Curriculum Vitae

Sophia Rabe-Hesketh

Graduate School of Education
3659 Tolman Hall
University of California, Berkeley
Berkeley, California 94720-1670

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Web-page: http://www.gllamm.org/sophia.html

Citizenship: German (U.S. permanent resident)

Academic Appointments

2006-present: Chair of Social Statistics, Department of Quantitative Social Science, Institute of Education, University of London (part-time position)

2004-present: Professor of Biostatistics, Graduate Group in Biostatistics, University of California, Berkeley

2003-present: Professor of Educational Statistics, Graduate School of Education (Quantitative Methods and Evaluation), University of California, Berkeley

2003-2003: Reader in Statistics, Department of Biostatistics and Computing, Institute of Psychiatry, King's College, University of London

1999-2003: Senior Lecturer in Statistics, Department of Biostatistics and Computing, Institute of Psychiatry, King's College, University of London

1994-1999: Lecturer in Statistics, Department of Biostatistics and Computing, Institute of Psychiatry, King's College, University of London

1992-1994: Postdoctoral Research Fellow (SERC Fellowship), Department of Statistics, University of Leeds

Degrees

Ph.D., King's College, University of London, 1992, Theoretical Physics (Statistical image analysis), Advisor: J. F. Boyce, Examiners: K. V. Mardia and G. S. Joyce

B.Sc. (Honors), King's College, University of London, 1988, Physics

Research Interests

Multilevel, item response, structural equation and latent class models and their applications in educational, behavioural and medical research. Developing a model framework called GLLAMM (Generalized Linear Latent And Mixed Models) that unifies these models and allows specification of novel multilevel latent variable models for many types of responses including continuous, ordinal and nominal responses, rankings, counts and durations.

Statistical Software Development

I have developed a general-purpose Stata program called gllamm for estimating the entire class of GLLAMM models by maximum likelihood using adaptive quadrature. Additional programs provide predictions (empirical Bayes), diagnostics and simulations. The programs and further information are available from http://www.gllamm.org.

Since 2002, the software has been used in over 200 peer-reviewed papers indexed in the ISI Web of Science by researchers in education, sociology, political science, economics, medicine and statistics (see http://www.gllamm.org/pub.html). Short-courses on gllamm have been held in the UK, Germany, Sweden, Italy, Canada, Mexico, Norway, Ireland, Switzerland and the U.S. The manual has been downloaded over 15,000 times since December 2004.

Editorial Service

Co-Editor, *Statistical Methods in Medical Research*, 2006-present

Book series editor for the Chapman & Hall/CRC series *Statistics in the Social and Behavioral Sciences*

Associate editor, *Psychometrika*, 2005-present

Associate editor, *Statistical Modelling*, 2005-present

Associate editor, *The Stata Journal*, 2001-present

Book review editor, *Statistical Methods in Medical Research*, 2000-2003

Editor for Section on Longitudinal and Multilevel Modelling in *Encyclopaedia of Statistics in Behavioral Science*. Wiley, 2005

Guest editor: Special issue on "Latent Variable Modelling". *Statistical Methods in Medical Research* 17 (1), 2008

Guest editor: Special issue on "Analysis of Medical Images". *Statistical Methods in Medical Research* 6 (3), 1997

Member of editorial board, *Structural Equation Modeling*, 2006-present

Member of editorial board, *Psychological Methods*, 2007-present

Guest associate editor, *Psychometrika*, 2004

Other Professional Service and Honours

Elected member of the *International Statistical Institute*, 2008

Member of the *Technical Advisory Group for the OECD Program of International Student Assessment* (PISA), 2007-present

Elected member of the *Board of Trustees of the Psychometric Society*, 2007-2010

Co-Chair of the scientific committee for the first *West Coast Stata Users Group Meeting* (with Bill Mason), 2007

Member of the *Design and Analysis Committee for the U.S. National Assessment of Educational Progress* (NAEP), 2006-present

Member of the scientific committee for the *International Workshop on Statistical Latent Variable Models in the Health Sciences*, Perugia, Italy, 2006

Co-Organizer of the *9th UK Stata Users Group Meeting* (with Stephen Jenkins), London, UK, 2003

Courses Taught

Graduate School of Education, University of California, Berkeley

- Data Analysis in Educational Research II, Spring 2004-2008
- Data Analysis in Educational Research I, Fall 2004-2007
- Hierarchical and Longitudinal Modeling, Fall 2005, Spring 2007
- Hierarchical/Multilevel Modeling (Research Group), Fall & Spring 2004-2008

Ph.D. Training Programme at the Institute of Psychiatry, University of London

- Reliability, 1999, 2000, 2002
- Multilevel Modeling, 2001
- Data Description and Presentation, 1994-1998
- Statistical Inference, 1994-1998
- Introductory Statistics, 1999
- Statistics using SPSS, 1999-2003
- Power and Sample Size, 1999-2003
- Epidemiology using Stata, 2000

Doctorate in Clinical Psychology at the Institute of Psychiatry, University of London

- Reliability, 1997-2003
- Health Care Trials, 1997-2003

M.S. and Diploma in Therapy with Couples at the Institute of Psychiatry, University of London: Critical Appraisal of Research Papers, 1997-2001 M.B.B.S. (Undergraduate Medicine) at School of Medicine and Dentistry, King's College, University of London: Medical Statistics, 1995-1999

Grants

2008-2010 Dearden, L., Brown, J. J., Hansen, K., McDonald, J. W., Rabe-Hesketh, S. and Vignoles, A. Methods, Inference and Network (ADMIN) Node of the National Center for Research Methods. Economic and Social Research Council, UK. £1.336m Co-investigator (Director for Methodology).

2007-2011 Wilson, M. and Rabe-Hesketh, S. Berkeley Research Experience and Methodology (BREM) Program (Postdoctoral Fellowships). U.S. Department of Education, Institute of Education Sciences. $624,400. Co-Principal Investigator.

2001-2004 McLoughlin, D., Brown, R., Rothwell, J., Knapp, M., Rabe-Hesketh, S., Edwards, D., Blanchard, M., Carter, J., Howard, R. and Philpot, M. Clinical effectiveness and cost of repetitive transcranial magnetic stimulation versus ECT in severe depression: A multi-centre randomized controlled trial and economic analysis. NHS Health and Technology Assessment Programme. £469,400. Co-investigator.

