Correction to: A Selective Review of Negative Control Methods in Epidemiology

Xu Shi¹ · Wang Miao² · Eric Tchetgen Tchetgen³

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Correction to: Current Epidemiology Reports (2020) 7:190–202

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The original article unfortunately needs corrections.

- (1) Page 194 Assumption 5: please change from “ $W \perp f \perp U \mid X$ and $Z \perp f \perp U \mid A, X$ ” to “ $W \not\perp U \mid X$ and $Z \not\perp U \mid A, X$ ”
- (2) Page 195 Table 2: could you make sure that all reference numbers greater than 50 are added by one in this table (during the production process last time, a newly published paper was added and cited as [50], but in Table 2 the subsequent reference numbers did not get to be shifted by one). Specifically,
 - (a) Line 3 of Table 2: change from “[60,61]” to “[61,62]”
 - (b) Line 5 of Table 2: change from “[62]” to “[63]”
 - (c) Line 7 of Table 2: change from “[63,64]” to “[64,65]”
 - (d) Line 8 of Table 2: change from “[13,65]” to “[13,66]”
 - (e) Line 9 of Table 2: change from “[66]” to “[67]”
 - (f) Line 10 of Table 2: change from “[67-69]” to “[68-70]”
- (3) Page 196 Assumption 7: please change from “ $W \parallel Z \mid A = a, X$ ” to “ $W \not\perp Z \mid A = a, X$ ”

- (4) Page 196 line 16 in the right column of text (the line above the Rationale section): please add to the end of the sentence: “is not equal to zero for all a, x .”
- (5) Page 197 line 15 from the bottom in the left column of text (4th line below Eq. (7)): please change from “ $\beta_{YU} \beta_{YA}$ ” to “ $\beta_{YU} \beta_{UA}$ ”
- (6) Page 197 line 2 from the bottom in the left column of text (17th line below Eq. (7)): please change from “ $\beta_{YU} \beta_{YA}$ ” to “ $\beta_{YU} \beta_{UA}$ ”
- (7) Page 197 line 26 (line 7 of second paragraph) in the right column of text: please change from “ $\beta_{YU} \beta_{YA}$ ” to “ $\beta_{YU} \beta_{UA}$ ”
- (8) Page 197 line 9 from the bottom in the right column of text: please change from “Because $Z-Y$ ($Z-W$) association is a product of $Z-Y$ and $Z-Y$ ($Z-Y$) associations” to “Because $Z-Y$ (or $Z-W$) association is a product of $Z-U$ and $U-Y$ (or $U-W$) associations”
- (9) Page 198 4th line above Eq. (10) in the left column of text: please change from “ $\tilde{U}_W = \frac{W-\beta_0}{\beta_{WU}}$ ” to “ $\tilde{U}_W = \frac{W-\beta_{W0}}{\beta_{WU}}$ ”
- (10) Page 198 3rd line above Eq. (12) in the left column of text: please change the term between the two equal signs from “ $E_U\{E[Y|A=a, U]\}$ ” to “ $E_U\{E[Y|A=a, U]\}$ ” (that is, change “u” after the first “E” to subscript).
- (11) Page 198 line 4 in the right column of text: please change from “Stage I: regress W on A and Z and obtain” to “Stage I: regress W on A and Z to obtain”
- (12) Page 198 line 5 in the right column of text: could you please start a new paragraph starting from “Stage II”; then another new paragraph starting from “The two-stage least squares approach given above provides”
- (13) Page 199 line 3 in the left column of text: please add indent before “Violation 1” (like what was done for “Violation 2”, “Violation 3”, and “Violation 4”)
- (14) Page 199 line 9 in the right column of text (last line of “Violation 4” paragraph): please change from “This violates Assumption 2” to “This violates Assumption 4”

The online version of the original article can be found at <https://doi.org/10.1007/s40471-020-00243-4>

✉ Xu Shi
shixu@umich.edu

¹ Department of Biostatistics, University of Michigan, Ann Arbor, MI, USA

² Department of Probability and Statistics, Peking University, Beijing, China

³ Statistics Department, The Wharton School, University of Pennsylvania, Philadelphia, PA, USA

Table 3 Examples of graphs for Z, A, U relationships and for W, Y, U relationships. The two pieces of graphs can be combined in to a directed acyclic graph that encodes the negative control assumptions. Grey colored graphs are invalid because of violation of key assumptions

Examples of graphs for Z, A, U relationships			
	$Z \rightarrow A$ (pre-treatment)	$A \rightarrow Z$ (post-treatment)	$Z \perp\!\!\!\perp A$
No arrow between U and Z (may violate Assumptions 5 and 7)	Instrumental variable (IV)	Violate Assumptions 5 and 7	Violate Assumptions 5 and 7
$U \rightarrow Z$	Invalid IV	Post-treatment proxy of U	Surrogate of U
$Z \rightarrow U$	May violate Assumption 4 if there is $W \rightarrow U$
Examples of graphs for W, Y, U relationships			
	$W \rightarrow Y(a)$	$Y(a) \rightarrow W$ (violate Assumptions 3 and 4)	$Y(a) \perp\!\!\!\perp W \mid (U, X)$
No arrow between U and W (violate Assumptions 5 and 7)	Violate Assumptions 5 and 7	Violate Assumptions 3, 5, and 7	Violate Assumptions 5 and 7
$U \rightarrow W$		Violate Assumption 3
$W \rightarrow U$	May violate Assumption 4 if there is $Z \rightarrow U$

Violate Assumption 3

- (15) Page 193 line 9 from the bottom in the right column of text: please change from “[32,33,49,51] specify future measures of ...” to past tense “[32,33,49,51] specified future measures of ...”
- (16) Page 199 Table 3: please substitute the current table with the table attached in the email
- (17) Page 200 References:
- (a) Ref 1: please change author from “John PA Ioannidis” to “Ioannidis JPA”
 - (b) Ref 10: please change author from “Lan Liu and Eric Tchetgen Tchetgen” to “Liu L, Tchetgen Tchetgen EJ”
 - (c) Ref 11: in the title, please change from “Stationarity” to “Stationarity”
 - (d) Ref 15: in the author list, please change from “TP Speed” to “Speed TP”
 - (e) Ref 18: in the journal name, please change from “Pharmacoepidemiology” to “Pharmacoeconomics”
 - (f) Ref 33: in the title, please change from “partial” to “partial”
 - (g) Ref 44: in the author list, please change from “et al” to “Lawlor DA” (then we would have the full author list and do not need et al)

- (h) Ref 47: in the title, please change from “off- spring” to “offspring”
- (i) Ref 54: in the title, please change from “com- paring” to “comparing”
- (j) Ref 58: please change author from “Bradford Hill A” to “Hill BA”
- (k) Ref 59: please change author from “Cuyler Hammond E” to “Hammond EC”
- (l) Ref 61: in the title, please change from “stud- ies” to “studies”
- (m) Ref 67: please change author from “Tchetgen EJ” to “Tchetgen Tchetgen EJ”
- (n) Ref 70: in the title, please change from “adjust- ment” to “adjustment”
- (o) Ref 71: in the title, please change from “nonpara- metric” to “nonparametric”

The original article has been corrected.

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