Dear Fellowship Committee members,

I’m writing to apply for the Harold Gulliksen Psychometric Research Fellowship.

The project that will be undertaken during the award year is my dissertation, which aims at contributing to settling the debate over the selection of IRT models (i.e., the dominance models vs. the ideal point models) for self-reported personality assessment. The intermediate item is the key. Experiments will be conducted to figure out the processes of participants responding to personality items, especially intermediate items, and how reference groups for comparisons and social desirability will affect such processes. Criterion validity associated with the control and experiment groups will also be studied.

There are two kinds of intermediate items, the ones that have unfolding item characteristics curves (ICCs), and the ones that researchers thought they would. The former, with its non-monotonicity property, is the reason why ideal point models (e.g., GGUM) have better fit than the dominance models (e.g., 2-PL). However, you never know if an intermediate item is working until you analyze the data. When an item that’s seemingly intermediate is showing a monotonic ICC and is modeled equally well (or badly) by the dominance model and the ideal point model, what has gone wrong? Are participants simply not following an ideal point process when responding to personality statements? Are participants confused about what reference group to use for making judgment? Are they faking out of social desirability? Or is there something about the item that invites participants interpreting it in a monotonic way, even though the wording is consistent with that of a typical unfolding item? These are some of the questions that we will explore in this project.

This project fits ETS’ Research Area 6 (i.e., psychometric bases for noncognitive assessments), as listed on the organization’s website, in that it is focused on the fundamental assumptions underlying the IRT modeling of self-reported personality data. This project will improve our understanding of the complex yet long assumed response processes of our participants, which is a key step towards better item writing, model selection, and criterion validity. This is a project that ETS, an untiring pioneer in the field of psychometrics, will want to be part of.

Sincerely yours,

Luyao Zhang