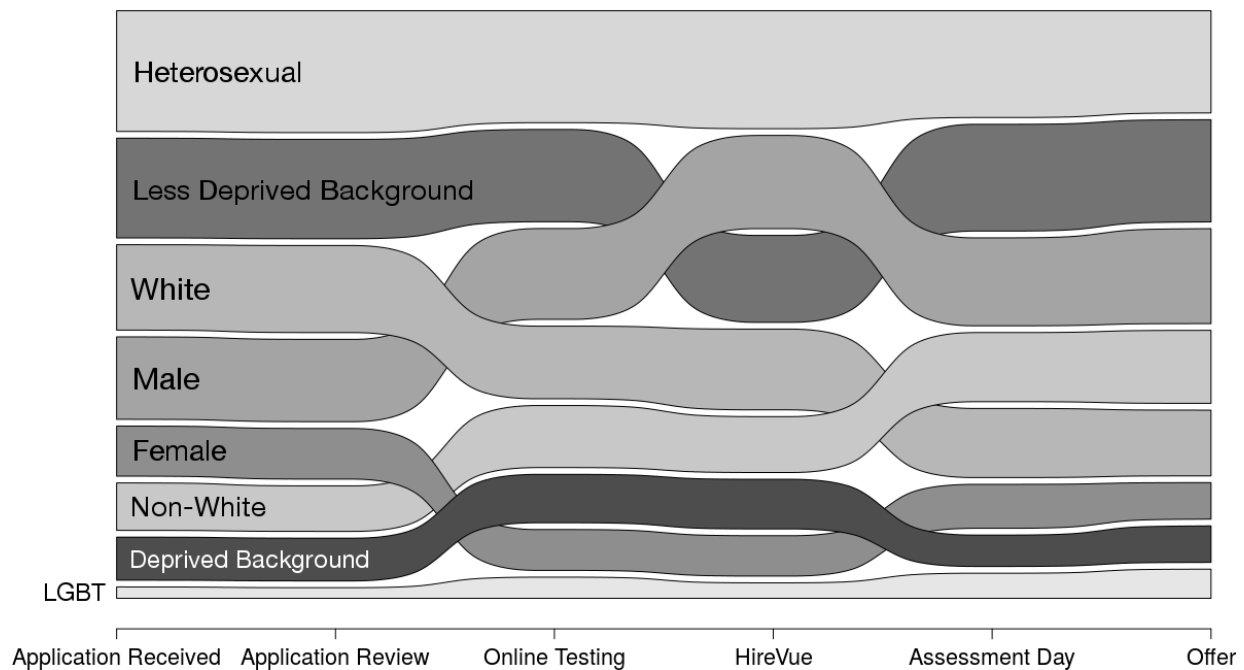# Biases and Metrics in the Recruitment Process

Reducing bias towards disadvantaged and minority groups in the recruitment process is key to building more a more diverse and fairer business. We will look at potential biases in the graduate scheme recruitment process at Company X.

On first inspection, the recruitment process seems fair:

Whilst one can see in the plot[1] that there is some change in the relative percentages of applicants as the recruitment process progresses, there is nothing clearly biased here. We have excluded applications that were withdrawn.

[1] This plot, known as an alluvial or Sankey plot, shows changes over the recruitment process in the relative percentage of applicants, separated by gender, sexual orientation, white/non-white ethnicity and, finally, by PiC's advantaged/disadvantaged background metric (here separated simply into "less deprived" and "deprived" where the metric is less than or greater than 50, respectively.

