Quiz notes matching

Q1) Matching and calculation of standardized (mean) differences (smd) can take place w/o using the outcome variable?

→ TRUE

Q2) Optimal matching is less comp. demanding than greedy matching?

→ FALSE

Q3) A smaller value of the calliper would tend to lead to:

→ Smaller standardized differences (smd) because pairs w/ "bad" match (i.e. large difference would be dropped)

Q4) Many-to-1-matching as opposed to pair-matching (1-to-1) would tend to lead to estimates of causal effects w/ :

→ more bias & less variability : b/c we end up with more total #samples when using many-to-1 matching.

Q5) Method for assessing the impact of violations of the causal assumptions (esp. ignorability assumption) is:

→ Sensitivity analysis

Q6) Standardized differences (i.e. smd) is very sensitive to sample size n:

note that $smd = \dfrac{\bar{X}_{treat} - \bar{X}_{control}}{\sqrt{\dfrac{s^2_{treat} + s^2_{control}}{2}}}$

is independent of n!

→ answer: FALSE.

$smd = \dfrac{\bar{X}_{treat} - \bar{X}_{control}}{pooled\ std} = \dfrac{\bar{X}_{treat} - \bar{X}_{control}}{\sqrt{\dfrac{s^2_{tr} + s^2_{con}}{2}}}$