



## Discuss Your Analytical Problems

	<b>Statement of the Problem</b>	<b>Attempted Solutions</b>	<b>Questions for HMC</b>
Jeff Migneault	<p>We are interested in the impact of the built environment on the effectiveness of maintenance interventions. This is essentially a moderation analysis: Do characteristics of the subject's baseline environment moderate the effect of the intervention on the maintenance of the target health behavior over multiple time points? We will start by analyzing this in individual studies, but will eventually want to combine data from multiple studies.</p>	<p>We are just starting to formalize an analytic plan.</p>	<p>What is best statistical framework for this investigation: GEE, Random Effects Model, Hierarchical Linear Models?</p> <p>How do we deal with multiple measures of the environment and their intercorrelations, and perhaps interaction effects?</p>
Geoff Williams	<p>We are using structural equation modeling to represent latent variables and their change over time. Our outcome is a complex variable with three indicators (two continuous - number of days since last cigarette and longest number of days not smoking - and one dichotomous 7 day point prevalence). Our difficulty is in modeling interactions that may relate to tobacco abstinence. Race would be an example.</p>	<p>We have relied on regression to test these interactions, but we now face testing for mediation and moderation in the same model.</p>	<p>How do we test for mediation of a moderated effect? In this case, we are expecting race to moderate (have a stronger parameter effect for one race versus another) on the variable of autonomy as it effects tobacco abstinence. Autonomy is expected to mediate the relation between our intervention and the outcome.</p>