*Looking further at ethnicities is more interesting:*
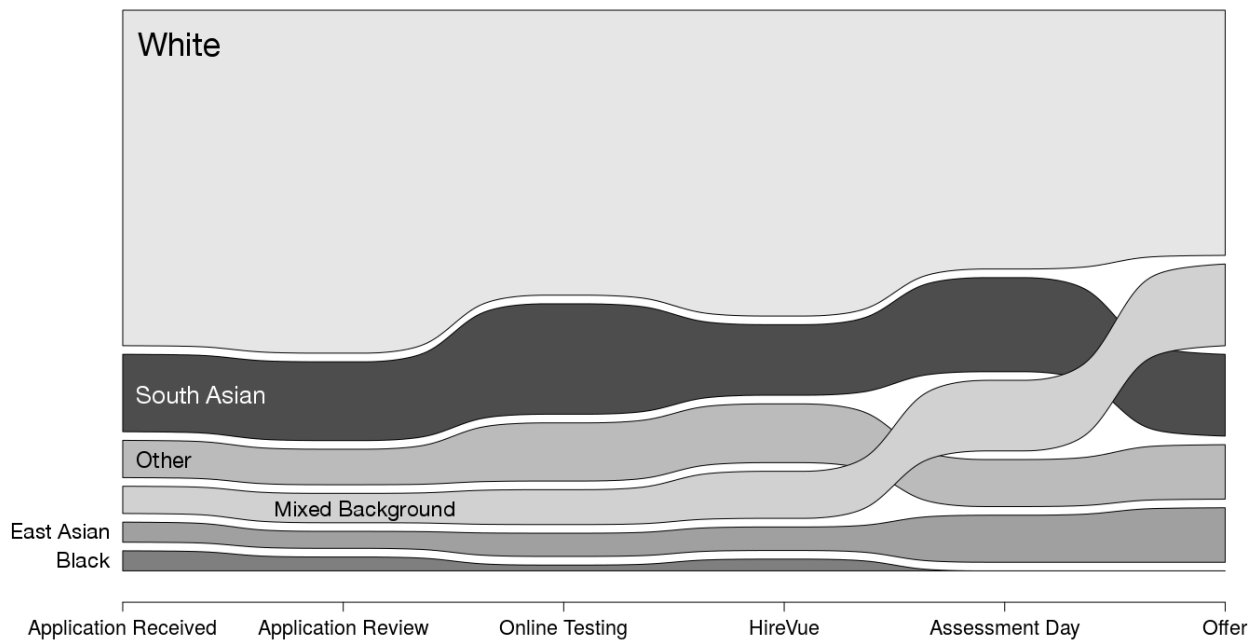
We can see that applicants from mixed ethnicity background perform *disproportionately well.* No black applicants make it to the offer stage but so few apply that we can't claim that this is significant.

Taking a Closer Look

We've looked at how applicants proceed through the recruitment process. What turns out to be more interesting is looking at how likely applicants are to drop out.

Is the recruitment process unpleasant or intimidating for some minorities?

This is an important question to address. The chart overleaf shows the percentages of dropouts from each of the minority groups above.
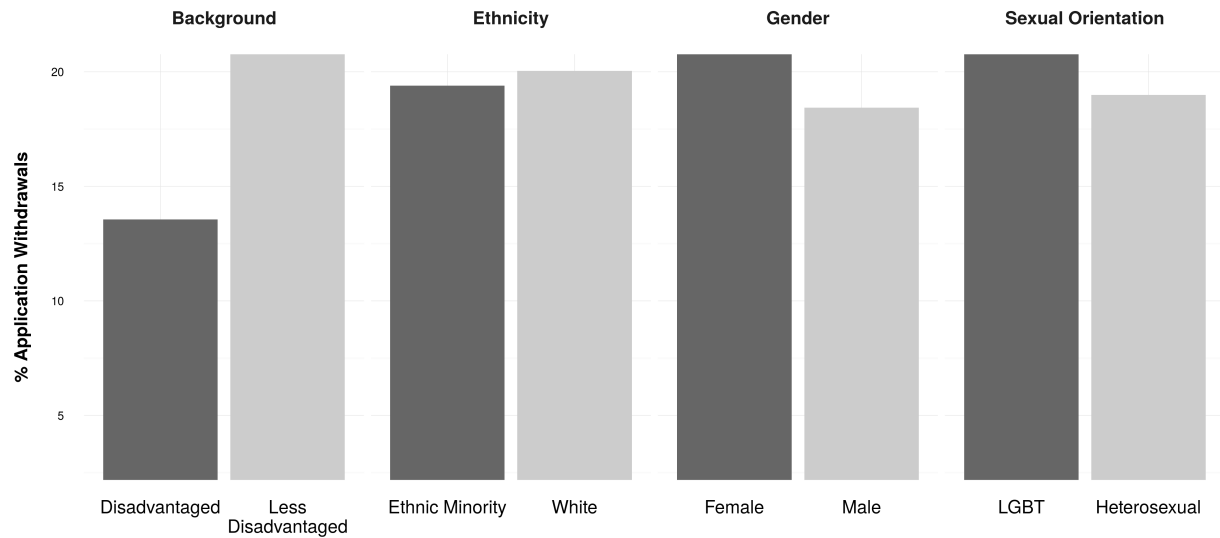
There is a clear difference at first sight:

**Candidates from less disadvantaged backgrounds
are more likely to withdraw from the application
process.**

Actually, there is a significant difference for gender too. An analysis
of the data[2] tells us that:

- There is a **3%** chance that the difference between candidates
from disadvantaged and less disadvantaged backgrounds is
a statistical error.

- There is a **less than 1 in 4** chance that the increased
likelihood of women dropping out is a statistical error.

[2] The analysis used was so-called **p-testing**, which allows us to see how likely our results are to have happened by chance, based on the assumption that there is "should be" no underlying bias.

How Else Can We Help?

In addition to analysing data to look at bias, PiC can offer extra help in the recruitment process.

Whilst the PiC scoring system looks only at a candidate's performance in the context of their background and places of education, a naive analysis shows that the PiC score can help to predict how well a candidate will fare in the recruitment process: