

## Supplemental Material 2: Results from pre-meeting survey ASCPT 2023 Annual Meeting

We conducted a survey amongst American Society of Clinical Pharmacology & Therapeutics (ASCPT) 2023 Annual meeting participants to explore whether they had experienced or observed behavioral biases and whether these biases have impacted decision-making across their respective professional organizations. The survey also tested whether the respondents were subject to framing bias and loss aversion bias and inspired by research done by Kahneman and Tversky (1984). The survey questions are listed in **Supplemental Materials 1**.

Acknowledging that the survey had a small sample size of responders (total of 37; 14 from Academia, 14 from Industry and 7 from Other (i.e. consulting, government, healthcare), it brought forward a few interesting observations. All listed biases were recognized and prevalent in the respondents' respective organizations, with only a few respondents not having observed or experienced a specific bias. Most often the confirmation and sunflower management bias were observed. Somewhat surprisingly the sunk cost fallacy and inappropriate attachment were least often observed (**Supplemental Figure 1**). When grouped together into common bias groups, the social and pattern recognition biases were regularly observed, while a larger fraction of the respondents did indicate that interest biases were rarely observed (**Supplemental Figure 2**). Respondents also indicated that a variety of bias mitigation measures were used in their organizations (**Supplemental Figure 3**).

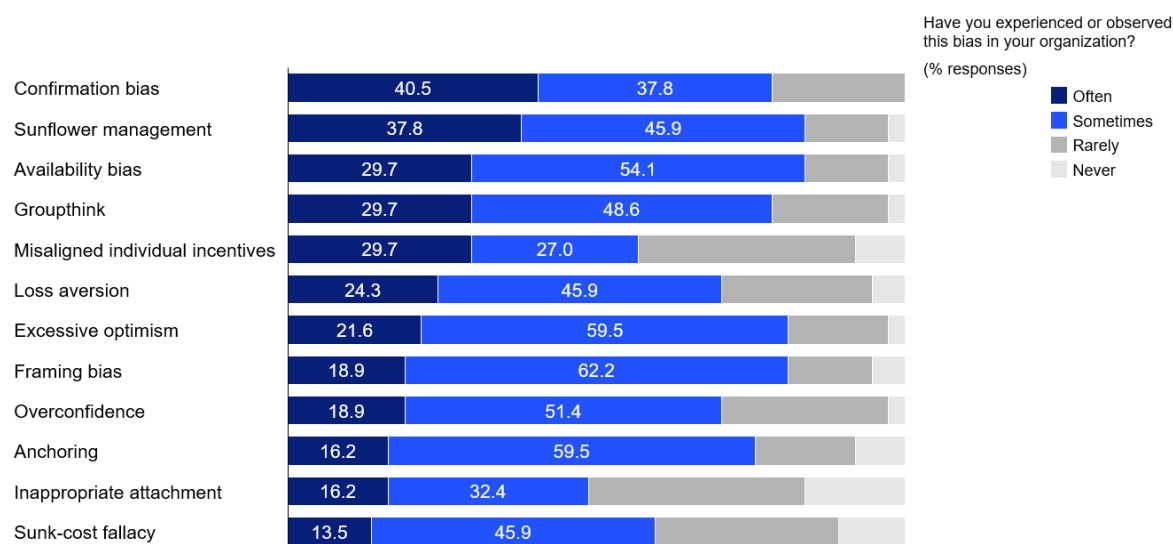
To assess the framing bias, a question was asked twice while framing the options in two different ways. First way of framing was: "Imagine you are preparing for the outbreak of a disease which is expected to kill 600 people. If Program A is adopted, 200 people will be saved. If Program B is adopted, there is a 1/3 probability that 600 people will be saved, and 2/3 probability that no people will be saved. What program would you prefer?". The second way of framing was: "Imagine you are preparing for the outbreak of a disease which is expected to kill 600 people. If Program C is adopted, 400 people will die. If Program D is adopted, there is a 1/3 probability that nobody will die and 2/3 probability that 600 people will die. What program would you prefer?". From an outcome perspective, program A and C result in the same results,

as well as Program B and D. Hence, in an unbiased way, similar number of respondents are expected to choose A and C. As highlighted in **Supplemental Figure 4**, the choices were not made consistently as the first framing provides the options in relation to number of people surviving, and the second framing in relation to number of people dying. In the first framing, a preference goes out to Program A and in the second way of framing to Program D. These findings were very similar to the historical assessment (Kahneman and Tversky 1984).