2002-2005 Ismail, K., Chalder, T., Thomas, S., Treasure, J., Schmidt, U., Rabe-Hesketh, S., Jones, R. and Patel, A. A randomised controlled trial of cognitive behaviour therapy and motivational interviewing for people with Type I diabetes mellitus and suboptimal glycaemic control. NHS Health and Technology Assessment Programme. £568,989. Co-investigator.

2000-2003 Schmidt, U., Treasure, J., Eisler, I., Dare, C., Beecham, J. K., Rabe-Hesketh, S. A randomized controlled evaluation of the cost effectiveness of cognitive-behavioural guided self-care versus family therapy for adolescent bulimia nervosa in a catchment area-based population. PPP Healthcare Medical Trust. £197,000. Co-investigator.

Books (5)

(frequently cited (ISI): *: ≥ 10, **: ≥ 50, ***: ≥ 100)

Rabe-Hesketh, S. and Skrondal, A. (2008). *Multilevel and Longitudinal Modeling Using Stata* (Second Edition). College Station, TX: Stata Press, pp. xxiii + 562. ** (across editions)
– With 317-page solutions manual

Rabe-Hesketh, S. and Everitt, B. S. (2006). *Handbook of Statistical Analyses Using Stata* (Fourth Edition). Boca Raton, FL: Chapman & Hall/CRC, pp. ix + 342. * (across editions)
– With 121-page solutions manual

Skrondal, A. and Rabe-Hesketh, S. (2004). *Generalized Latent Variable Modeling: Multilevel, Longitudinal and Structural Equation Modeling*. Boca Raton, FL: Chapman & Hall/ CRC Press, pp. viii + 508. ***
– With web site http://www.gllamm.org/books/genlat.html

Everitt, B. S. and Rabe-Hesketh, S. (2001). *Analyzing Medical Data using S-PLUS*. New York: Springer, pp. vii + 485. *

Everitt, B. S. and Rabe-Hesketh, S. (1997). *The Analysis of Proximity Data*. London: Arnold, pp. vii + 192. *

Publications: Methodological (58)

(frequently cited (ISI): *: ≥ 10, **: ≥ 50, ***: ≥ 100, ****: ≥ 200)

Peer-Reviewed Journal Articles (27)

Rabe-Hesketh, S., Skrondal, A. and Gjessing, H. K. (2008). Biometrical modeling of twin and family data using standard software for mixed models. *Biometrics*, in press.

Rabe-Hesketh, S. and Skrondal, A. (2008). Classical latent variable models for medical research. *Statistical Methods in Medical Research* 17, 5-32.

Skrondal, A. and Rabe-Hesketh, S. (2007). Latent variable modelling: A survey. *Scandinavian Journal of Statistics* 34, 712-745.

Skrondal, A. and Rabe-Hesketh, S. (2007). Redundant overdispersion parameters in multilevel models for categorical responses. *Journal of Educational and Behavioral Statistics* 32, 419-430.

Zheng, X. and Rabe-Hesketh, S. (2007). Estimating parameters of dichotomous and ordinal item response models using gllamm. *The Stata Journal* 7, 313-333.

Rabe-Hesketh, S. and Skrondal, A. (2007). Multilevel and latent variable modelling with composite links and exploded likelihoods. *Psychometrika* 72, 123-140.

Rabe-Hesketh, S. and Skrondal, A. (2006). Multilevel modeling of complex survey data. *Journal of the Royal Statistical Society, Series A* 169, 805-827. most downloaded JRSSA paper in 2006

Miranda, A. and Rabe-Hesketh, S. (2006). Maximum likelihood estimation of endogenous switching and sample selection models for binary, count, and ordinal variables. *The Stata Journal* 6, 285-308.

Rabe-Hesketh, S., Skrondal, A. and Pickles, A. (2005). Maximum likelihood estimation of limited and discrete dependent variable models with nested random effects. *Journal of Econometrics* 128, 301-323. *

Rabe-Hesketh, S., Skrondal, A. and Pickles, A. (2004). Generalized multilevel structural equation modelling. *Psychometrika* 69, 183-206. * most downloaded Psychometrika paper in 2006

Landau, S., Rabe-Hesketh, S. and Everall, I. (2004). One-way analysis of variance of replicated bivariate spatial point patterns. *Biometrical Journal* 46, 19-34.

Rabe-Hesketh, S., Pickles, A. and Skrondal, A. (2003). Correcting for covariate measurement error in logistic regression using nonparametric maximum likelihood estimation. *Statistical Modelling* 3, 215-232.

Skrondal, A. and Rabe-Hesketh, S. (2003). Multilevel logistic regression for polytomous data and rankings. *Psychometrika* 68, 267-287. * 3rd most downloaded Psychometrika paper in 2006

Rabe-Hesketh, S., Skrondal, A. and Pickles, A. (2003). Maximum likelihood estimation of generalized linear models with covariate measurement error. *The Stata Journal* 3, 385-410.

Skrondal, A. and Rabe-Hesketh, S. (2003). Some applications of generalized linear mixed models in epidemiology: repeated measures, measurement error and multilevel modelling. *Norwegian Journal of Epidemiology* 13, 265-278.

Rabe-Hesketh, S., Skrondal, A. and Pickles, A. (2002). Reliable estimation of generalized linear mixed models using adaptive quadrature. *The Stata Journal* 2, 1-21. **

Rabe-Hesketh, S. and Skrondal, A. (2001). Parameterization of multivariate random effects models for categorical data. *Biometrics* 57, 1256-1263. *

Rabe-Hesketh, S., Toulopoulou, T. and Murray, R. (2001). Multilevel modeling of cognitive function in schizophrenic patients and their first degree relatives. *Multivariate Behavioral Research* 36, 279-298. *

Rabe-Hesketh, S., Pickles, A. and Yang, S. (2001). Multilevel models for censored and latent responses. *Statistical Methods in Medical Research* 10, 409-427.

Bullmore, E. T., Suckling, J., Overmeyer, S., Rabe-Hesketh, S. and Brammer, M. J. (1999). Global, voxel and cluster tests, by theory and permutation, for a difference between two groups of structural MR images of the brain. *IEEE Transactions on Medical Imaging* 18, 32-42. ****

Rabe-Hesketh, S. (1998). Analysing violent incidents and other events. *International Journal of Methods in Psychiatric Research* 7, 204-209.

