

Spearman rho  
Correlation

spearman.wk4

AAWalsh



	X	Rank(X)	Y	Rank(Y)	d	d <sup>2</sup>
<b>Group 1</b>	<b>8</b>	1	<b>4</b>	7.5	-6.5	42.25
	<b>7</b>	2.5	<b>10</b>	2.5	0.0	0
	<b>7</b>	2.5	<b>5</b>	6	-3.5	12.25
	<b>6</b>	4.5	<b>11</b>	1	3.5	12.25
	<b>6</b>	4.5	<b>4</b>	7.5	-3.0	9
	<b>5</b>	6	<b>7</b>	5	1.0	1
	<b>4</b>	7	<b>10</b>	2.5	4.5	20.25
	<b>3</b>	8	<b>9</b>	4	4.0	16

N=	8		SUM=	113
6(Sum d <sup>2</sup> )=	678	<b>Numerator</b>		
N(N <sup>2</sup> -1)=	504	<b>Denominator</b>	rho .05(8)=	0.643
rho=	-0.345		rho=	-0.345
			ACCEPT	<b>Ho</b>

	X	Rank(X)	Y	Rank(Y)	d	d <sup>2</sup>
<b>Group 2</b>	<b>13</b>	1	<b>12</b>	1	0	0
	<b>11</b>	2	<b>7</b>	4	-2.0	4
	<b>8</b>	3	<b>4</b>	7.5	-4.5	20.25
	<b>7</b>	4	<b>8</b>	3	1.0	1
	<b>6</b>	5.5	<b>9</b>	2	3.5	12.25
	<b>6</b>	5.5	<b>4</b>	7.5	-2.0	4
	<b>5</b>	7	<b>5</b>	5.5	1.5	2.25
	<b>4</b>	8	<b>5</b>	5.5	2.5	6.25

N=	8		SUM=	50
6(Sum d <sup>2</sup> )=	300	<b>Numerator</b>		
N(N <sup>2</sup> -1)=	504	<b>Denominator</b>	rho .05(8)=	0.643
rho=	0.405		rho=	0.405
			ACCEPT	<b>Ho</b>

**SPEARMAN** rho { $\rho$ } Ho:  $\rho = 0.00$  (no correlation)

Halt:  $\rho \neq 0.00$  (correlation present)

$$\rho = 1 - 6(\sum d^2) / N(N^2 - 1)$$