# Life After My Masters in Applied Statistics From WCU - A Career and Research Journey

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**25 University Ave, Room 158**
**4:15 PM**

Diseases are typically characterized by multiple measures, and subjects may choose to discontinue particular treatments due to intermediate outcomes, such as adverse side-effects. Accordingly, clinical trials for drug approvals must both evaluate treatment effects on multiple endpoints with appropriate Type I error rate control and account for intermediate outcomes to prevent biased inferences that could arise due to confounding. Existing statistical methodologies for clinical trials can only address these two issues separately, and cannot be easily extended to incorporate both simultaneously. In this research presentation, we will discuss the two critical issues of different types of multiple testing requirements for control of distinct Type I error rates, and principal strata that arise due to intermediate outcomes, in Phase III clinical trials. We will also propose a new Bayesian testing methodology that can account for the existence of principal strata while enabling more powerful testing of multiple endpoints in such clinical trials. The potential utility and power of our proposed methodology will be illustrated via simulation studies.

Dominique McDaniel is a PhD student in Statistics and Purdue Doctoral Fellow at Purdue University. Dominique completed her undergraduate studies in Mathematics at Cheyney University of Pennsylvania. She also holds a Masters of Science degree from West Chester University. Prior to starting her doctoral studies, Dominique worked in pharmaceutical industry at Eli Lilly & Company in Indianapolis, IN. Dominique's research interests include Bayesian & Spatial Statistics, Clinical- Trial Development, and Causal Inference.