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Confidence Intervals On Subsets May Be Misleading

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ERRATA

Confidence Intervals On Subsets May Be Misleading

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This errata pertains to Shaffer (2004, “Confidence intervals on subsets may be misleading”, *Journal of Modern Applied Statistical Methods*, 3(2), 261-270). The section entitled “Conditioning when significant results in one direction only are noted” (p. 267-269) has some errors, and the associated Table 3 has an incorrect heading.

(a): The last sentence should be changed to: If the true value is in the direction that is reported, the values in Table 1 are underestimates of the probabilities that the reported intervals cover the true values. Table 4 below gives the probabilities in this case.

(b): The second sentence should be changed to: If the favored direction happens to be the true one, the confidence interval coverage will be greater than the nominal .95 coverage, changing from .97 at the origin (effect size 0) to .95 as the effect size increases.

(c): The correct heading of Table 3 is:

Table 3: Probability that the nominal .95 confidence interval covers the correct value when the results are not significant in the true direction, for a two-sample z test (values in parentheses are probabilities that the intervals are reported; dividing the entries by these probabilities gives the conditional coverage of the intervals, given that they are the only ones reported)

Table 4: True conditional probability that the nominal .95 confidence interval based on the z test covers the correct value, given rejection of the null hypothesis in the correct direction (values in parentheses are probabilities of rejection in the correct direction)

	Effect size				
Sample size	.1	.2	.3	.4	.5
5	.30(.05)	.50(.06)	.64(.07)	.73(.10)	.79 (.12)
10	.39(.05)	.62(.07)	.75(.10)	.83(.15)	.87(.20)
20	.50(.06)	.73(.09)	.84(.16)	.90(.24)	.93(.35)
30	.57(.07)	.79(.11)	.88(.21)	.93(.34)	.95(.48)
40	.62(.07)	.83(.14)	.91(.26)	.94(.43)	.96(.60)
50	.65(.08)	.85(.17)	.92(.32)	.95(.51)	.96(.70)