From: Craig, Bruce A.
To: Dawoodani, Elina
Cc: Craig, Bruce A.
Subject: RE: Grant review
Date: Sunday, December 29, 2024 12:17:06 PM
Attachments: image001.png

Elina:

My apologies that this is so late. Other deadlines arose the week of the 9th and I let it slip by me. Here are some comments just in case they can be helpful.

Aim 1:

I would be careful classifying the data into two groups when looking for an association. I would first treat the response as numeric and look at the relationship (is it linear or curved?) and then decide if it is reasonable to group or not. The tests you describe are fine if you ignore covariates. I guess you bring covariates into the analysis in #2. Are there multiple observations per participant in this assessment? If so, you'd want to move to LMMs to adjust for this.

You mention using LMMs but I did not find the description of the FreeSurfer pipeline complete enough to assess this. How often are each of the participants measured? Participants can jump from one group to the other over time, correct? This is another reason to consider treating the response as numeric.

Aim 2:

Do not know how many measurements per participant you have to decide if GAMMs are needed. I'm assuming that at each time point you observe both their iron markers and adiposity. Thus there is a within subject correlation between these responses and a between participant correlation. Do you anticipate changes in response over time for each participant? If not, the within participant correlation should not exist (just random fluctuations)

Aim 3:

So the response is adiposity and the predictors are hippocampal volumes and baseline covariates. You talk about an interaction between the response and the predictor but interactions should involve the predictors.

Again, sorry that this is late. I believe most of your covariates are time-independent. Things get more complicated if they are time-dependent (like physical activity). In general the approaches are what I would consider given your descriptions. I'm uncertain about GAMMs feasibility but it is a way to handle nonlinear trends. Since the methods of the first three aims are similar you might just group together the descriptions of methodologies.

Sincerely,

Prof Craig

From: Dawoodani, Elina <edawooda@purdue.edu>
Sent: Tuesday, December 3, 2024 12:22 PM
To: Craig, Bruce A. <bacraig@purdue.edu>
Cc: Tadd N Colver <colvertn@purdue.edu>
Subject: Re: Grant review

Hi Dr. Craig,

Attached are the specific aims and research approach sections for your review. I've only included the relevant details to make it easy for you to assess. Please let me know if you need more information.

Your feedback would be invaluable. Thank you for your time and support.

Thanks again,

Elina Dawoodani
Ph.D. Candidate | Murray-Kolb Laboratory
Department of Nutrition Science
Purdue University
West Lafayette, Indiana

"Somewhere, something incredible is waiting to be known." – Dr. Carl Sagan

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From: Dawoodani, Elina <edawooda@purdue.edu>
Sent: Tuesday, December 3, 2024 11:02 AM
To: Craig, Bruce A. <bacraig@purdue.edu>
Cc: Tadd N Colver <colvertn@purdue.edu>
Subject: Re: Grant review

Hi Dr. Craig,

Thank you so much for getting back to me. I sincerely appreciate your willingness to review my statistical approach, especially during such a busy time. It really means a lot.

To make things as streamlined as possible for you, I will prepare a concise summary and include all relevant details about the planned analyses. I will send this over shortly to ensure it's ready whenever you have a moment to look at it.

Your feedback, even if brief, would be incredibly helpful in refining my approach and strengthening this grant submission.

Thank you again for your time and generosity. I genuinely appreciate it.

Best,

Elina Dawoodani
Ph.D. Candidate | Murray-Kolb Laboratory
Department of Nutrition Science
Purdue University
West Lafayette, Indiana

"Somewhere, something incredible is waiting to be known." – Dr. Carl Sagan

From: Craig, Bruce A. <bacraig@purdue.edu>
Sent: Tuesday, December 3, 2024 9:55 AM
To: Dawoodani, Elina <edawooda@purdue.edu>
Cc: Tadd N Colver <colvertn@purdue.edu>; Craig, Bruce A. <bacraig@purdue.edu>
Subject: Grant review

Elina:

Hello. Tadd reached out to me after receiving your email. It's unfortunate that you reached out to us so late in the grant development process. The SCS is structured to provide such assistance but not last-minute reviews, especially at the end of a semester.

We are in the process of shutting down for the semester, meaning that no new clients are assigned to our consultants. That said, I will be around next week completing my course grades and participating in multiple candidate search Zoom interviews. I can't promise a thorough review, but I can look at your statistical approach section in between activities and make some comments. So that this is as efficient for me as possible, I'd ask that you draft/summarize your planned experimental designs so that I do not have to go back through the entire grant to figure them all out.

Sincerely,

Bruce Craig
Professor, Department of Statistics

Director, Statistical Consulting Service
Purdue University