

**Department of Systems Engineering and Engineering Management
&
Department of Management Sciences**

Seminar Series

The Backward Reliability Curve in Quality of Life Assessment

Prof. Mounir Mesbah

University Pierre et Marie Curie, Paris, France

Date	19 October 2015 (Monday)
Time	4:00pm (Tea/Coffee service at 3:45pm)
Venue	P6921, 6/F, AC1

Abstract

HrQoL has become a major issue for longitudinal clinical or epidemiological studies these last decades. It is particularly the case for chronic diseases such as HIV-infection, due to the lack of definitive cure. Long-term treatment of chronic diseases may involve some short- and long-term side-effects which can affect the HrQoL of patients. So, the aim of such studies is an epidemiological surveillance of health, including HrQoL and survival. Such surveillance is principally based on comparison of longitudinal evolution of the HrQoL between different groups of patients.

Statistical validation of quality of life instruments (or questionnaires) is mainly done through the validation of some specific measurement models relating the observed outcomes to the unobserved theoretical latent construct (the HrQoL variable that scientist aim to assess). Validation of such models, based on goodness of fit (GOF) tests, is not straight forward, mainly because the set of variables involved in the models is partly unobserved. Goodness of fit tests in the latent context still remains an issue. I will show in this talk, how and why the Backward Reliability Curve can be used to detect graphically non unidimensional instrument, and other departures from underlying theoretical measurement properties. The outcome provided by the questionnaire is most often a categorical response, so the use of a generalized linear mixed model to analyze the evolution of the latent HrQoL is straightforward.

Inside this framework, choice of a good measurement model and an a priori distribution for the longitudinal latent variable is the main issue. This issue is, in the HrQoL field complicated by the possible occurrence for part of the population of a shifted response. In this talk, I will give an overview about the current research in Health Related Quality of Life (HrQoL) focusing on some important challenging issues for statistical science.

About the Speaker

Mounir Mesbah got his Phd of Mathematic-Statistics in the University of Paris Sud at Orsay (Paris 11) in 1982 and his Science Doctorate (Habilitation) in the University René Descartes (Paris 5) in 1992.

He is, since 2004, Professor of Statistics in the Department of Mathematics of University Pierre et Marie Curie – Paris VI (www.upmc.fr), and since 2010, he got the position of full Professor.

Previously, between 1995 and 2004, he was Professor of Statistics in the University of Brittany, Vannes, France.

Since 2006, he leads the Biostatistic's sector in the "Institute of Statistics of the University Paris VI" (ISUP: www.isup.upmc.fr). ISUP is, since 1922, the school of Statistics of the University Pierre et Marie Curie.

Since 2010, he leads the CESAM (www.cesam.upmc.fr), the Teaching Centre of Statistics Applied to Medicine and Medical Biology.

His research activities, conducted at the LSTA (www.lsta.upmc.fr) (the laboratory of statistical research in the math department) are at the interface of Statistics and Health Sciences.

His current main scientific interest is statistical measurement and analysis in health sciences with a more specific focus in Quality of Life. Since last years, he developed an intensive activity in this field. He organized and was involved in many international meetings around this scientific subject. He published several research publications (complete list can be downloaded below) as well theoretical or applied.

He developed also, always in the same field a constant research contract activity with various industry or professional partners.

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All are Welcome!