Refrigerater's Size VS Household Memeber

According to the data, there are 5 kinds of refrigerator: "Very large", "large", "Median", "Small", "Half-size and compact" and "Do not use refrigerator". Total\_pop stands for the total number of household units who choose certain size of refrigerators. We divide the numbers of household members into 5 levels, 1, 2, 3, 4, 5 or more household members.

## EDA



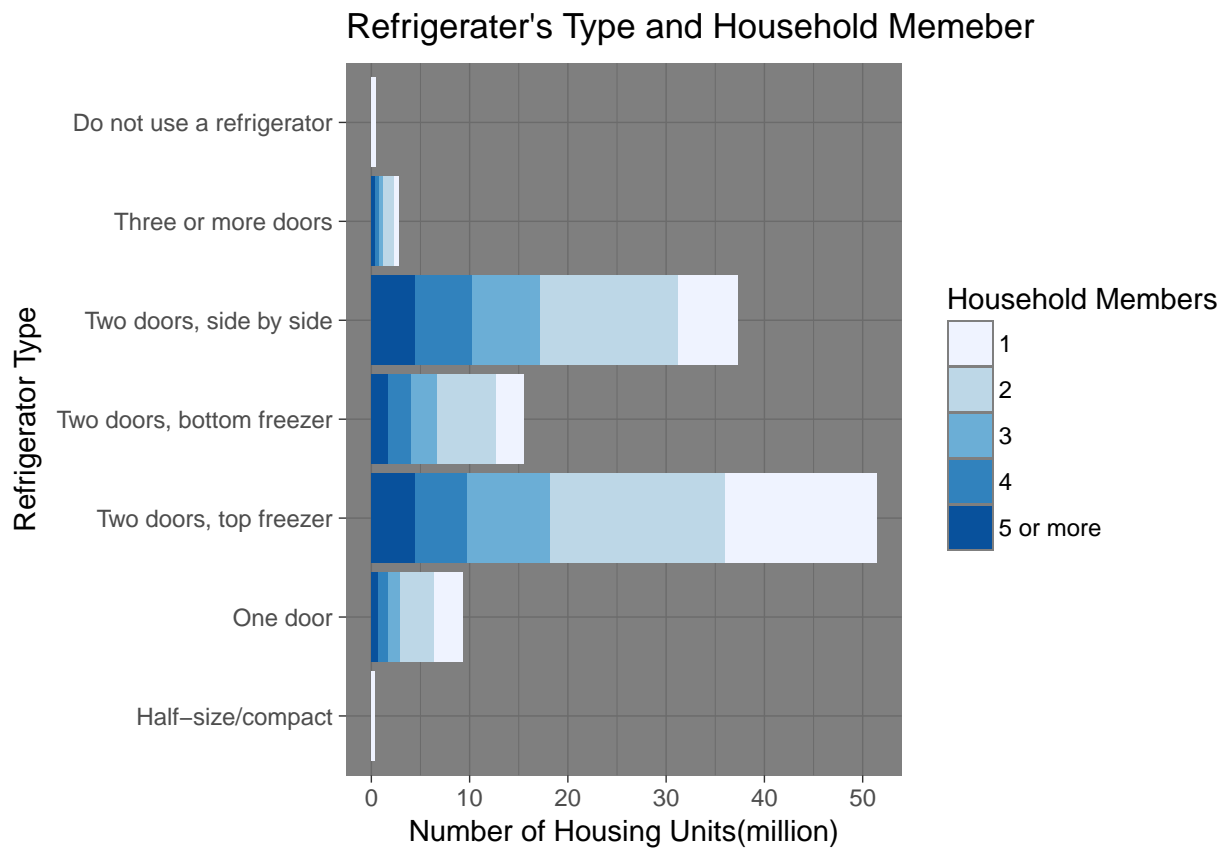


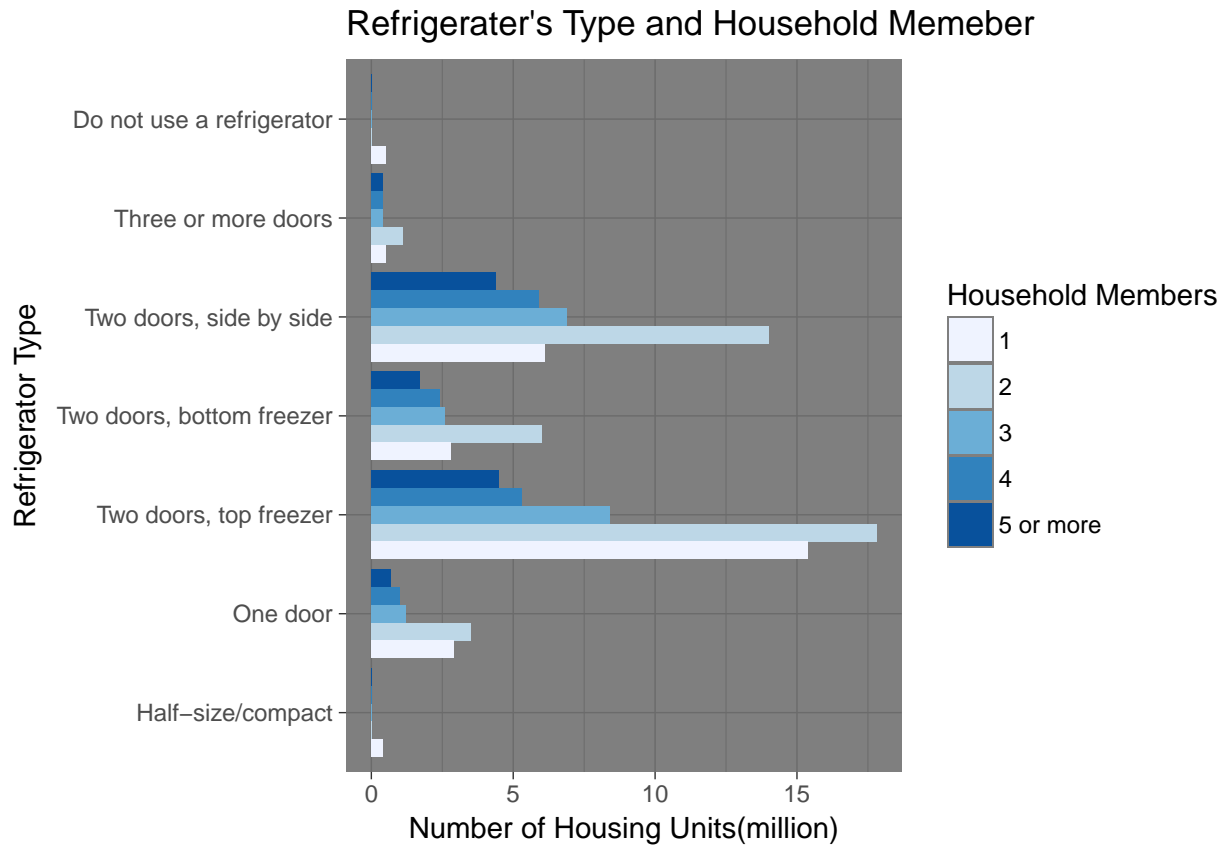
As the graph shows, most of families bought medium or large size refrigerators, few people do not use a refrigerator. Only a few people would buy half-size or compact or very large size. In this picture, we can also conclude that if a family has 2 people, they will have high possibility to buy medium size.

### Refrigerator's Type VS Household Member

Similar as part 1, there are 7 kinds of refrigerator: "Two doors, top freezer", "Two doors, side by side", "Two doors, bottom freezer", "Three or more doors", "Three or more doors", "One door", "Half-size/compact", "Do not use refrigerator".

## EDA





From the bar plot, we observe “Two doors, top freezer” is the most popular type of refrigerator. Household with two members is the most common family. Thus refrigerator manufacturer should mainly target on the household with two members. For one member household, they prefer upper freezer than side by side two door refrigerator.

## Our Recommendation

1. The refrigerator manufacturer should produce more medium or large size refrigerators.
2. The refrigerator manufacturer could spend less time in producing half-size or compact.
3. The company should target two member household and focus more on their demand.
4. The manufacturer should produce more top freezer refrigerator since they are more popular in households who purchase two door refrigerator.

## Collaboration

Jinghan Cui and Sijia Li analyse the relationship between the number of household member and the refrigerator size. Siran Zhao and Mengyun Li analyze the relationship between the number of household member and the refrigerator type.