Bullmore E. T., Brammer M. J., Rabe-Hesketh, S., Curtis V. A., Morris, R.G., Williams S. C. R., Sharma T. and McGuire P. K. (1998). Methods for diagnosis and treatment of stimulus correlated motion in generic brain activation studies using fMRI. *Human Brain Mapping* 7, 38-48. ***

Rabe-Hesketh, S., Bullmore, E. T. and Brammer, M. J. (1997). The Analysis of Functional Magnetic Resonance Images. *Statistical Methods in Medical Research* 6, 215-237. *

Brammer, M. J., Bullmore, E. T., Simmons, A., Williams, S. C. R., Grasby, P. M., Howard, R. J. Woodruff, P. W. R. and Rabe-Hesketh, S. (1997). Generic brain activation mapping in functional magnetic resonance imaging: A nonparametric approach. *Magnetic Resonance Imaging* 15, 763-770. ****

Bullmore, E. T., Rabe-Hesketh, S., Morris, R. G., Williams, S. C. R., Gregory, L., Gray, J. A. and Brammer, M. J. (1996). Functional Magnetic Resonance Image Analysis of a Large Scale Neurocognitive Network. *NeuroImage* 4, 16-33. **

Bullmore, E. T., Brammer M. J., Williams, S. C. R., Rabe-Hesketh, S., Janot, N., David, A., Mellers, J., Howard, R. and Sham, P. (1996). Statistical Methods of Estimation and Inference for Functional MR Image Analysis. *Magnetic Resonance in Medicine* 35, 261-277. ****

Rabe, S. and Mardia, K. V. (1994). Generalised Ising models and their applications. *Journal of Applied Statistics* 21, 487-502.

(See p. 8 for 55 peer-reviewed applied papers.)

Book chapters (7)

Rabe-Hesketh, S. and Skrondal, A. (2008). Generalized linear mixed effects models. In Fitzmaurice, G., Davidian, M., Verbeke, G., and Molenberghs, G. (Eds.), *Longitudinal Data Analysis*. Boca Raton, FL: Chapman & Hall/CRC. To appear

Bollen, K., Rabe-Hesketh, S. and Skrondal, A. (2008). Structural equation models and latent variables. In Box-Steffensmeier, J., Brady, H., and Collier, D. (Eds.), *Oxford Handbook on Political Methodology*. Volume 11 of Oxford Handbooks of Political Science. Oxford: Oxford University Press. To appear.

Skrondal, A. and Rabe-Hesketh, S. (2007). Multilevel and related models for longitudinal data. In de Leeuw, J. and Meijer, E. (Eds.), *Handbook for Multilevel Analysis*. New York: Springer, pp. 275-299.

Rabe-Hesketh, S., Skrondal, A. and Zheng, X. (2007). Multilevel structural equation modeling. In Lee, S.-Y. (Ed.), *Handbook of Latent Variable and Related Models*. Amsterdam: Elsevier, pp. 209-227.

Rabe-Hesketh, S., Brammer, M. J. and Bullmore, E. T. (1997). Localising activation in a single subject using fMRI. In Dunn, G. and Everitt, B. S. (Eds.), *Recent Advances in the Analysis of Medical Data*. London: Arnold, pp. 309-325.

Williams, S. C. R., Simmons, A., Andrew, C. M., Brammer, M. J., Bullmore, E. T. and Rabe-Hesketh, S. (1997). Brain activation studies using magnetic resonance imaging. In Bachelard, H. S. (Ed.), *Magnetic Resonance Spectroscopy and Imaging in Neurochemistry*, Volume 8 of Advances in Neurochemistry. New York: Plenum Press, pp. 241-265.

Rabe, S., Mardia, K. V. and Boyce, J. F. (1994). Modelling microtexture. In Mardia, K. V. (Ed.), *Statistics and Images*, Volume 2 (Supplement to the Journal of Applied Statistics). Abingdon: Carfax, pp. 385-406.

Software manual (1)

Rabe-Hesketh, S., Skrondal, A. and Pickles, A. (2004). GLLAMM Manual (Second Edition). U.C. Berkeley Division of Biostatistics Working Paper Series. Working Paper 160, pp. 1-140. See http://www.bepress.com/ucbbiostat/paper160/ (downloaded 15,952 times between December 2004 and January 2008) ** (across editions)

Articles in non-peer-reviewed journals (2)

Rabe-Hesketh, S., and Pickles, A., and Skrondal, A. (2001). GLLAMM: a class of models and a Stata program. *Multilevel Modelling Newsletter* 13, 17-23. *

Rabe-Hesketh, S., Pickles, A. and Taylor, C. (2000). sg129: Generalized linear latent and mixed models. *Stata Technical Bulletin* 53, 47-57. *

Encyclopedia entries (8)

Skrondal, A. and Rabe-Hesketh, S. (2005). Structural equation modeling: categorical observed variables. In Everitt, B. and Howell, D. (Eds.), *Encyclopedia of Statistics in Behavioral Science*. London: Wiley, Volume 4, pp. 1905-1910.

Skrondal, A. and Rabe-Hesketh, S. (2005). State dependence. In Everitt, B. and Howell, D. (Eds.), *Encyclopedia of Statistics in Behavioral Science*. London: Wiley, Volume 4, pp. 1895.

Skrondal, A. and Rabe-Hesketh, S. (2005). Random effects models for discrete longitudinal data. In Everitt, B. and Palmer, C. (Eds.), *Encyclopedic Companion to Medical Statistics*. London: Arnold, pp. 288-291.

Skrondal, A. and Rabe-Hesketh, S. (2005). Generalized estimating equations. In Everitt, B. and Palmer, C. (Eds.), *Encyclopedic Companion to Medical Statistics*. London: Arnold, pp. 146-148.

Rabe-Hesketh, S. and Skrondal, A. (2005). Probit model. In Everitt, B. and Palmer, C. (Eds.), *Encyclopedic Companion to Medical Statistics*. London: Arnold, pp. 276.

Skrondal, A. and Rabe-Hesketh, S. (2005). Clustered binary data. In Everitt, B. and Palmer, C. (Eds.), *Encyclopedic Companion to Medical Statistics*. London: Arnold, pp. 62-63.

