Re: RM ANOVA and other methods

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- *From*: Bruce Weaver <bweaver@xxxxxxxxxxxx>
- *Date*: Mon, 24 Mar 2008 10:55:52 −0400

greg wrote:

> On Mar 14, 1:28 pm, Bruce Weaver <bwea...@xxxxxxxxxxxx> wrote:
>
> > On Mar 14, 4:30 am, greg <jsg...@xxxxxxxxxxx> wrote:
> >
> > > Thanks Bruce,
> > > To be honest, I'm hoping for a linear trend in this study. A
> > > quadratic
> > > one wouldn't make much sense in this case, and with only 3
> > > time points
> > > wouldn't be very convincing either. But I do have another
> > > study (not
> > > repeated measures, 5 ordinal groups and one continuous
> > > variable) where
> > > it looks like there might be quadratic trend (confession here
> > > to
> > > peeking at the data halfway through). It might be very useful
> > > for that
> > > one, thanks!
> >
> > I just re−read your first post. I guess "expecting" was the wrong
> > word. It sounds like you *observed* a quadratic trend (result went
> > up, then back down).
> >
> > −−
> > Bruce Weaver
> > bwea...@xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx/wv/bwhomedir
> > "When all else fails, RTFM."
>
> It looks like there may be a slight, weakly 'significant' unexpected
> up−down pattern in one variable. In an ideal world, I'd like a method
> that would take into account the fact that the groups are ordinal (in
> terms of time sequence) and I'm sure there are better methods out
> there.

Trend analysis *does* take the ordinal nature of the data into account. (The standard form of trend analysis treats the explanatory variable as interval scaled with a constant step size between adjacent categories.) It is not at all appropriate in the case of a purely nominal explanatory variable.

> I'd be happy to say that there was a quadratic relationship if I was convinced there really was one, but I was concerned that by treating the time points as different groups, the ANOVA may be giving me a false positive.

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Bruce Weaver
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"When all else fails, RTFM."
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