Yang Liu

352 Davie Hall
Department of Psychology
The University of North Carolina
Chapel Hill, NC 27599-3270

E-mail: liuy0811@live.unc.edu
Phone: (919)638-9085

Education

08/2009-	Ph.D. Program in Psychology The University of North Carolina at Chapel Hill Advisor: David Thissen
05/2014	M.S. in Statistics The University of North Carolina at Chapel Hill Advisor: Jan Hannig Thesis: *Generalized fiducial inference for binary logistic item response models*
12/2011	M.A. in Psychology The University of North Carolina at Chapel Hill Thesis: *Identifying LD with a score test statistic based on bifactor 2PL model* Advisor: David Thissen
06/2009	B.S. in Psychology Peking University Thesis: *Calibrating group attachment scale: An application of item factor analysis* Advisor: Tonggui Li

Journal Articles: Methodology

Liu, Y. and Thissen, D. (2014). Comparing score tests and other local dependence diagnostics for the graded response model. *British Journal of Mathematical and Statistical Psychology*, 67(3):496–513

Liu, Y. and Maydeu-Olivares, A. (2014). Identifying the source of misfit in item response theory models. *Multivariate Behavioral Research*, 49(4):354–371

Liu, Y. and Hannig, J. (2014). Abstract: Generalized fiducial inference for binary logistic item response models. *Multivariate Behavioral Research*, 49(3):290

Liu, Y. and Maydeu-Olivares, A. (2013). Local dependence diagnostics in IRT modeling of binary data. *Educational and Psychological Measurement*, 73(2):254–274

Liu, Y. and Thissen, D. (2012). Identifying local dependence with a score test statistic based on the bifactor logistic model. *Applied Psychological Measurement*, 36(8):670–688

Journal Articles: Application

Quinn, H., Thissen, D., Liu, Y., Magnus, B., Lai, J.-S., Amtmann, D., Varni, J. W., Gross, H. E., , and DeWalt, D. A. (2014). Using item response theory to enrich and expand the PROMIS pediatric self report banks. *Health and Quality of Life Outcomes*. In press

Selewski, D. T., Massengill, S. F., Troost, J. P., Wickman, L., Messer, K. L., Herreshoff, E., Bowers, C., Ferris, M. E., Mahan, J. D., Greenbaum, L. A., MacHardy, J., Kapur, G., Chand, D. H., Goebel, J., Barletta, G. M., Geary, D., Kershaw, D. B., Pan, C. G., Gbadegesin, R., Hidalgo, G., Lane, J. C., Leiser, J. D., Song, P. X., Thissen, D., Liu, Y., Gross, H. E., DeWalt, D. A., and Gipson, D. S. (2014). Gaining the patient reported outcomes measurement information system (promis) perspective in chronic kidney disease: a midwest pediatric nephrology consortium study. *Pediatric Nephrology*, 29(12):2347–2356

Varni, J. W., Magnus, B., Stucky, B. D., Liu, Y., Quinn, H., Thissen, D., Gross, H. E., Huang, I.-C., and DeWalt, D. A. (2014a). Psychometric properties of the PROMIS pediatric scales: precision, stability, and comparison of different scoring and administration options. *Quality of Life Research*, 23(4):1233–1243

Varni, J. W., Thissen, D., Stucky, B. D., Liu, Y., Magnus, B., Quinn, H., Irwin, D. E., DeWitt, E. M., Lai, J.-S., Amtmann, D., Gross, H. E., and DeWalt, D. A. (2014b). PROMIS parent proxy report scales for children ages 5–7 years: an item response theory analysis of differential item functioning across age groups. *Quality of Life Research*, 23(1):349–361

Gipson, D., Selewski, D., Massengill, S., Wickman, L., Messer, K., Herreshoff, E., Bowers, C., Ferris, M., Mahan, J., Greenbaum, L., MacHardy, J., Kapur, G., Chand, D., Goebel, J., Barletta, G., Geary, D., Kershaw, D., Pan, C., Gbadegesin, R., Hidalgo, G., Lane, J., Leiser, J., Plattner, B., Song, P., Thissen, D., Liu, Y., Gross, H. E., and DeWalt, D. A. (2013). Gaining the PROMIS perspective from children with nephrotic syndrome: a midwest pediatric nephrology consortium study. *Health and Quality of Life Outcomes*, 11(1):11–30

Hinds, P. S., Nuss, S. L., Ruccione, K. S., Withycombe, J. S., Jacobs, S., DeLuca, H., Faulkner, C., Liu, Y., Cheng, Y. I., Gross, H. E., Wang, J., and DeWalt, D. A. (2013). PROMIS pediatric measures in pediatric oncology: Valid and clinically feasible indicators of patient-reported outcomes. *Pediatric Blood & Cancer*, 60(3):402–408

Varni, J. W., Thissen, D., Stucky, B. D., Liu, Y., Gorder, H., Irwin, D. E., DeWitt, E. M., Lai, J.-S., Amtmann, D., and DeWalt, D. A. (2012). PROMIS parent proxy report

scales: an item response theory analysis of the parent proxy report item banks. *Quality of Life Research*, 21(7):1223–1240

Hu, Y., Gan, Y., and Liu, Y. (2012). How chinese people infer helpers' ambiguous intentions: Helper effort and interpersonal relationships. *International Journal of Psychology*, 47(5):393–404

