Missing Data

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This material is part of the **statsTeachR** *project*

Today's Lecture

- Types of missing data
- Describing your missing data
- Multiple imputation

Types of Missing Data

Missing Completely at Random (MCAR)

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Missing at Random (MAR)

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Missing Not at Random (MNAR)

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Multiple imputation results

Regression coefficients from five imputed data sets

Data set	Estimated parameter	b_0	b_1	b_2	b_3	b_4	b_5
1	Coefficient	-11.535	-2.780	1.029	-.031	-0.359	0.572
	Variance	43.204	3.323	0.013	0.013	0.013	0.012
2	Coefficient	-11.501	-4.149	1.040	-0.093	-0.583	0.876
	Variance	40.488	2.680	0.010	0.009	0.009	0.007
3	Coefficient	-10.141	-5.038	0.766	0.123	-0.252	0.625
	Variance.	42.055	3.301	0.010	0.010	0.010	0.009
4	Coefficient	-11.533	-6.920	0.870	0.084	-0.458	0.815
	Variance	28.751	1.796	0.081	0.007	0.007	0.007
5	Coefficient	-14.586	-1.115	0.718	0.050	-0.373	0.814
	Variance	32.856	2.362	0.009	0.009	0.009	0.008
	Mean b_i	-11.859	-4.000	0.885	0.027	-0.405	0.740
	Mean Var.($\bar{W}$)	37.471	2.692	0.025	0.010	0.010	0.009
	Var. of b_i (B)	2.682	4.859	0.022	0.008	0.015	0.018
	T						
	$\sqrt{T}$	40.69	8.523	0.051	0.020	0.028	0.031
		6.379	2.919	0.226	0.141	0.167	0.176
	t	-1.859	-1.370	3.916*	0.191	2.425*	4.204*

* $p < .05$ "Var." refers to the squared standard error of the coefficient.

DC Howell, Treatment of Missing Data – Part II.