

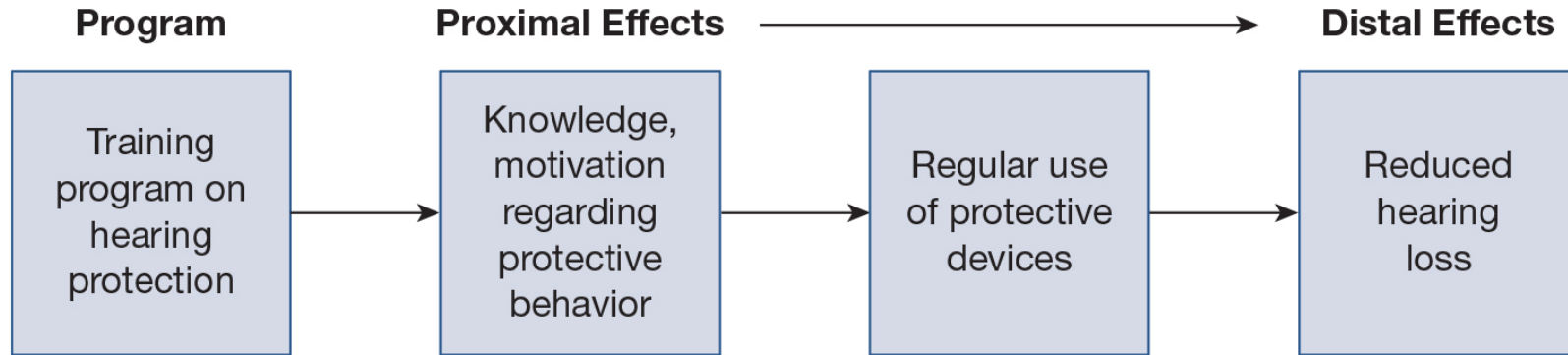
# Chapter Nine

# Illustrations

Rossi et. al. Evaluation

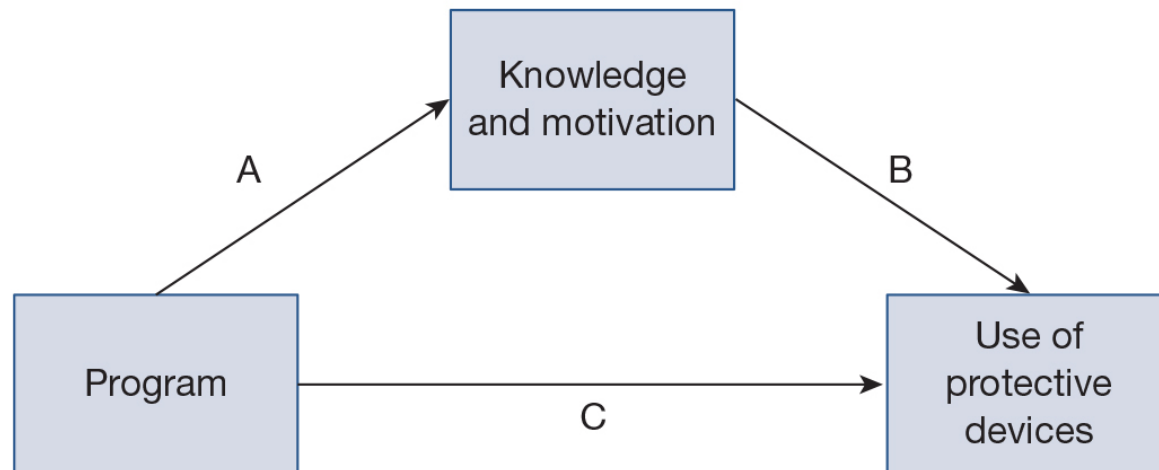
**FIGURE 9-E1**

## A Logic Model for a Training Program in an Industrial Setting That Promotes the Use of Equipment That Protects Against the Adverse Effects of the High Levels of Noise in That Environment



**FIGURE 9-E2**

## Diagram of the Hypothesized Mediation Relationship Between the Program and Use of Protective Devices



**TABLE 9-C1**

## Total Sample Size Needed to Detect Different Minimum Detectible Effect Sizes With Different Levels of Statistical Power With and Without a Strong Covariate

Power (beta)	Covariate	MDES				
		.10	.20	.30	.40	.50
.70 (.30)	No	2,471	619	276	156	101
	Yes	1,237	311	139	79	52
.80 (.20)	No	3,142	787	351	198	128
	Yes	1,572	395	177	100	65
.90 (.10)	No	4,205	1,053	469	265	170
	Yes	2,104	527	236	133	86
.95 (.05)	No	5,200	1,302	580	327	210
	Yes	2,601	652	291	165	106
.99 (.01)	No	7,352	1,840	820	462	297
	Yes	3,677	922	411	233	150

*Note:* Alpha = .05. MDES represented as the standardized mean difference effect size. Total sample size divided evenly between intervention and control groups. Baseline covariate that correlates .71 with the outcome measure, accounting for 50% of the variance on that measure. Power calculations done with PowerUp! software (Dong & Maynard, 2013; Google “PowerUp! software” to locate current Source for free download).

**TABLE 9-D1**

## Statistical Power for Cluster Assignment With Varying Intracluster Correlations and Number of Clusters With Total Sample Size and MDES Held Constant

Total sample = 1,000 MDES = .25	ICC					
	.00	.01	.05	.10	.20	.30
Number of Clusters						
10 (100 per cluster)	.90	.68	.24	.14	.08	.07
20 (50 per cluster)	.96	.86	.51	.32	.19	.14
50 (20 per cluster)	.97	.94	.79	.62	.42	.31
1,000 (1 per cluster) [no clustering]	.98					

**Note:** Total sample size of 1,000 evenly divided between the intervention and control groups; MDES of .25. Outcomes are measured at the individual level. Statistical significance is tested at  $\alpha = .05$  (two-tailed). No baseline covariates are included in the analysis model. Power calculations were done with PowerUp! software (Dong & Maynard, 2013; Google “PowerUp! software” to locate current Source for free download).