Rabe-Hesketh, S. (1998). Autocorrelation function. In *Encyclopedia of Biostatistics*. Chichester: Wiley. Vol. 1, pp. 229-230.

Rabe-Hesketh, S. (1998). Backward shift operator and Forward shift operator. In *Encyclopedia of Biostatistics*. Chichester: Wiley. Vol. 1, pp. 242-243.

Published conference papers (6)

Zheng, X., Rabe-Hesketh, S. and Skrondal, A. (2006). Multilevel structural equation modeling of ordinal responses. *Proceedings of the American Statistical Association*. Alexandria, VA: American Statistical Association, pp. 1972-1979.

Skrondal, A. and Rabe-Hesketh, S. (2004) Generalized linear latent and mixed models with composite links and exploded likelihoods. In Biggeri, A., Dreassi, E., Lagazio, C. and Marchi, M. (Eds.), *Proceedings of the 19th International Workshop on Statistical Modeling*. Florence, Italy, pp. 27-39.

Skrondal, A. and Rabe-Hesketh, S. (2003). Generalized linear mixed models for nominal data. *2003 Proceedings of the American Statistical Association*. Alexandria, VA: American Statistical Association, pp. 3931-3936.

Rabe-Hesketh, S. and Pickles, A. (1999). Generalized linear latent and mixed models. In Friedl, H., Bughold, A. and Kauermann, G. (Eds.), *Proceedings of the 14th International Workshop on Statistical Modelling*, Graz, Austria, pp. 332-339.

Mardia, K. V., Rabe, S. and Kent, J. T. (1995). Statistics, shape and images. In Titterington, D. M. (Ed.), *IMA Proceedings on Complex Stochastic Systems and Engineering*. Oxford: Clarendon Press, pp. 85-103.

Kent, J. T., Mardia, K. V. and Rabe, S. (1994). Face description from laser range data. In *Proceedings on Mathematical Methods in Medical Imaging III*. Bellingham: SPIE, pp. 32-45.

Letters, discussions, editorials, book reviews and software reviews (5)

Skrondal, A. and Rabe-Hesketh, S. (2008). Latent variable modeling (Editorial). *Statistical Methods on Medical Research* 17, 1-2.

Skrondal, A. and Rabe-Hesketh, S. (2004). Book review of "Topics in Modelling of Clustered Data" edited by M. Aerts, H. Geys, G. Molenberghs and L. M. Ryan. *Statistics in Medicine* 23, 3552-3553.

Wright, I., Rabe-Hesketh, S., Mellers, J., Bullmore, E. T. and Murray, R. (1999). Testing for laterality differences in regional brain volumes (Letter). *Archives of General Psychiatry* 57, 511.

Landau, S. and Rabe-Hesketh, S. (1999). Software review of StatView. *Statistical Methods in Medical Research* 8, 337-341.

Rabe-Hesketh, S. (1997). Analyis of medical images (Editorial). *Statistical Methods on Medical Research* 6, 189-190.

Rabe, S. (1994). Discussion of Grenander, U. and Miller, M. I. Representation of knowledge in complex systems. *Journal of the Royal Statistical Society, Series B* 56, 590-591.

Rabe, S. (1992). Discussion of Geyer C. J. and Thompson, E. A. Constrained Monte Carlo maximum likelihood for dependent data. *Journal of the Royal Statistical Society, Series B* 54, 694.

PUBLICATIONS: APPLIED PEER-REVIEWED JOURNAL ARTICLES (55)

(frequently cited (ISI): *: $\geq$ 10, **: $\geq$ 50, ***: $\geq$ 100, ****: $\geq$ 200, *****: $\geq$ 300)

Ma, X. H., Wang, Q., Sham, P. C., Liu, X. H., Rabe-Hesketh, S., Sun, X. L., Hu, J. M., Meng, H. Q., Chen, W., Chen, E. Y. H., Deng, W., Chan, R. C. K., Murray, R. M., Collier, D. A. and Li, T. (2007). Neurocognitive deficits in first-episode schizophrenic patients and their first-degree relatives Source. *American Journal of Medical Genetics Part B-Neuropsychiatric Genetics* 144, 407-416.

Eranti, S., Mogg, A., Pluck, G., Landau, S., Purvis, R., Brown, R. G., Howard, R., Knapp, M., Philpot, M., Rabe-Hesketh, S., Romeo, R., Rothwell, J., Edwards, D. and McLoughlin, D. M. (2007). A randomised controlled trial with six-month follow-up of repetitive transcranial magnetic stimulation and electroconvulsive therapy for severe depression. *American Journal of Psychiatry* 164, 73-81.

Ma, X. H., Wang, Q., Sham, P. C., Liu, X. H., Rabe-Hesketh, S., Sun, X. L., Hu, J. M., Meng, H. Q. , Chen, W., Chen, E. Y. H. , Deng, W., Chan, R. C. K., Murray, R. M., Collier, D. A. and Li, T. (2007). Neurocognitive deficits in first-episode schizophrenic patients and their first-degree relatives. *American Journal of Medical Genetics Part B-Neuropsychiatric Genetics* 144B, 407-416.

Bolton, D., Eley, T. C., O'Connor, T. G., Perrin, S., Rabe-Hesketh, S., Rijsdijk, F. and Smith, P. (2006). Prevalence and genetic and environmental influences on anxiety disorders in 6-year-old twins. *Psychological Medicine* 36, 335-344.

Carcani-Rathwell, I., Rabe-Hesketh, S. and Santosh, P. J. (2006). Repetitive and Stereotyped Behaviours in Pervasive Developmental Disorders. *Journal of Child Psychology and Psychiatry* 47, 573-81.

Schulze, K., MacCabe, J. H., Rabe-Hesketh, S., Crawford, T., Marshall, N., Zanelli, J., Walshe, M., Bramon, E., Murray, R. M. and McDonald, C. (2006). The relationship between eye movement and brain structural abnormalities in patients with schizophrenia and their unaffected relatives. *Journal of Psychiatric Research* **40**, 589-598.

Zanelli, J., Simon, H., Rabe-Hesketh, S., Walshe, M., McDonald, C., Murray, R. M. and MacCabe, J. H. (2005). Eye tracking in schizophrenia: Does the antisaccade task measure anything that the smooth pursuit task does not? *Psychiatry Research* 136, 181-188.

