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 suits ETS, an untiring pioneer in the field of psychometrics.

Sincerely yours,

Luyao Zhang

**Statement of Additional Financial Assistance**

If this application does not work out, or the fellowship is not enough to cover my tuition fee, during the award year, I will be receiving a 50% Graduate TA for the Department of Psychology at UIUC.

Dec 2016

**Luyao ZHANG**

**CONTACT INFORMATION**

The Department of Psychology

University of Illinois at Urbana-Champaign

Champaign, IL

Office: 210

E-mail: [lzhang94@illinois.edu](mailto:lzhang94@illinois.edu)

Phone: +1 (217)-778-9761

**RESEARCH INTERESTS**

Cross-cultural personality assessment, Differential item functioning (DIF), Item response theory (IRT), Scale development, Conscientiousness

**EDUCATION:**

2013 – Present: PhD student, Industrial and Organizational Psychology, University of Illinois at Urbana-Champaign

2009-2013: BSc, Psychology, Tsinghua University

**PUBLICATIONS**

Grijalva, E., & Zhang, L. (2016). Narcissism and self-insight: A review and meta-analysis of narcissists’ self-enhancement tendencies.*Personality and Social Psychology Bulletin, 42*(1), 3-24.

**WORK IN PROGRESS**

Comparison of the dominance model and the generalized graded unfolding model (GGUM) in terms of differential item functioning (DIF) analyses based on cross-cultural personality assessment data (with Liwen Liu, and Professor Fritz Drasgow)

Revision of the Chernyshenko Conscientiousness Scale and the development of a broader but more parsimonious conscientiousness scale (with Professor Brent Roberts)

### Cross-cultural comparisons of the relationships of conscientiousness with math performance and truancy using the [PISA data (with Professor Brent Roberts)](https://nces.ed.gov/surveys/pisa/datafiles.asp)

### The effects of reference for comparisons during personality survey response (with Professor Brent Roberts, and Professor Chris Nye)

**TEACHING EXPERIENCE**

Fall 2013 TA for Professor Dov Cohen, Social Psychology in Natural Settings (PSYC 333)

Spring 2014 TA for Professor Nichelle Carpenter, Organizational Psychology (PSYC 455)

Fall 2014 TA for Professor Michael Kraus, Power, Status, and Influence (PSYC 265)

Spring 2015 Instructor for Intro to Social Psychology (PSYC 201)

Fall 2015 TA for Professor R. Chris Fraley, Personality Lab (PSYC 350)

Spring 2016 TA for Professor R. Chris Fraley, Personality Lab (PSYC 350)

Fall 2016 TA for Professor R. Chris Fraley, Personality Lab (PSYC 350)

**SKILLS**

Programming in R;

Multi-level analysis in SAS;

SEM, especially multi-group SEM in AMOS, and Mplus;

Item calibration with MULTILOG, and GGUM2004;

SPSS;

Excel.