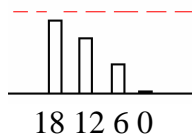


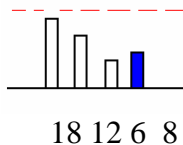
Imagine that you work for an aid agency helping people secure vitamin supplements from the limited stock available. Suppose that you have to choose how to distribute 20 milligrams of vitamin among four people to help them avoid risk of illness caused by vitamin-deprivation. If a person does not end up with a total of 20 milligrams that person will have some risk of serious illness. Suppose you know that the more milligrams a person has the less likely that person is to get sick and that having even a single milligram will lower a person's risk of disease. You are also able to figure out how much vitamin each person is already receiving. So, after doing a few calculations, you create the diagram below illustrating how many milligrams each person already has and needs.



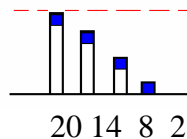
Each rectangle represents a person. The dotted line denotes the level at which people can meet their needs -- *the needs threshold*. The height of each rectangle shows how close a person comes to being able to meet their needs. The first person has 18 milligrams, so needs two milligrams to get enough vitamin. The second person has 12 milligrams, so needs eight milligrams to get enough vitamin. The third person has six milligrams, so needs 14 milligrams to get enough vitamin. The last person has no vitamin, so needs 20 milligrams to get enough vitamin. What should you do if you cannot enable everyone to meet their needs?

You have four options:

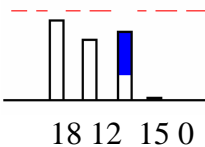
Option 1: You can give 8 milligrams to the last person (who originally has 0 milligrams and needs 20). This will be the result (your donation is in blue):



Option 2: You can give 2 milligrams to each person. This will be the result:

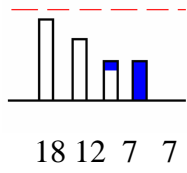


Option 3: You can give 9 milligrams to the third person (who has 6 milligrams and needs 14). This will be the result:



Option 4: You can give 7 milligrams to the last person (who has 0 milligrams and needs 20) and

1 milligram to the third person (who has 6 milligrams and needs 14). This will be the result:



Curious about how people responded?

This was the distribution of rankings:

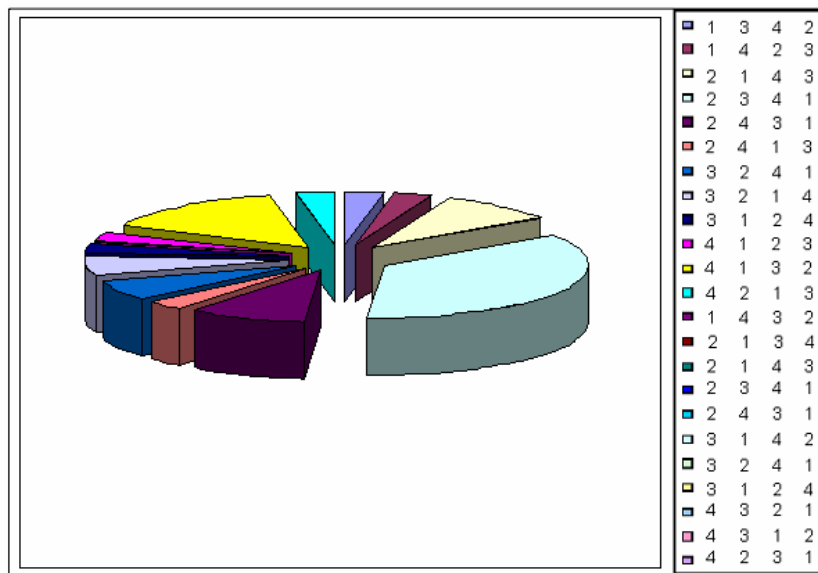


FIGURE 1. Experimental Results

Out of 33 participants, 12 ranked the options in the following order: 4, 2, 1, 3. A significant number also chose 4, 1, 3, 2.