Ismail, K., Winkley, K. and Rabe-Hesketh, S. (2004). Systematic review and meta-analysis of randomised controlled trials of psychological interventions to improve glycaemic control in patients with type 2 diabetes. *The Lancet* 363, 1589-1597. *

Gudjonsson, G. H., Rabe-Hesketh, S. and Szmukler, G. (2004). Management of psychiatric in-patient violence: patient ethnicity and use of medication, restraint and seclusion. *British Journal of Psychiatry* 184, 258-262.

McDonald, C., Zanelli, J., Rabe-Hesketh, S., Ellison-Wright, I., Sham, P., Kalidindi, S., Murray, R. M. and Kennedy, N. (2004). Meta-Analysis of Magnetic Resonance Imaging Brain Morphometry Studies in Bipolar Disorder. *Biological Psychiatry* 56, 411-417. *

Cervilla, J., Prince, M., Rabe-Hesketh, S. (2004). Vascular disease risk factors as determinants of incident depressive symptoms: a prospective community-based study. *Psychological Medicine* 43, 635-641.

Toulopoulou, T., Grech, A., Morris, R. G., Schulze, K., McDonald, C., Chapple, B., Rabe-Hesketh, S. and Murray, R. M. (2004). The Relationship Between Volumetric Brain Changes and Cognitive Function: A Family Study on Schizophrenia. *Biological Psychiatry* 56, 447-653.

Bramon, E., Rabe-Hesketh, S., Sham, P., Murray, R. M. and Frangou, S. (2004). Meta-analysis of the P300 and P50 waveforms in schizophrenia. *Schizophrenia Research* 70, 315-329. *

Ettinger, U., Kumari, V., Crawford, T. J., Corr, P. J., Das, M., Zachariah, E., Hughes, C., Sumich, A. L., Rabe-Hesketh, S. and Sharma, T. (2004). Smooth pursuit and antisaccade eye movements in siblings discordant for schizophrenia. *Journal of Psychiatric Research* 38, 177-184. *

Rutter, S., Gudjonsson, G. and Rabe-Hesketh, S. (2004). Violent incidents in a medium secure unit: the characteristics of persistent perpetrators of violence. *Journal of Forensic Psychiatry and Psychology* 15, 293-302.

Tchanturia, K., Anderluh, M.B., Morris, R.G., Rabe-Hesketh, S., Collier, D.A., Sanchez, P. and Treasure, J. L. (2004). Cognitive flexibility in anorexia nervosa and bulimia nervosa. *Journal of the International Neuropsychological Society* 10, 513-520. *

Kuipers, E., Holloway, F., Rabe-Hesketh, S. and Tennakoon, L. (2004). An RCT of early intervention in psychosis: Croydon Outreach and Assertive Support Team (COAST). *Social Psychiatry and Psychiatric Epidemiology* 39, 358-363. *

Patel, V., Chisholm, D., Rabe-Hesketh, S., Dias-Saxena, F., Andrew, G. and Mann, A. (2003). The treatment of common mental disorders in a developing country: A randomized controlled trial of the efficacy and cost-effectiveness of antidepressant and psychological treatments in general health care from Goa, India. *The Lancet* 361, 33-39. *

Anderluh, M. B., Tchanturia, K., Rabe-Hesketh, S. and Treasure, J. (2003). Childhood obsessive-compulsive personality traits in adult women with eating disorders: Defining a broader eating disorder phenotype. *American Journal of Psychiatry* 160, 242-247. **

Kravariti, E., Morris, R., Rabe-Hesketh, S., Murray, R. and Frangou, S. (2003). The Maudsley early onset schizophrenia study: cognitive function in adolescents with recent onset schizophrenia . *Schizophrenia Research* 61, 137-148. *

Fleminger, S., Oliver, D. L., Lovestone. S., Rabe-Hesketh, S. and Giora, A. (2003). Head injury as a risk factor for Alzheimer's disease; the evidence ten years on. A partial replication. *Journal of Neurology, Neurosurgery & Psychiatry* 74, 857-862. *

Karwautz, A., Troop, N. A., Rabe-Hesketh, S., Collier, D. A. and Treasure, J. L. (2003). Personality disorders and personality dimensions in anorexia nervosa. *Journal of Personality Disorders* **17** (1), 73-85.

Toulopoulou, T., Morris, R. G., Rabe-Hesketh, S. and Murray, R. M. (2003). Selectivity of verbal memory deficit in schizophrenic patients and their relatives. *American Journal of Medical Genetics-Neuropsychiatric Genetics* 116, 1-7. *

Toulopoulou, T., Rabe-Hesketh, S., King, H., Murray, R. M. and Morris, R. G. (2003). Episodic memory in schizophrenic patients and their relatives. *Schizophrenia Research* 63, 261-271. *

Kravariti, E., Morris, R., Rabe-Hesketh, S., Murray, R. and Frangou, S. (2003). The Maudsley early onset schizophrenia study: cognitive function in adolescents-onset schizophrenia . *Schizophrenia Research* 65, 95-103. *

Minnis, H., Rabe-Hesketh, S. and Wolfkind, S. (2002). A brief, clinically relevant, scale for measuring attachment disorders *International Journal of Methods in Psychiatric Research* 11, 90-98.

Ferri, C. P., Gossop, M., Rabe-Hesketh, S. and Laranjeira, R. (2002). Differences in factors associated with first treatment entry and treatment re-entry among cocaine users. *Addiction* 97, 825-832.

Karwautz, A., Rabe-Hesketh, S., Collier, D. A. and Treasure, J. L. (2002). Pre-morbid psychiatric morbidity, comorbidity and personality in patients with anorexia nervosa compared to their healthy sisters. *European Eating Disorders Review* 10, 255-270.

Ettinger, U., Kumari, V., Chitnis, X. A., Corr, P. J., Sumich, A. L., Rabe-Hesketh, S., Crawford, T. J. and Sharma, T. (2002). Relationship between brain structure and saccadic eye movements in healthy humans. *Neuroscience Letters* 328, 225-8.

