IPTW quiz

08.07.21 11:12

Q1) IPTWeighting involves weighting data by:

- $\frac{1}{ps}$: for treated subjects
- $\frac{1}{1-ps}$: for control subjects

} ps.. propensity score

Q2) Among control subjects (true treatment = 0), would someone with a high value of the ps get more or less weight than someone with a low ps?

weight (control subject w/ high ps) >
weight (control subject w/ low ps)

→ Answer: more weight.

Q3) Marginal structural models (msm) are used to model:

→ average causal effects (ACE)

Q4) The pseudo-population refers to the population:

→ after weighting

Q5) Compared to situations where weights are small, large weights lead to causal effect estimates that are:

→ more variable

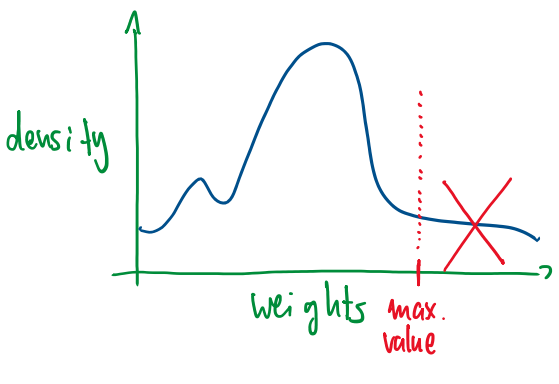
Q6) Near violation of the positivity assumption occurs when there are some weights that are very large:

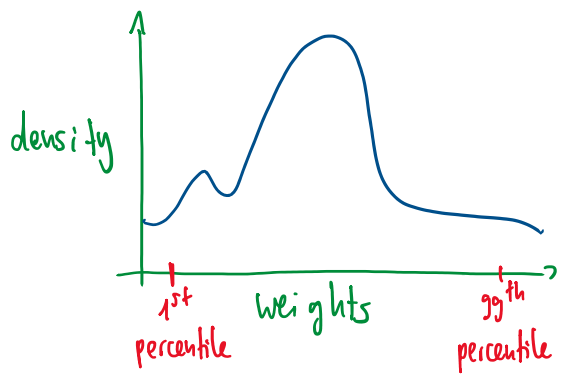
→ True, blc weight = $\frac{1}{ps}$, so if weight large, then ps very small → ps small ≡ low chance of receiving a treatment → thus near violation of positivity assumption.

Q7) Weight truncation is the same as trimming the tails (of the weights distribution)?:

→ False: blc truncation only cuts weights larger than max. value (e.g. 10 as in tutorial R example). Whereas truncation cuts weights larger AND smaller than left and right-hand dist. threshold values

truncation: trimming tails:





Q8) Weight truncation, compared to no weight truncation, will likely lead to causal effect estimates:

→ LESS VARIANCE & MORE BIAS

Q9) Doubly Robust Estimators require that:

→ either the propensity score model OR the outcome model are correctly specified

- DR estimator a.k.a. augmented IPTW (AIPTW) estimator
  - ↳ guaranteed unbiasedness of estimator
  - ↳ more efficient (i.e. smaller variance associated w/ estimates).