

TABLE 3
SOURCES OF INVALIDITY FOR QUASI-EXPERIMENTAL DESIGNS 13 THROUGH 16

	Sources of Invalidity											
	Internal					External						
	History	Maturation	Testing	Instrumentation	Regression	Selection	Mortality	Interaction of Selection and Maturation, etc.	Interaction of X and Testing	Interaction of X and Selection	Reactive Arrangements	Multiple-X Interference
<i>Quasi-Experimental Designs Continued:</i>												
13. Separate-Sample Pretest-Posttest Control Group Design	+	+	+	+	+	+	+	-	+	+	+	
R O (X) X O												
R O X O												
R O O												
13a. R O (X) X O	+	+	+	+	+	+	+	+	+	+	+	
R O (X) X O												
R O (X) X O												
R O (X) X O												
R O O												
R O O												
R O O												
14. Multiple Time-Series Control Group Design	+	+	+	+	+	+	+	+	-	-	?	
O O O X O O O												
O O O O O O												
15. Institutional Cycle Design												
Class A X O ₁												
Class B ₁ R O ₁ X O ₁												
Class B ₂ R X O ₁												
Class C O ₁ X												
Gen. Pop. Con. Cl. B O ₁												
Gen. Pop. Con. Cl. C O ₁												
O ₁ < O ₁	+	-	+	+	+	+	+	?	+	?	+	
O ₁ < O ₁												
O ₁ < O ₁	-	-	+	?	?	?	?		+	?	?	
O ₁ = O ₁												
O ₁ = O ₁	+	+	+	+	+	+	+	-	+			
16. Regression Discontinuity	+	+	+	?	+	+	?	+	+	-	+	+
General Population Controls for Class B, etc.												

TABLE 2

SOURCES OF INVALIDITY FOR QUASI-EXPERIMENTAL DESIGNS 7 THROUGH 12

	Sources of Invalidity											
	Internal					External						
	History	Maturation	Testing	Instrumentation	Regression	Selection	Mortality	Interaction of Selection and Maturation, etc.	Interaction of X and Testing	Interaction of X and Selection	Reactive Arrangements	Multiple-X Interference
<i>Quasi-Experimental Designs:</i>												
7. Time Series	-	+	+	?	+	+	+	+	+	?	?	
O O O X O O O O												
8. Equivalent Time Samples Design	+	+	+	+	+	+	+	+	+	?	?	
X ₁ O X ₂ O X ₃ O X ₄ O, etc.												
9. Equivalent Materials	+	+	+	+	+	+	+	+	+	?	?	
M ₁ X ₁ O M ₂ X ₂ O M ₃ X ₃ O, etc.												
10. Nonequivalent Control Group Design	+	+	+	?	+	+	+	-	-	?	?	
O X O												
O O												
11. Counterbalanced Designs	+	+	+	+	+	+	+	?	?	?	?	
X ₁ O X ₂ O X ₃ O X ₄ O												
X ₂ O X ₁ O X ₃ O X ₄ O												
X ₃ O X ₁ O X ₂ O X ₄ O												
X ₄ O X ₁ O X ₂ O X ₃ O												
12. Separate-Sample Pretest-Posttest Design	-	-	+	?	+	+	+	-	+	+	+	
R O (X) X O												
R O X O												
12a. R O (X) X O	+	-	+	?	+	+	-	+	+	+	+	
R O X O												
R O (X) X O												
R O X O												
12b. R O ₁ (X) O ₁ (X) X O ₁	-	+	+	?	+	+	-	?	+	+	+	
R O ₁ (X) X O ₁												
R O ₁ X O ₁												
12c. R O ₁ X O ₁	-	-	+	?	+	+	+	-	+	+	+	