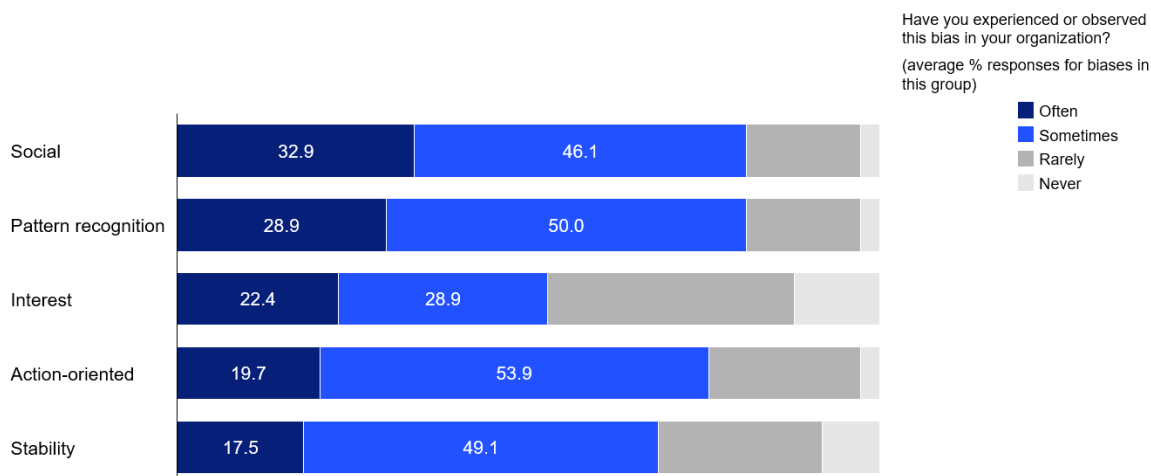
### Reference:

Kahneman, D., & Tversky, A. (1984). Choices, values, and frames. *American Psychologist*, 39(4), 341–350. doi.org/10.1037/0003-066X.39.4.341

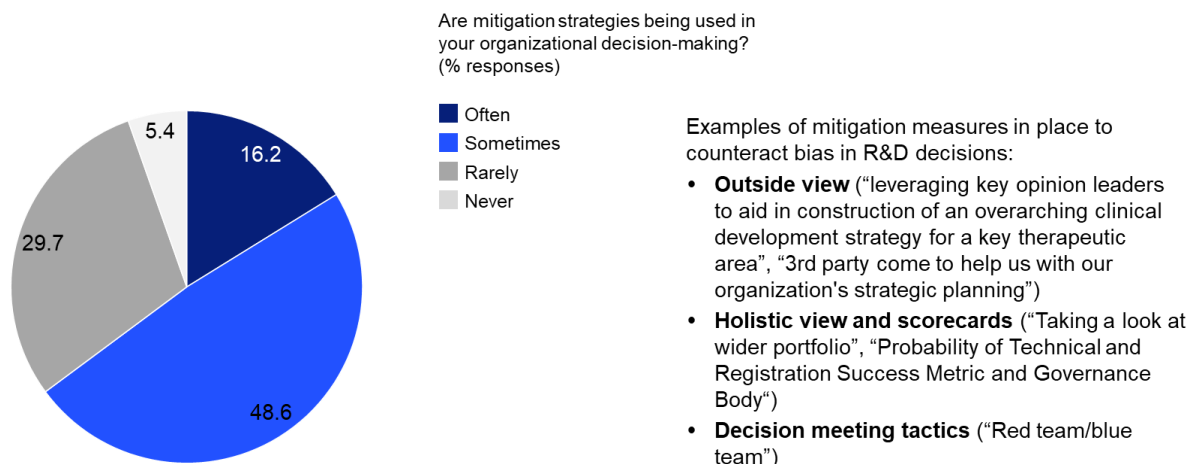
**Supplemental Figure 1** – Frequency of recognizing common biases in R&D organizations based on the survey results amongst the ASCPT 2023 Annual meeting participants (n=37).



**Supplemental Figure 2** – Frequency of recognizing common bias groups in R&D organizations based on the survey results amongst the ASCPT 2023 Annual meeting participants (n=37).



**Supplemental Figure 3** – Frequency of applying bias mitigation measures based on the survey results amongst the ASCPT 2023 Annual meeting participants (n=37).



**Supplemental Figure 4:** Illustration of framing bias based on the survey results amongst the ASCPT 2023 Annual meeting participants (n=37). Responders demonstrated differential preference for program A and C, as well as for program B and D, although the outcome on survivors is similar.

### Which program would you choose?

If **Program A** adopted, 200 people will be saved

**Program A**

Responses, %

84

If **Program B** adopted, there is a 33% chance that 600 people will be saved, and 67% chance that no people will be saved

**Program B**

16

### Which program would you choose?

If **Program C** adopted, 400 people will die

**Program C**

Responses, %

45

If **Program D** adopted, there is a 33% chance that no one will die, and 67% chance that 600 people will die

**Program D**

55

