Re: Pratt's relative importance in SPSS Optimal Scaling Regression

Source: http://sci.tech−archive.net/Archive/sci.stat.edu/2004−07/0095.html

---

From: Richard Ulrich (*Rich.Ulrich_at_comcast.net*)
Date: 07/29/04

Date: Thu, 29 Jul 2004 13:10:58 −0400

On Thu, 29 Jul 2004 16:40:59 +0300, Mika Mäntylä
<mmantyla@soberit.hut.fi> wrote:

> Thanks, your answer really helped me to figure this out.
>
> Richard Ulrich wrote:
> >
> > or if Pratt found a work−around for its big drawback −− but the
*> > big drawback, the obvious one, is that it beta*r will be negative*
> > when there is a suppressor term. In consequence, two items
> > which are highly correlated might contribute 'relative importances'
> > of 0.7 and −0.6, for a sum of 0.1. That is relatively simple, but
> > still creates confusion when trying to write up a report.
>
> Just playing the devil's advocate here. Lets say 0.7 is height and −0.6
> is weight. The dependent variable could be the likelihood to win Olympic
> gold medal in high jump. Now when we have the sum of 0.1, we can say
> that size (= height & weight) is not really a good predictor of whether
> person will win. However, one must be as skinny as possible. So, I guess
> as in all statistics it really depends on what the numbers represent.

If they added up to a big part of the total R−squared, they would
have a much larger relative importance than 0.1.

Perhaps I should have been more extreme −− One indication
of *extreme* confounding is that the beta coefficients are
larger than 1.0. I've mentioned that before as being one of
the explicit uses of beta (for people who could not imagine
a use for the standardized coefficient). I've created examples
with betas of 5 or 6, without the numbers looking too
outrageously impossible.

Following that − it is possible to have relative importances
greater than 1.0 when others are negative. The condition
is that the total is 1.0.

>
> *However, in my case the negative importance will create mostly confusion*
> *so I think I'll follow your advice and stick with the coefficients*
> *instead.*

--
Rich Ulrich, wpilib@pitt.edu
http://www.pitt.edu/~wpilib/index.html