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Furukawa, T. A., Goldberg, D. P., Rabe-Hesketh, S. and Ustun, T. B. (2001). Stratum-specific likelihood ratios for two versions of the General Health Questionnaire. *Psychological Medicine* 31, 519-529. *

Karwautz, A., Rabe-Hesketh, S., Treasure, J. and Collier, D. (2001). Nonshared risk factors for anorexia nervosa: a study using a discordant sister-pair design. *Psychological Medicine* 31, 317-329. *

Nimnuan C., Rabe-Hesketh, S., Wessely, S. and Hotopf, M. (2001). How many functional syndromes? *Journal of Psychosomatic Research* 5, 549-557. **

Hennessy M. J., Elwes R. D. C., Rabe-Hesketh, S., Binnie, C. D. and Polkey, C. E. (2001). Prognostic factors in the surgical treatment of medically intractable epilepsy associated with mesial temporal sclerosis. *Acta Neurologica Scandinavica* 103, 344-350. *

Smith P., Perrin S., Yule W. and Rabe-Hesketh, S. (2001). War exposure and maternal reactions in the psychological adjustment of children from Bosnia Hercegovina. *Journal of Child Psychology and Psychiatry and Allied Disciplines* 42, 395-404.

Hennessy, M. J., Elwes, R. D. C., Honavar, M., Rabe-Hesketh, S., Binnie, C. D. and Polkey, C. E. (2001). Predictors of outcome and pathological considerations in the surgical treatment of intractable epilepsy associated with temporal lobe lesions. *Journal of Neurology, Neurosurgery and Psychiatry* 70, 450-458. *

Arcuri, S., Rabe-Hesketh, S. and Morris, R. (2001). Regional specificity of cloze probabilities for sentence contexts. *Behavior Research Methods Instruments and Computers* 33, 80-90.

Wright, C. W., Rabe-Hesketh, S., Woodruff, P. W. R., David, A. S., Murray, R. M. and Bullmore, E. T. (2000). Meta-Analysis of Regional Brain Volumes in Schizophrenia. *The American Journal of Psychiatry* 157, 1-25. *****

Gudjonsson, G. H., Rabe-Hesketh, S. and Wilson, C. (2000). Violent incidents on a regional secure unit. The target of assault and the management of incidents. *The Journal of Forensic Psychiatry* 11, 105-118. *

Hannam, S., Ingram D. M., Rabe-Hesketh, S. and Milner, A. D. (2000). Characterisation of the Hering-Breuer deflation reflex in the human neonate. *Respiration Physiology* 124, 51-64.

Kuperberg, G. R., McGuire, P. K., Bullmore, E. T. , Brammer, M. J., Rabe-Hesketh, S., Wright, I. C., Lythgoe, D. Williams, S. C. R. and David, A. S. (2000). Common and distinct neural substrates for processing pragmatic, semantic and syntactic information within spoken sentences: An fMRI study. *Journal of Cognitive Neuroscience* 12, 321-41. ***

Kuyken, W., Peters, E., Power, M., Lavender, T. and Rabe-Hesketh, S. (2000). The Psychological adaptation of trainee psychologists: A one year follow-up. *Clinical Psychology and Psychotherapy* 7, 394-400.

Kircher, T. J., Senior, C., Phillips, M. L., Rabe-Hesketh, S., Benson, P. J., Bullmore, E. T., Brammer, M., Simmons, A. Bartels, M. and David, A. S. (2000). Recognising one's own face. *Cognition* 78, B1-B15. *

Tomik, B., Nicotra, A., Ellis, C. M., Murphy, C., Rabe-Hesketh, S., Parton, M., Shaw, C. E. and Leigh, P. N. (2000). Phenotypic differences between African and white patients with motor neuron disease: A case-control study. *Journal of Neurology, Neurosurgery and Psychiatry* 69, 251-253.

Cannon, M., Jones, P., Huttunen, M. O., Tankanend, A., Murray, R. M. and Rabe-Hesketh, S. (1999). School performance in Finnish school children and later development of schizophrenia: A population-based longitudinal study. *Archives of General Psychiatry* 56, 457-463. **

Gudjonsson, G. H., Rabe-Hesketh, S. and Wilson, C. (1999). Violent incidents on a medium secure unit over a 17-year period. *The Journal of Forensic Psychiatry* 10, 249-263. *

Rossell, S. L., Rabe-Hesketh, S., Shapleske, J. and David, A. S. (1999). Is semantic fluency differentially impaired in schizophrenic patients with delusions? *Journal of Experimental and Clinical Neuropsychology* 21, 629-42. *

Stefanis, N., Rabe-Hesketh, S., Clark, B. and Bebbington, P. (1999). An evaluation of a psychiatric emergency clinic. *Journal of Mental Health* 8, 29-49.

Baxter, R., Rabe-Hesketh, S. and Parrott, J. (1999). Characteristics, needs, and reoffending in a group of patients with schizophrenia formerly treated in medium security. *The Journal of Forensic Psychiatry* 10, 69-83. *

Gilvarry, C. M., Walsh, E., Samele, G., Hutchison, R. Mallett, R., Rabe-Hesketh, S., Fahy, T., Van Os, R. and Murray, R. M. (1999). A prospective study of life events, ethnicity and perceptions of discriminaiton in patients with severe mental illness. *Social Psychiatry and Psychiatric Epidemiology* 34, 600-608. *

Boylan, G. B., Penerai, R. B., Rennie, J. M., Evans, D. H., Rabe-Hesketh, S. and Binnie, C. D. (1999). Cerebral blood flow velocity during neonatal seizures. *Archives of Disease in Childhood* 80, 105-110. *

Joyce, J., Rabe-Hesketh, S. and Wessely, S. (1998). Reviewing the reviews: The example of chronic fatigue syndrome. *Journal of the American Medical Association* 280, 264-266. *

Prince, M. J., Rabe-Hesketh, S. and Brennan, P. (1998). Do anti-arthritic drugs decrease the risk for cognitive decline? An analysis based on data from the MRC treatment trial of hypertension in older adults. *Neurology* 50, 374-379. *

Kouyanou, K., Pither, C. E., Rabe-Hesketh, S. and Wessely, S. (1998). A comparative study of iatrogenesis, medication abuse, and psychiatric morbidity in chronic pain patients with and without medically explained symptoms. *Pain* 76, 417-426. *

Bullmore, E. T., Woodruff, P. W. R., Wright, I. C., Rabe-Hesketh, S., Howard, R. J., Dhuriquie, N. and Murray, R. M. (1998). Does dysplasia cause anatomical dysconnectivity in schizophrenia? *Schizophrenia Research* 30, 127-135. *

INVITED RESEARCH WORKSHOPS

Pre-conference course on "Generalized linear latent and mixed models" (with Anders Skrondal). *XXIV International Biometric Conference* (IBC2008), Dublin, Ireland, 2008.

