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STATISTICS COLLOQUIUM

MONDAY, MARCH 30, 2015

TALK: 4:15 PM — SCIENCE CENTER RM. 705

RECEPTION: 3:50 PM — SCIENCE CENTER, 7TH FLOOR

“Propensity Score Calipers and the Overlap Condition”

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ABSTRACT

Propensity scores (Rosenbaum and Rubin, 1983) are used widely to address measured confounding in quasiexperiments. They also arise in connection with the antecedent question of whether non-equivalent treatment and control groups are suitable for comparison at all, with or without covariate adjustments.

“Common support”, the assumption that propensity scores are bounded away from 1, is so named because for large samples it entails that the propensity support of the treatment group be contained within that of the control group. This entailment may appear to be simple to check, but it is not: it refers to true propensity scores, not estimates of them; and even if true propensity score supports coincide supports on the estimated propensity often will not. The few methodologists who have addressed the issue have tended to do so by changing the subject, pursuing objectives other than the straightforward one of ensuring that like be compared to like (Crump *et al*, 2009; Rosenbaum 2012). I suggest an alternate approach based on caliper matching, using a novel procedure to determine the value of the caliper and applying it to examples from education and public health.