

# On the measurement of continuous and categorical latent constructs: A substantive-Methodological Synergy



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**15 Settembre 2015**

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This presentation discusses the use of advanced statistical models in order to obtain a clearer and more complete picture of psychological constructs.

Adopting a variable-centered approach, we first discuss the limits of traditional methodologies (Confirmatory Factor Analyses – CFA, Higher-Order Factor Models – H-CFA) and propose a new integrative framework based on the combination of CFA, Exploratory Structural Equation Models (ESEM), and bifactor models.

More importantly, we discuss the substantive implications and meaning of the various components of this framework. Next, we move to person-centered analyses (Latent profile analyses, factor mixture analyses, etc.) to illustrate how to model categorical constructs.

However, we also discuss how person-centered analyses typically need to rely on a good grasp of the measurement models underlying the constructs used to create the profiles, showing the intimate relation between variable-centered and person-centered models.

Professor Alexandre Morin received his PhD in psychology at the University of Montreal, Canada. He is a highly productive researcher — having produced over 100 articles (many of which are in top-tier journals such as *Organizational Research Methods* and *Structural Equation Modeling*) and book chapters with reputable publishers. His research has also attracted multiple prestigious external grants in Canada (e.g., Social Sciences and Humanities Research Council of Canada, Fond Québécois de Recherche sur la Société et la Culture) and Australia (Australian Research Council). Illustrative of the recognition received for his research contributions, he has been repeatedly invited to present his research to research groups located in Australia, Canada, UK, Italy, and France, as well as for longer stays in France, Italy, and Australia.

In his current position as a full time research-only professor at the Institute for Positive Psychology and Education (IPPE) of the Australian Catholic University, Professor Morin heads the Substantive-Research Synergy research program of IPPE. This research program aims at building bridges between advanced statistical methodologies and applied research, in order to make these methodologies more easily accessible to applied researchers, but also to use applied research problems to improve the use and interpretation of advanced statistics. This program also seeks to seek ways to promote secondary data analyses of the multiple rich databases available the world, in order to maximize the return on investment of these impressive databases.

In terms of substantive research interests, Prof Morin defines himself as a lifespan developmental psychologist, with broad research interests anchored in the exploration of the social determinants of psychological well-being and psychopathologies at various life stages and various settings, such as schools and organizations.

This presentation is designed as a “gentle” introduction to these complex models, and as such targets graduate students and academics possessing basic graduate training in statistics.

All of the Mplus input codes used in the estimation of these models are provided as part of the presentation slides, which will be made available to participants.