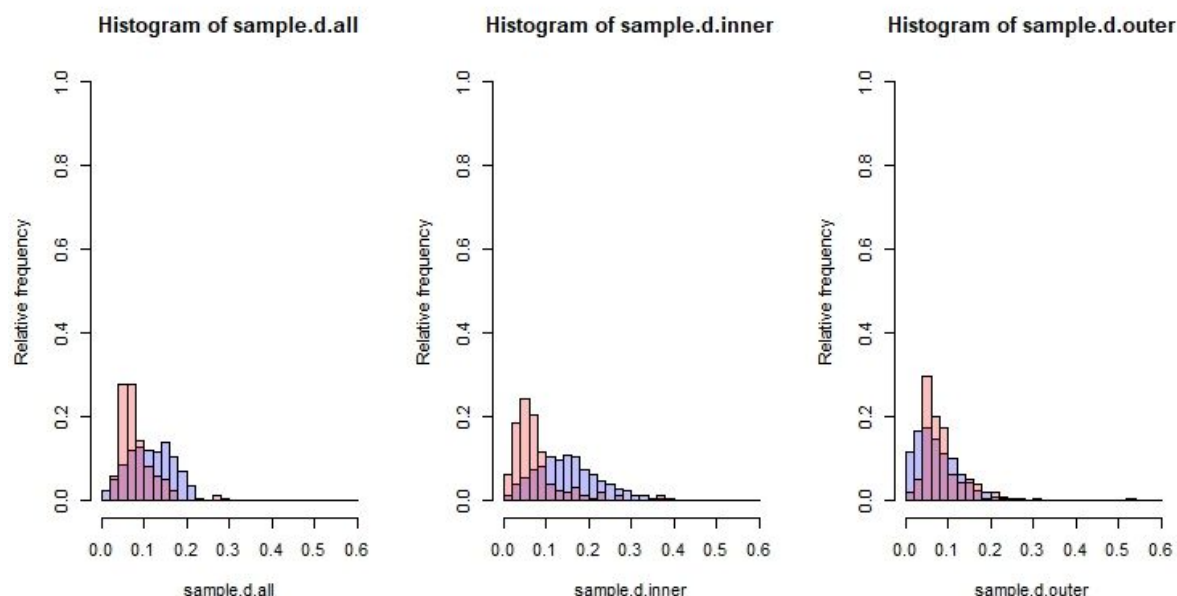
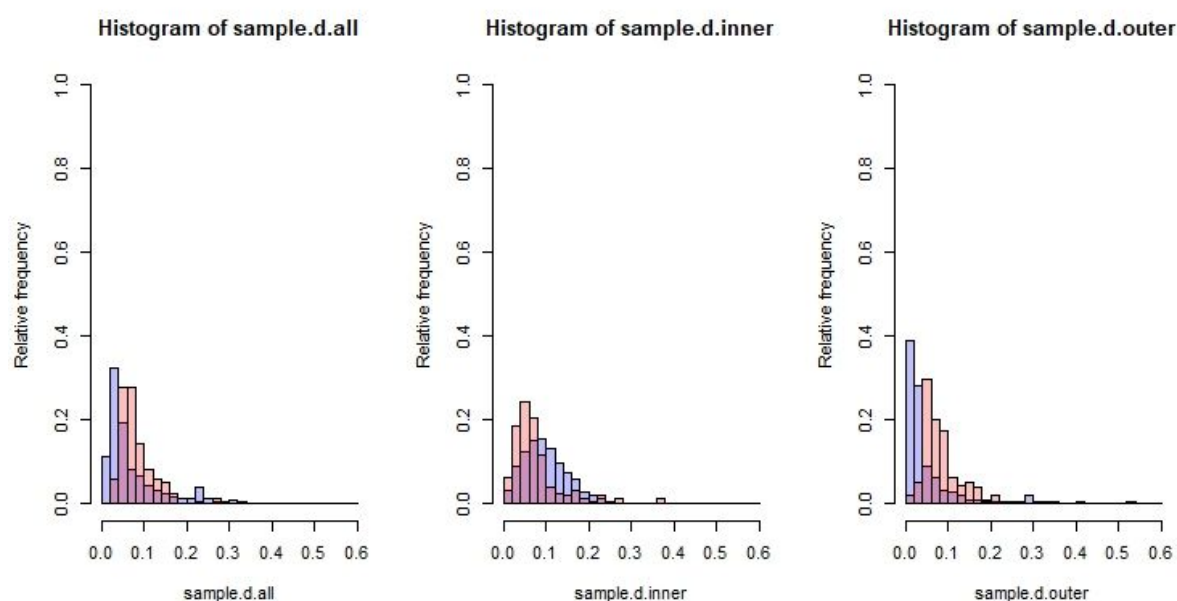


