

TABLE 9.1

Summary of the Threats to Internal Validity of Weak Experimental Designs

Designs	Ambiguous Temporal Precedence	History	Maturation	Testing	Instrumentation	Regression Artifact	Differential Selection	Differential Attrition	Additive and Interactive Effects
One-group posttest-only design $X_T O_2$	+	-	-	NA	NA	NA	NA	NA	NA
One-group pretest-posttest design $O_1 X_T O_2$	+	-	-	-	-	-	NA	NA	NA
Posttest-only design with nonequivalent groups $\begin{array}{c} X_T O_2 \\ \hline X_C O_2 \end{array}$	+	+	?	+	+	+	-	-	-

A negative sign (-) indicates a potential threat to internal validity, a positive sign (+) indicates that the threat is controlled, a question mark (?) indicates that the threat may or may not be controlled depending on the characteristics of the study, and NA indicates that the threat does not apply to that design. X_T designates a treatment condition, X_C designates a control or standard treatment condition, O_1 designates a pretest, O_2 designates a posttest, and a dashed line indicates *no* random assignment to groups.