Pre-conference course on "Generalized linear latent and mixed models" (with Anders Skrondal). *Annual Meeting of the Norwegian Statistical Association*, Tromsø, Norway, 2007.

Continuing Education Course on "Generalized linear latent and mixed models" (with Anders Skrondal). *Joint Statistical Meetings* (sponsored by the Biometric Section of American Statistical Association), Seattle, WA, USA, 2006.

Short course on "Multilevel Modeling using Stata" (with Anders Skrondal). *2006 Summer Update Program in Public Health and Epidemiology.* Instituto Nacional de Salud Pública. Cuernavaca, Morelos, Mexico, 2006.

Pre-conference course on "Longitudinal Modelling for Survey Data". *Methodology of Longitudinal Surveys: An International Conference.* University of Essex, Colchester, UK, 2006.

Tutorial on GLLAMM (with Anders Skrondal). *Biennial Conference of the "Fachgruppe Methoden und Evaluation" of the German Psychological Society.* University of Münster, Germany, 2005.

Tutorial on "Generalized latent variable modeling of complex survey data" (with Anders Skrondal). *Workshop on Latent Variable Models and Complex Survey Data.* Montreal, Canada, 2005.

Workshop on "Generalized linear latent and mixed models" (with Anders Skrondal). *2005 International Chinese Statistical Association Applied Statistics Symposium.* Washington DC, USA, 2005.

Short course on "Multilevel Modeling using the Stata program gllamm" (with Anders Skrondal). *2005 Summer Update Program in Public Health and Epidemiology. Instituto Nacional de Salud Pública.* Cuernavaca, Morelos, Mexico, 2005.

Workshop on "Advances in latent variable modeling" (with Anders Skrondal). *Theme year on Latent Variable Models in the Social Sciences. Statistical and Applied Mathematical Sciences Institute.* Research Triangle Park, NC, USA, 2005.

Workshop on "Multilevel modeling of discrete responses". *Center on Quantitative Social Science Research, University of California, Davis*, CA, USA, 2004.

Conference workshop on "Generalized linear latent and mixed models" (with Anders Skrondal). *3rd North American Stata Users' Group Meeting.* Boston, MA, USA, 2004.

Continuing Education Course on "Generalized linear latent and mixed models" (with Anders Skrondal and Andrew Pickles). *Joint Statistical Meetings* (sponsored by the Biometric Section of ASA), Toronto, Canada, 2004.

Pre-conference course on "Generalized linear latent and mixed modeling" (with Anders Skrondal). *19th International Workshop on Statistical Modelling.* Florence, Italy, 2004.

Pre-conference workshop on "Multilevel and latent variable modeling of discrete data" (with Anders Skrondal and Andrew Pickles). *69th Annual Meeting of the Psychometric Society.* Pacific Grove (Monterey), CA, USA, 2004.

Pre-conference course on "Multilevel and latent variable modeling using gllamm" (with Andrew Pickles and Anders Skrondal). *International Biometric Society - Nordic Region Conference*, Uppsala, Sweden, 2003.

Short-course on "Latent variable modelling". *Centre for Applied Statistics, University of Lancaster*, UK, 2003.

Workshop on "S-PLUS for medical statistics" (with Brian Everitt). *Institute of Psychiatry, London*, UK, 1999.

Invited Talks since 2001

Invited talk at the *73rd Annual Meeting of the Psychometric Society*, Durham, NH, USA.

Invited talk on "Multilevel structural equation modeling: Comparing frameworks". *XXIX International Congress of Psychology 2008* (ICP 2008), Berlin, Germany.

Invited talk on "Generalized linear latent and mixed models for multilevel IRT". *Educational Testing Service* (ETS), Princeton, NJ, USA.

Seminar on "Multilevel structural equation modeling". *University of California, Santa Barbara*, CA, USA, 2007.

Seminar on "Multilevel modeling of complex survey data". *Institute of Education*, University of London, UK, 2007.

Invited talk on "Multilevel and latent variable modeling of complex survey data". *Annual Meeting of the Statistical Society of Canada*, London, Ontario, Canada, 2006.

Invited talk on "Multilevel structural equation modeling". *Economic and Social Research Council Research Methods Festival*. St. Catherine's College, Oxford, UK, 2006.

Keynote lecture on "Generalized multilevel structural equation modeling". *Winemiller Conference on Methodological Developments of Statistics in the Social Sciences*. University of Missouri, Columbia, MO, USA, 2006.

Seminar on "Multilevel Structural Equation Modeling". *Institute of Education, University of London*, UK, 2006.

Keynote lecture on "New developments in latent variable modeling". *Biennial Conference of the Fachgruppe Methoden und Evaluation of the German Psychological Society*. University of Münster, Germany, 2005.

Invited talk on "Multilevel and latent variable modeling of complex survey data". *14th International Meeting of the Psychometric Society*. Tilburg, the Netherlands, 2005.

Seminar on "Generalized linear latent and mixed models for nominal responses". *Division of Biostatistics, University of California, San Francisco*, CA, USA, 2005.

Guest lecture on "Generalized linear latent and mixed models". *Class on Structural Equation Modeling by Ken Bollen. University of North Carolina, Chapel Hill*, NC, USA, 2005

Invited talk "On the use of composite links in multilevel latent variable models". *24th Biennial Conference of the Society for Multivariate Analysis in the Behavioral Sciences*. Jena, Germany, 2004.

Invited talk on "Generalized linear latent and mixed models". *Annual Meeting of the National Council on Measurement in Education*, San Diego, CA, USA, 2004.

Seminar on "Multilevel modeling of discrete responses". *Center on Quantitative Social Science Research, University of California, Davis*, CA, USA, 2004.

Seminar on "Latent variable models for a cluster-randomized trial of sex education with drop-out". *Center for AIDS Prevention Studies*. San Francisco, CA, USA, 2004.

Seminar on "Multilevel and mixed models in epidemiology". *Division of Epidemiology, School of Public Health, University of California, Berkeley*, CA, USA, 2004.

Keynote lecture on "Diagnostics for multilevel models with categorical and discrete responses". *Fourth International Amsterdam Conference on Multilevel Analysis*, Amsterdam, the Netherlands, 2003.

Neyman seminar on "Multilevel modeling of polytomous data and rankings: Application to election research". *Department of Statistics, University of California, Berkeley*, CA, USA, 2003.

Seminar on "Generalized linear latent and mixed modeling". *California Center for Population Research and Department of Sociology, University of California, Los Angeles*, CA, USA, 2003.

Seminar on "Generalized linear latent and mixed modeling". *Graduate School of Education and Information Studies, University of California, Los Angeles*, CA, USA, 2003.

Seminar on "Multilevel models for nominal data". *Inter-Faculty Statistics Seminar, University of Southampton*, UK, 2003.

Seminar on "Multilevel modeling of ordered and unordered categorical responses". *Department of Epidemiology and Biostatistics, Institute of Child Health, London*, UK, 2003.

Invited talk on "Latent classes: discrete random effects and factors in gllamm" (with Andrew Pickles and Anders Skrondal). Meeting on latent class analysis organized by the *Royal Statistical Society (Statistical Computing Section)*, London, UK, 2002.

Keynote lecture on "Multilevel selection modeling using gllamm". *Dutch and German Stata Users' Group Meeting*, Maastricht, the Netherlands, 2002.

Seminar on "Multilevel item response and structural equation modeling". *Berkeley Evaluation and Assessment Research Center, University of California, Berkeley*, CA, USA, 2002.

Keynote lecture on "Generalizing the generalized linear mixed model". *Third International Amsterdam Conference on Multilevel Analysis*, Amsterdam, the Netherlands, 2001.

Seminar on "Generalized linear latent and mixed models". *Department of Medical Statistics, Keele University*, UK, 2001.

Seminar on "The Stata program gllamm for generalized linear latent and mixed models". *Stata Corporation*, College Station, TX, USA, 2001.

CONTRIBUTED TALKS SINCE 2003

Rabe-Hesketh, S. and Skrondal, A. Multilevel modeling of survey data. *West Coast Stata Users Group Meeting*, Marina del Rey, CA, USA, 2007.

Zheng, X. and Rabe-Hesketh, S. Multilevel latent variable modeling: Applications to a reading achievement study. *American Educational Research Association*, San Francisco, CA, USA, 2006.

Zheng, X. and Rabe-Hesketh, S. Multilevel structural equation model for ordinal responses. *Joint Statistical Meetings*, Seattle, WA, USA, 2006.

Skrondal, A. and Rabe-Hesketh, S. Multilevel latent growth modeling with dropout depending on the latent trait: A cluster randomized sex education intervention (invited talk). 14th International Meeting of the Psychomtric Society, Tilburg, the Netherlands, 2005.

Rabe-Hesketh, S. and Skrondal, A. Pseudo maximum likelihood estimation of multilevel generalized linear models. *Workshop on Latent Variable Models and Complex Survey Data*. Montreal, Canada, 2005.

Miranda, A. and Rabe-Hesketh, S. Estimation of ordinal response models, accounting for sample selection bias. *11th UK Stata Users Group Meeting*, London, UK, 2005.

Skrondal, A. and Rabe-Hesketh, S. Generalized linear latent and mixed models with composite links and exploded likelihoods (invited talk). *19th International Workshop on Statistical Modelling*, Florence, Italy, 2004.

Rabe-Hesketh, S. and Skrondal, A. Empirical Bayes prediction in generalized linear mixed models. *2nd International Biometric Society Conference of the Eastern Mediterranean Region*, Antalya, Turkey, 2003.

Rabe-Hesketh, S., Pickles, A. and Skrondal, A. Generalized latent class modeling using gllamm. *2nd North American Stata Users' Group Meeting*, Boston, MA, 2003.

Rabe-Hesketh, S. and Skrondal, A. Model diagnostics in gllamm. *9th UK Stata Users' Group Meeting*, London, UK, 2003.

Skrondal, A. and Rabe-Hesketh, S. Generalized linear mixed models for nominal data. *Joint Statistical Meetings of the American Statistical Association*. San Francisco, CA, USA, 2003.

Skrondal, A. and Rabe-Hesketh, S. Generalized multilevel survival analysis. *Fourth International Amsterdam Conference on Multilevel Analysis*. Amsterdam, the Netherlands, 2003.

REVIEWING

Methodological Journals
- Journal of the Royal Statistical Society (Series A)
- Journal of the Royal Statistical Society (Series B)
- Journal of the Royal Statistical Society (Series C)
- Journal of the American Statistical Association
- The American Statistician
- Statistical Modelling
- Statistical Methodology
- Communications in Statistics
- Computational Statistics and Data Analysis
- The Annals of the Institute of Statistical Mathematics
- IEEE Pattern Analysis and Machine Intelligence
- Biometrika
- Biometrics
- Biostatistics
- Statistical Methods in Medical Research
- Statistics in Medicine
- Psychometrika
- Multivariate Behavioral Research
- Journal of Educational and Behavioral Statistics
- Sociological Methods and Research
- Psychological Methods
- Structural Equation Modeling
- The Stata Journal
- Understanding Statistics
- Iranian Journal of Science and Technology

Applied Journals
- Science
- Educational Evaluation and Policy Analysis
- Psychological Medicine
- British Educational Research Journal
- Drug and Alcohol Dependence
- Personality and Individual Differences
- Quality of Life Research
- Journal of Mental Health
- Journal of Epidemiology and Community Health
- Health Services Research
- Ecological Economics
- Policy Studies Journal

Grant awarding agencies
- National Science Foundation (NSF), USA
- Economic and Social Research Council (ESRC), UK
- Institute of Education Sciences, USA
- Medical Research Council (MRC), UK
- Wellcome Trust, UK
- Estonian Science Foundation (ESF), Estonia

Professional Affiliations

- Elected member of the International Statistical Institute
- Fellow of the Royal Statistical Society
- Member of the American Statistical Association
- Member of the International Biometric Society
- Member of the Psychometric Society
- Member of the National Council on Measurement in Education
- Member of the American Educational Research Association