# Supplementary Material 5: Comparison of distributions of $d_1$ , $d_2$ and $d_3$ against Venn diagrams generated from various distributions

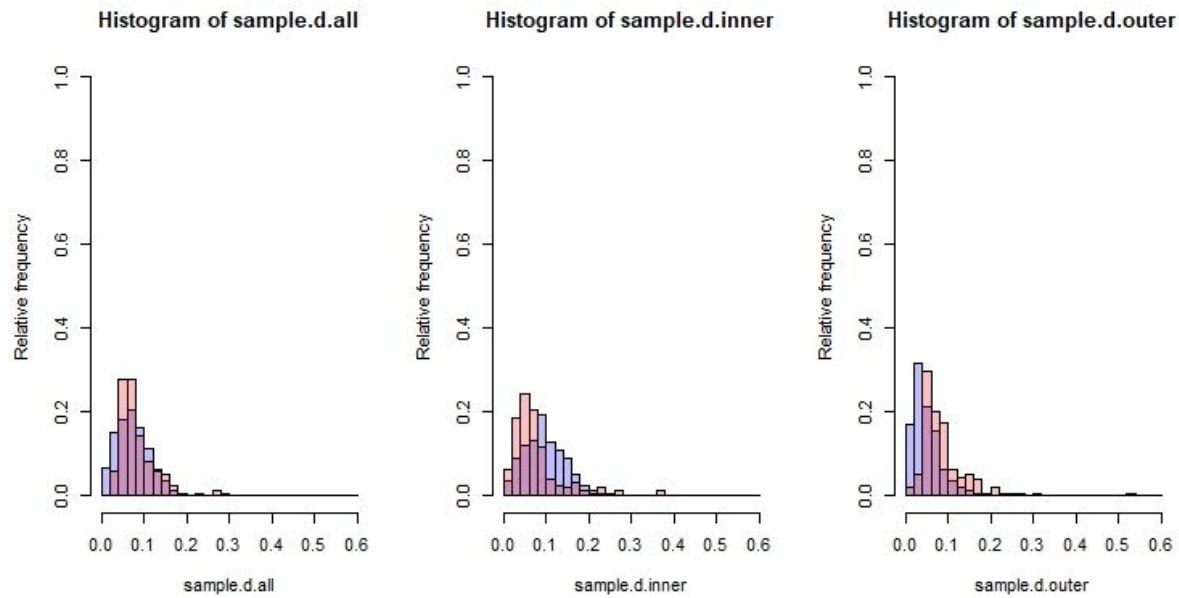


**Figure A4.1: Histograms of  $d_1$ ,  $d_2$  and  $d_3$  (left to right, respectively) for our data (in red) and for randomly generated Venn diagrams (in purple) from independent uniform distributions.**



**Figure A4.2: Histograms of  $d_1$ ,  $d_2$  and  $d_3$  (left to right, respectively) for our data (in red)**

and for randomly generated Venn diagrams (in purple) from multivariate skew Cauchy distribution<sup>1</sup>.



**Figure A4.3: Histograms of  $d_1$ ,  $d_2$  and  $d_3$  (left to right, respectively) for our data (in red) and for randomly generated Venn diagrams (in purple) from multivariate skew normal distribution<sup>2</sup>.**

<sup>1</sup> Parameters estimated from data. Values were generated using the `mscFit` command in R package `fMultivar`.

<sup>2</sup> parameters estimated from data. Values were generated using the `msnFit` command in R package `fMultivar`.