

Table 14.3 Effectiveness of Various Missing Data Handling Strategies When Data Are Missing Not at Random

		<i>B</i>	<i>SE</i>	<i>Wald</i>	<i>df</i>	<i>p</i>	<i>Exp(B)</i>	95% <i>CI</i> for <i>Exp(B)</i>	
								<i>Lower</i>	<i>Upper</i>
Full sample <i>N</i> = 5,550	zACH	0.317	0.058	30.150	1	.000	1.374	1.226	1.538
<i>Missing not at random: low-scoring students more likely to be missing</i>									
MNAR-low	zACH	−0.307	0.081	14.189	1	.000	0.736	0.627	0.863
Mean substitution	zACH	−0.441	0.094	22.098	1	.000	0.643	0.535	0.773
Reg-weak	zACH	−0.009	0.086	0.012	1	.914	0.991	0.838	1.172
Reg-strong	zACH	0.178	0.067	6.981	1	.008	1.195	1.047	1.363
Multiple imputation	zACH	0.039	0.083	0.223	1	.637	1.040	0.883	1.225
<i>Missing not at random: high-scoring students more likely to be missing</i>									
MNAR-high	zACH	1.148	0.088	168.749	1	.000	3.153	2.652	3.750
Mean substitution	zACH	1.113	0.074	228.284	1	.000	3.045	2.635	3.518
Reg-weak	zACH	0.860	0.080	116.522	1	.000	2.364	2.022	2.763
Reg-strong	zACH	0.635	0.077	68.056	1	.000	1.887	1.623	2.194
Multiple imputation	zACH	0.832	0.078	113.145	1	.000	2.298	1.971	2.678

SOURCE: National Education Longitudinal Study of 1988 (NELS88) from the National Center for Education Statistics (<http://nces.ed.gov/surveys/nels88/>).

NOTE: Mean substitution, missing data replaced by mean score; Reg-weak, regression imputation with two weak predictors; Reg-strong, regression imputation with a strong predictor.