

# Book Review:

## Generalized Linear and Nonlinear Models for Correlated Data

*Author: Edward F. Vonesh*

### Reviewed by:

Divya Joshi, PhD Candidate

Department of Clinical Epidemiology and  
Biostatistics

McMaster University



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# Topics covered in this book...

1. Linear models (LM)
  2. Linear mixed-effects models (LME)
  3. Generalized linear models (GLIM)
  4. Generalized linear mixed-effects models (GLME)
  5. Nonlinear models (NLM)
  6. Nonlinear mixed-effects models (NLME)
  7. Generalized nonlinear models (NGLM)
  8. Generalized nonlinear mixed-effects models (GNLME)
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# Assumption of Independence

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# Book Summary



- This book discusses the theory and analysis of continuous or discrete correlated data in longitudinal or clustered studies using SAS
  - Special emphasis is placed on applications that require the use of generalized linear and non-linear models
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# Author: Edward F. Vonesh, PhD

- Professor of Preventive Medicine at Northwestern University
- Senior research scientist at Baxter Healthcare
- Owner of Vonesh Statistical Consulting, LLC.
- SAS user since 1974



# Strengths of the Book

- Other topics covered in the book include:
  - Missing data in longitudinal clinical trials
  - Pharmacokinetic applications
  - Joint modeling of longitudinal data and survival data



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# Strengths

- Well written, concise
- Real-world applications
- Applicable to a large audience
- All SAS codes are provided
- Datasets available online



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# Weakness

- Emphasis on theory and equations





# Recommend?



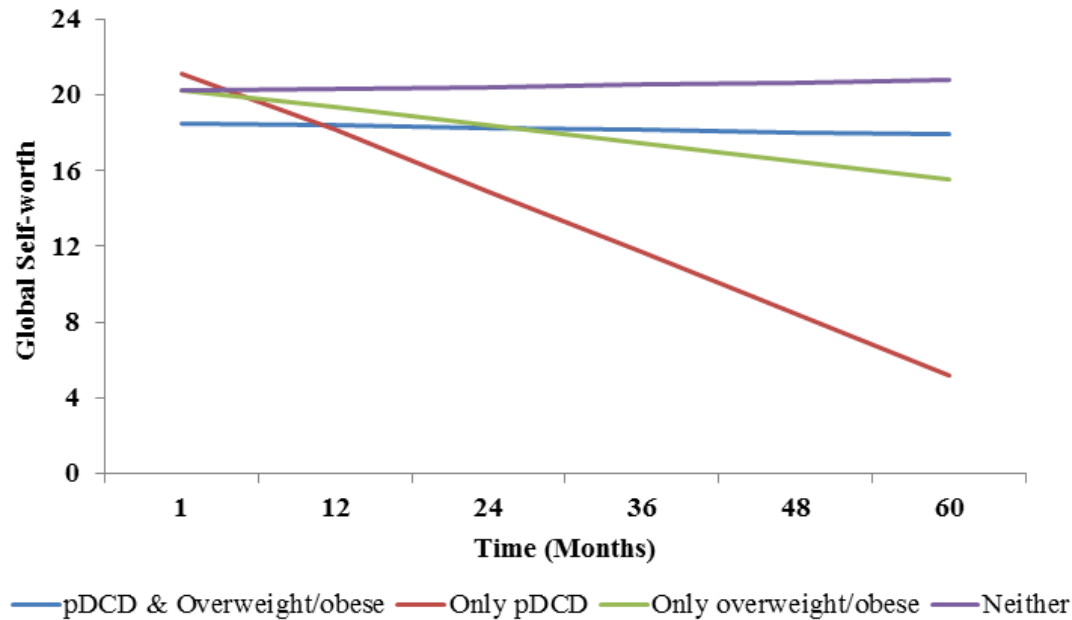
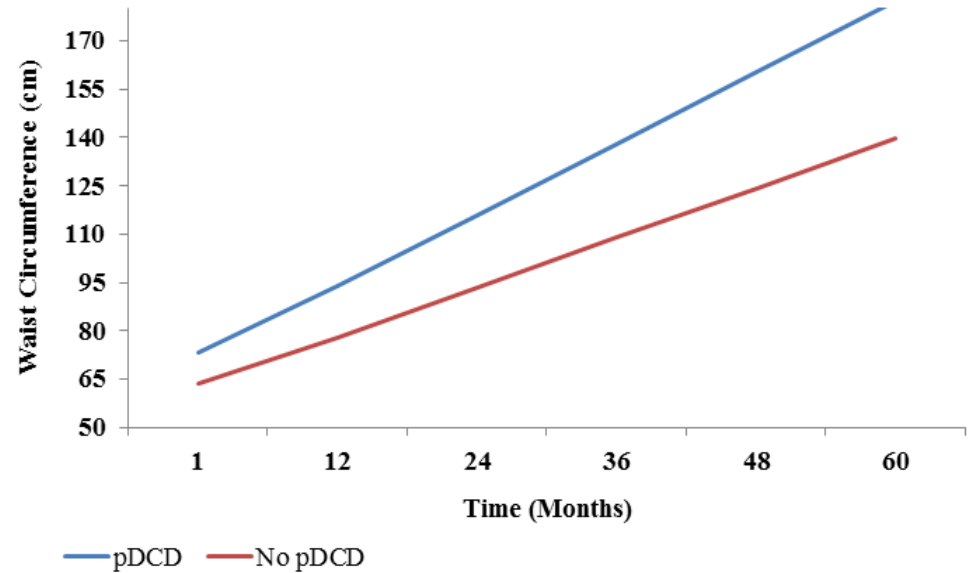
- Statisticians
- Researchers conducting longitudinal or clustered studies in various fields
- Students who are just beginning to work with longitudinal or clustered data

# Learning & Tips

- I learned how to use SAS for joint modeling of longitudinal and survival data
- How to effectively deal with missing data in longitudinal studies



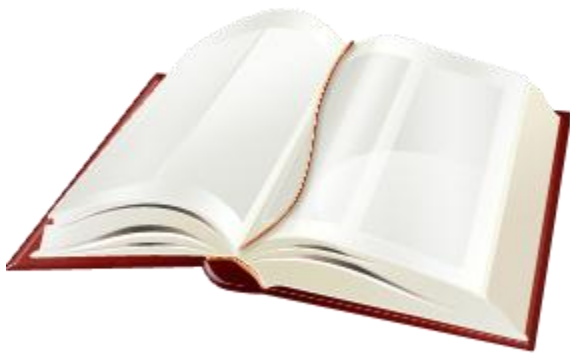
# Application



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# Other Books

- *Wu, L. (2010). Mixed Effects Models for Complex Data.*
- *Littell, R.C., Milliken, G.A., Stroup, W.W., Wolfinger, R.D., & Schabenberger, O. (2006). SAS for Mixed Models (2<sup>nd</sup> ed.).*



# Questions?

