

**TABLE 10.5.1**  
**Effects of Multicollinearity:**  
**Two-Independent-Variable Example**

A.  $r_{12} = 0.00; r_{Y1} = .30; r_{Y2} = .40; R^2 = .250.$

Variable	<i>B</i>	<i>SE</i>	<i>pr</i> <sup>2</sup>	Tolerance	<i>VIF</i>
Intercept	20.000	0.196			
$x_1$	0.387	0.114	0.107	1.000	1.000
$x_2$	0.447	0.098	0.176	1.000	1.000

B.  $r_{12} = 0.10; r_{Y1} = .30; r_{Y2} = .40; R^2 = .228.$

Variable	<i>B</i>	<i>SE</i>	<i>pr</i> <sup>2</sup>	Tolerance	<i>VIF</i>
Intercept	20.000	0.198			
$x_1$	0.339	0.116	0.081	0.990	1.010
$x_2$	0.418	0.100	0.152	0.990	1.010

C.  $r_{12} = 0.50; r_{Y1} = .30; r_{Y2} = .40; R^2 = .173.$

Variable	<i>B</i>	<i>SE</i>	<i>pr</i> <sup>2</sup>	Tolerance	<i>VIF</i>
Intercept	20.000	0.205			
$x_1$	0.172	0.138	0.016	0.750	1.333
$x_2$	0.373	0.119	0.092	0.750	1.333

D.  $r_{12} = 0.90; r_{Y1} = .30; r_{Y2} = .40; R^2 = .179.$

Variable	<i>B</i>	<i>SE</i>	<i>pr</i> <sup>2</sup>	Tolerance	<i>VIF</i>
Intercept	20.000	0.205			
$x_1$	-0.407	0.272	0.023	0.190	5.263
$x_2$	0.765	0.236	0.098	0.190	5.263

E.  $r_{12} = 0.949; r_{Y1} = .30; r_{Y2} = .40; R^2 = .224.$

Variable	<i>B</i>	<i>SE</i>	<i>pr</i> <sup>2</sup>	Tolerance	<i>VIF</i>
Intercept	20.000	0.199			
$x_1$	-1.034	0.366	0.076	0.099	10.060
$x_2$	1.297	0.317	0.147	0.099	10.060

Note:  $sd_Y^2 = 5.00; sd_1^2 = 3.00; sd_2^2 = 4.00; M_Y = 20.$