

Structural Equation Modeling Done Right

Location: CIQSS, 3535 Queen-Mary, Suite 420, Montréal
Dates: May 1–3, 2023

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Trainer

The seminar is under the responsibility of Dr. Rex B. Kline, Professor, Department of Psychology, Concordia University, Montréal; rex.kline@concordia.ca; 514-848-2424, ext.7556; <https://www.concordia.ca/faculty/rex-kline.html>



Eligibility and Registration

The course is open to graduate students and postdoctoral fellows as well as to professors and applied researchers. The seminar is limited to a maximum of 25 participants registered on a first-come, first-served basis. Online registration will take place on the CIQSS web site. Contact and registration information:

CIQSS website,
<https://www.ciqss.org/en/evenement/atelier/structural-equation-modeling-seminar>

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Description

The sessions are in English. This three-day seminar introduces covariance-based structural equation modeling (SEM) and emphasizes best practices. Core SEM techniques, such as path analysis and confirmatory factor analysis (CFA), are introduced, and examples of applying SEM to actual research problems are considered. Best practices include how to correctly evaluate model fit, consider equivalent models, and report the results in complete and transparent ways. Reporting standards for general SEM analyses and for mediation studies will be covered. Computer tools for SEM are described and example output from lavaan, a freely-available R package for SEM, is reviewed. The presentation will be conceptually rather than mathematically oriented. Basic familiarity with multiple regression and exploratory factor analysis (EFA) is assumed.



Main Source (Optional)

Kline, R. B. (2023). *Principles and practice of structural equation modeling* (5th ed.). Guilford Press.

¹Université de Montréal, INRS-UCS, McGill University, Concordia University, Université Laval, Université du Québec, Université de Sherbrooke.



Other Readings (Available for Participants)

Appelbaum, M., Cooper, H., Kline, R. B., Mayo-Wilson, E., Nezu, A. M., & Rao, S. M., (2018). Journal article reporting standards for quantitative research in psychology: The APA Publications and Communications Board Task Force report. *American Psychologist*, 73(1), 3–25. <https://doi.org/10.1037/amp0000191>

Kline, R. B. (2015). The mediation myth. *Basic and Applied Social Psychology*, 37(4), 202–213. <https://doi.org/10.1080/01973533.2015.1049349>

Lee, H., Cashin, A. G., Lamb, S. E., Hopewell, S., Vansteelandt, S., VanderWeele, T. J., MacKinnon, D. P., Mansell, G., Collins, G. S., Golub, R. M., McAuley, J. H., & the AGReMA group. (2021). A guideline for reporting mediation analyses of randomized trials and observational studies: The AGReMA statement. *Journal of the American Medical Association*, 326(11), 1045–1056. <https://doi.org/10.1001/jama.2021.14075>

Schreiber, J. B. (2017). Update to core reporting practices in structural equation modeling. *Research in Social and Administrative Pharmacy*, 13(3), 634-643. <https://doi.org/10.1016/j.sapharm.2016.06.006>



Schedule

Morning

9:00–10:30am	Session 1
10:45am–12:00pm	Session 2

Afternoon

1:15–2:45pm	Session 3
3:00–4:30pm	Session 4



Topics

- Mon Overview of SEM families, basic covariance-based SEM techniques, computer tools, general reporting standards for SEM
- Tues Data preparation, evaluating model fit, example path analysis with output, mediation analysis and reporting standards
- Wed Latent variable models, example confirmatory factor analysis (CFA) output, extended SEM analyses