

CURRICULUM VITAE

Name: Iven VAN MECHELEN

Birth Date and Birth Place: April 13, 1958; Ekeren (Belgium)

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Education:

1976-1980 Master of Mathematics, Universiteit Antwerpen (greatest distinction)

1980-1984 Master of Psychology, Katholieke Universiteit Leuven (greatest distinction)

1985-1989 PhD of Psychology, Katholieke Universiteit Leuven (date of defense: March 14, 1989)

Positions:

(civil service 1984-1985)

1985-1989 Junior fellow of the National Fund for Scientific Research (KU Leuven)

1989-1991 Senior fellow of the National Fund for Scientific Research (KU Leuven)

1991-1993 Postdoctoral fellow of the Research Fund KU Leuven

1993-present Professor [Assistant with tenure (Hoofddocent) 1993-1997; Associate (Hoogleraar) 1997-2001; Full (Gewoon Hoogleraar) 2001-present] at the Faculty of Psychology and Educational Sciences (KU Leuven)

Awards:

1993 Award of the Research Council of KU Leuven

2000 Advisor of the doctoral dissertation of Iwin Leenen, who was given the Dissertation Award of the Psychometric Society.

2006 Award for best 2005 paper in *Journal of Research in Personality* (for paper co-authored by Kristof Vansteelandt and John Nezlek)

2007 Fellow Association for Psychological Science

2017 Elected Member of the International Statistical Institute

Professional Affiliations:

American Psychological Association, Association for Psychological Science, Belgian Statistical Society, Dutch/Flemish Branch of the International Federation of Classification Societies (VOC), International Association for Statistical Computing, International Statistical Institute, Psychometric Society

Professional Duties:

President of the International Federation of Classification Societies 2012-2013

Referee for *Advances in Data Analysis and Classification*, *Behavior Research Methods*, *Chemometrics and Intelligent Laboratory Systems*, *Computational Statistics and Data Analysis*, *European Journal of Personality*, *Journal of the American Statistical Association*, *Journal of Chemometrics*, *Journal of Classification*, *Journal of Mathematical Psychology*, *Journal of Personality and Social Psychology*, *Journal of Research in Personality*, *National Science Foundation*, *Psychological Bulletin*, *Psychological Methods*, *Psychometrika*,

Research interests and expertise:

Clustering models, multiway models, benchmarking, optimal treatment regime estimation, data integration

Personality psychology, psychology of emotions, individual differences

Publications:

I) Articles in international reviewed journals

1985 - 1998

- De Boeck, P., & Van Mechelen, I. (1990). Traits and taxonomies: A hierarchical classes approach. *European Journal of Personality*, 4, 147-156.
- Maris, E., De Boeck, P., & Van Mechelen, I. (1996). Probability matrix decomposition models. *Psychometrika*, 61, 7-29.
- Storms, G., De Boeck, P., Van Mechelen, I., & Geeraerts, D. (1993). Dominance and noncommutativity effects in concept conjunctions: Extensional or intensional basis? *Memory & Cognition*, 21, 752-762.
- Storms, G., Van Mechelen, I., & De Boeck, P. (1994). Structural analysis of the intension and extension of semantic concepts. *European Journal of Cognitive Psychology*, 6, 43-75.
- Storms, G., De Boeck, P., Van Mechelen, I., & Ruts, W. (1996). The dominance effect in concept conjunctions: An interactional phenomenon? *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 22, 1-15.
- Storms, G., De Boeck, P., Van Mechelen, I., & