

**BIOGRAPHICAL SKETCH**

Provide the following information for the key personnel in the order listed for Form Page 2.  
Follow the sample format for each person. **DO NOT EXCEED FOUR PAGES.**

NAME		POSITION TITLE	
Bengt Muthén		Professor, Graduate School of Education & Information Studies	
EDUCATION/TRAINING <i>(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)</i>			
INSTITUTION AND LOCATION	DEGREE <i>(if applicable)</i>	YEAR(s)	FIELD OF STUDY
University of Uppsala, Sweden	B.S.	1970	Statistics
University of Uppsala, Sweden	Ph.D.	1977	Statistics

**A. Positions and Honors.****Positions and Employment**

1982-1984 Assistant Professor, Graduate School of Education, University of California, Los Angeles  
 1984-1988 Associate Professor, Graduate School of Education, University of California, Los Angeles  
 1988- Professor, Graduate School of Education & Information Studies, University of California, Los Angeles

**Other Experience and Professional Memberships**

1989-1992 Member of the National Academy of Sciences/National Research Council Committee on Military Enlistment Standards.  
 1991-1994 Member of the Design and Analysis Committee for the National Assessment of Educational Progress, Educational Testing Service.  
 1992-1995 Member of the Visiting Panel on Research for Large-scale Assessment, Educational Testing Service.  
 1993-1996 Member of the Defense Advisory Committee for Military Personnel Testing, Department of Defense.  
 1993-1997 Senior Associate Research Scientist, Research Institute on Addictions, SUNY, Buffalo.  
 1996- Independent Scientist Award, NIAAA.

**Honors**

1988-1989 President of the Psychometric Society.  
 1989 Invited Fellow at the Center for Advanced Study in the Behavioral Sciences, Stanford, CA.

**B. Selected peer-reviewed publications (in chronological order).**

- Muthén, B. (1979). A structural probit model with latent variables. *Journal of the American Statistical Association*, 74, 807-811.
- Muthén, B. (1983). Latent variable structural equation modeling with categorical data. *Journal of Econometrics*, 22, 43-65.
- Muthén, B. (1984). A general structural equation model with dichotomous, ordered categorical and continuous latent variable indicators. *Psychometrika*, 49, 115-132.
- Muthén, B. (1989). Latent variable modeling in heterogeneous populations. Presidential address to the Psychometric Society, July, 1989. *Psychometrika*, 54, 557-585.
- Muthén, B. (1989). Dichotomous factor analysis of symptom data. In Eaton & Bohrnstedt (Eds.), *Latent variable models for dichotomous outcomes: Analysis of data from the epidemiological catchment area program*. *Sociological Methods and Research*, 18, 19-65.

- Principal Investigator/Program Director (Last, first, middle):
6. Muthén, B. (1991). Analysis of longitudinal data using latent variable models with varying parameters. In L. Collins & J. Horn (Eds.), *Best Methods for the analysis of change. Recent advances, unanswered questions, future directions* (pp. 1-17). Washington D.C.: American Psychological Association.
  7. Muthén, B., Grant, B., & Hasin, D. (1993). The dimensionality of alcohol abuse and dependence: Factor analysis of DSM-III-R and proposed DSM-IV criteria in the 1988 National Health Interview Survey. *Addiction*, *88*, 1079-1090.
  8. Muthén, B., Grant, B., & Wisnicki, K.S. (1993). Factor analysis of ICD-10 symptom items in the 1988 National Health Interview Survey on Alcohol Dependence. *Addiction*, *88*, 1071-1077.
  9. Muthén, B., & Satorra, A. (1995). Technical aspects of Muthén's LISCOMP approach to estimation of latent variable relations with a comprehensive measurement model. *Psychometrika*, *60*, 489-503.
  10. Muthén, B., & Satorra, A. (1995). Complex sample data in structural equation modeling. In P. Marsden (Ed.), *Sociological Methodology 1995* (pp. 267-316). San Francisco: Jossey-Bass.
  11. Muthén, B. (1996). Growth modeling with binary responses. In A. Von Eye & C. Clogg (Eds.), *Categorical variables in developmental research: Methods of analysis* (pp. 37-54). San Diego: Academic Press.
  12. Muthén, B. (1996). Psychometric evaluation of diagnostic criteria: Application to a two-dimensional model of alcohol abuse and dependence. *Drug and Alcohol Dependence*, *41*, 101-112.
  13. Muthén, B. (1997). Latent variable modeling of longitudinal and multilevel data. In A. Raftery (Ed.), *Sociological Methodology 1997* (pp. 453-480). Boston: Blackwell Publishers.
  14. Muthén, B. & Curran, P. (1997). General longitudinal modeling of individual differences in experimental designs: A latent variable framework for analysis and power estimation. *Psychological Methods*, *2*, 371-402.
  15. Muthén, B. & Khoo, S.T. (1998). Longitudinal studies of achievement growth using latent variable modeling. *Learning and Individual Differences, Special issue: latent growth curve analysis*, *10*, 73-101.
  16. Muthén, L. & Muthén, B. (1998-2001). *Mplus User's Guide*. Los Angeles, CA: Muthén & Muthén.
  17. Muthén, B. & Shedden, K. (1999). Finite mixture modeling with mixture outcomes using the EM algorithm. *Biometrics*, *55*, 463-469.
  18. Muthén, B. (2000). Methodological issues in random coefficient growth modeling using a latent variable framework: Applications to the development of heavy drinking. *Multivariate Applications in Substance use Research*, J. Rose, L. Chassin, C. Presson & J. Sherman (eds.), Hillsdale, N.J.: Erlbaum, pp. 113-140.
  19. Muthén, B. & Muthén, L. (2000). The development of heavy drinking and alcohol-related problems from ages 18 to 37 in a U.S. national sample. *Journal of Studies on Alcohol*, *61*, 290-300.
  20. Muthén, B. & Muthén, L. (2000). Integrating person-centered and variable-centered analysis: growth mixture modeling with latent trajectory classes. *Alcoholism: Clinical and Experimental Research*, *24*, 882-891.
  21. Muthén, B. (2001). Latent variable mixture modeling. In G. A. Marcoulides & R. E. Schumacker (eds.), *New Developments and Techniques in Structural Equation Modeling* (pp. 1-33). Lawrence Erlbaum Associates.
  22. Muthén, B. (2001). Second-generation structural equation modeling with a combination of categorical and continuous latent variables: New opportunities for latent class/latent growth modeling. In Collins, L.M. & Sayer, A. (Eds.), *New Methods for the Analysis of Change* (pp. 291-322). Washington, D.C.: APA.
  23. Muthén, B. (2002). Beyond SEM: General latent variable modeling. *Behaviormetrika*, *29*, 81-117.

### C. Research Support.

#### Ongoing Research Support

K02 AA00230                      Muthen, B. (PI)  
 NIH/NIAAA                              8/1/01-7/31/06

Advanced Analysis of the Development of Alcohol Problems.

The major goals of this project are to develop new statistical methods related to the development and prevention of alcohol problems, to collaborate with alcohol researchers on advanced methods applied to their data, and to disseminate new methods.

Role: PI

2 R01 MH40859-12A1    Brown (PI)  
 NIH/NIMH                              9/1/99-8/31/04

Design and Analysis for Mental Health Preventive Trials.

This is the continuation of the previous grant entitled Statistical Methods for Mental Health Preventative Trials. The project focuses on three aims, new designs for randomized preventive field trials, new methodology including mixtures of growth curves to examine differential trajectories within a field trial, and methods for handling missing data, including selection bias, participation bias, and attrition. The project uses data from existing and new randomized preventive trials, carried out by NIMH Prevention Research Centers at Johns Hopkins, Oregon Social Learning Center, the University of Michigan,

□ Principal Investigator/Program Director (Last, first, middle): \_\_\_  
and Arizona State University. The methods are applied to the development of aggressive behavior and conduct disorder, depression, and other internalizing behaviors. The major goal of this project is to develop statistical methods for analysis of randomized preventive interventions.  
Role: Subcontractor

SBIR Phase II Contract N44AA92009 Muthén, L. (PI)  
NIH/NIAAA 9/21/99-9/20/02  
Longitudinal Modeling Software for Studies of Alcohol Problems.  
The goal of this project is to develop a statistical software program designed specifically for the longitudinal analysis of alcohol data.  
Role: Statistical Advisor

### **Completed Research Support**

R01 DA11796 Ialongo (PI)  
NIH/NIMH 8/1/01-12/31/01  
Follow-up of Two Universal Preventive Interventions.  
The aim of the proposed methodological development is to deal with two very common problems in intervention practice: noncompliance and clustering of subjects.  
Role: Subcontractor