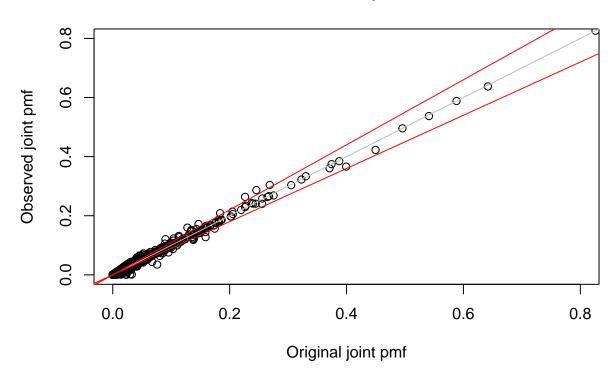
## MAR 30% missing: For comparison

```
# sample MCAR dataset from PUMS
source("../../utils/sampleMAR30.R")
n = 10000
missing_col = c(1,3,7,9,10,11)
set.seed(2)
output_list <- sampleMAR30(n)
df <- output_list[['df']]
df_observed <- output_list[['df_observed']]
apply(is.na(df_observed), MARGIN = 2, mean)</pre>
```

## VEH MV NP RMSP ENG MARHT SCHL RACNUM AGEP WKL PINCP ## 0.3074 0.0000 0.2605 0.0000 0.0000 0.3424 0.0000 0.3227 0.3078 0.3049

Assess bivariate joint distribution

## **Bivariate pmf**



Assess trivariate joint distribution

## Trivariate pmf