Li, T. and Liu, Y. (2012). Calibrating group attachment scale: An application of item factor analysis. *Acta Scientiarum Naturalium Universitatis Pekinensis*, 48(2):331–342

Thissen, D., Varni, J. W., Stucky, B. D., Liu, Y., Irwin, D. E., and DeWalt, D. A. (2011). Using the PedsQL^{TM} 3.0 asthma module to obtain scores comparable with those of the PROMIS pediatric asthma impact scale (PAIS). *Quality of Life Research*, 20(9):1497–1505

Book chapters

Liu, Y., Magnus, B., Quinn, H., and Thissen, D. (in press). Multidimensional item response theory. In Hughes, D., Irwing, P., and Booth, T., editors, *Handbook of Psychometric Testing*. Wiley-Blackwell

Manuscripts under review

Selewski, D. T., Troost, J. P., Massengill, S. F., Gbadegesin, R. A., Greenbaum, L. A., Shatat, I. F., Cai, Y., Kapur, G., Hebert, D., Somers, M. J., Trachtman, H., Pais, P., Seifert, M. E., Goebel, J., Sethna, C. B., Mahan, J. D., Gross, H. E., Herreshoff, E., Liu, Y., Song, P. X., Reeve, B. B., DeWalt, D. A., and Gipson, D. S. The impact of disease duration on quality of life in children with nephrotic syndrome: A midwest pediatric nephrology consortium study.

Varni, J. W., Thissen, D., Stucky, B. D., Liu, Y., DeWitt, E. M., Irwin, D. E., and DeWalt, D. A. Item-level informant discrepancies between children and their parents on the PROMIS pediatric scales.

Liu, Y., Magnus, B., and Thissen, D. Modeling and testing differential item functioning in unidimensional binary item response models with a single continuous covariate: A functional data analysis approach.

Liu, Y. and Hannig, J. Generalized fiducial inference for binary logistic item response models.

Maydeu-Olivares, A. and Liu, Y. Item diagnostics in multivariate discrete data.

Manuscripts in preparation

Pek, J., Chalmers, R. P., and Liu, Y. Profile likelihood-based confidence intervals for item response theory models.

Maydeu-Olivares, A. and Liu, Y. Comparing quadratic-form overall fit statistics in IRT modeling.

Magnus, B. and Liu, Y. The influence of parceling on the implied factor structure of multidimensional data.

Conference Presentations

Thissen, D., Liu, Y., Magnus, B., and Quinn, H. Extending the use of multidimensional IRT calibration as projection: Many-to-one linking and linear computation of projected scores. Presentation at the International Meeting of the Psychometric Society, Madison, WI, USA, July 21–25, 2014

Liu, Y., Magnus, B., and Thissen, D. Modeling differential item functioning in unidimensional binary item response models with a single continuous covariate: A functional data analysis approach. Presentation at the International Meeting of the Psychometric Society, Madison, WI, USA, July 21–25, 2014

Liu, Y. and Hannig, J. Generalized fiducial inference and its application in item response theory. Presentation at the International Meeting of the Psychometric Society, Madison, WI, USA, July 21–25, 2014

Liu, Y. and Hannig, J. Generalized fiducial inference for binary logistic item response models: Theory and application. Presentation at the Annual Meeting of the Society of Multivariate Experimental Psychology, St. Petersburg, FL, USA, October 17–19, 2013

Liu, Y. and Maydeu-Olivares, A. Identifying the source of misfit in item response theory models. Presentation at the Annual Meeting of the Society of Multivariate Experimental Psychology, St. Petersburg, FL, USA, October 17–19, 2013

Liu, Y. and Maydeu-Olivares, A. Identifying the source of misfit in item response theory models. Presentation at the International Meeting of the Psychometric Society, Arnhem, the Netherlands, July 23–26, 2013

Magnus, B. and Liu, Y. The influence of parceling on the implied factor structure of multidimensional data. Presentation at the Modern Modeling Methods Conference, Storrs, CT, USA, May 21–22, 2013

Liu, Y. and Maydeu-Olivares, A. The use of quadratic form statistics of residuals to identify IRT model misfit in marginal subtables. Presentation at the International Meeting of the Psychometric Society, Lincoln, NE, USA, July 10–12, 2012

Liu, Y. and Thissen, D. Identifying local dependence with a score test statistic based on the bifactor two-parameter logistic model. Presentation at the International Meeting of the Psychometric Society, Hong Kong, China, July 18–22, 2011

Teaching experience

01/2011-05/2011	Teaching assistant
	Course: Multilevel modeling
	Instructor: Daniel J. Bauer
09/2010-12/2010	Teaching assistant
	Course: Factor analysis
	Instructor: Robert C. MacCallum

Professional experience

06/2014-07/2014	Summer internship
	Educational Testing Service
	Mentors: Shelby Haberman and Yi-Hsuan Lee

Awards

11/2015	Lyle V. Jones Award
	L. L. Thurstone Psychometric Laboratory, UNC-CH
09/2014-05/2015	Gulliksen Psychometric Research Fellowship
	Educational Testing Service

Computing skills

Statistical software	R/S-Plus, SAS, SPSS, M*plus*, LISREL, BUGS/JAGS, IRTPRO
Programming language	C++, Fortran, Java
Others	Bash, TEX/LATEX, HTML