From:	Nayak Polissar
To:	Kissinger.Lon@epamail.epa.gov
Subject:	Fwd: Posterior Predictive Checks of NCI Method Applied to NHANES FCR
Date:	Tuesday, September 18, 2012 2:54:39 PM
Attachments:	Gelman1996.pdf Untitled attachment 00146.htm

Hi Lon,

You may want this article (attached.) It is technical, but it is handy to have these references around for future projects.

I am sure that the only reason that Casey did not send it to you is that he does not have your email address readily available.

And, I want to thank you for your helpful and valuable comments during the meeting. I am glad you were there!

Best wishes,

Nayak

Begin forwarded message:

> **From:** Casey Olives <colives@u.washington.edu>
> **Date:** September 17, 2012 11:55:42 AM PDT
> **To:** Nayak Polissar <nayak@mwlight.com>, Moni Blazej Neradilek <moni@mwlight.com>
> **Cc:** Vincent Gallucci <vgallucc@u.washington.edu>, Craig McCormack <cmcc461@ecy.wa.gov>
> **Subject: Posterior Predictive Checks of NCI Method Applied to NHANES FCR**
>
> Dear all,
>
> This email is a follow-up regarding our conversation about diagnostic methods for the NCI method employed in the FCR estimation using the NHANES data.
>
> To reiterate, I think that Nayak's suggestion to use posterior predictive-type statistics to assess model fit is a good one. The essential idea is to simulate datasets from the model fit to the NHANES data (ie. the NCI model). If the model is "a good fit", then summary statistics of this simulated data should look similar to the same summary statistics in the actual data (eg. the mean FCR). This is a well-studied area of statistics and will I think provide some much-needed face validity to these numbers.
>
> Please find attached Andrew Gelman's 1996 article outlining this approach. Additionally,

Chapter 6 in Gelman's test book Bayesian Data Analysis has a much more complete treatment of this approach (see specifically section 6.3-6.5 in Chapter 6 of the 2nd Edition).

Thank you again for your time and input.

Best,
Casey Olives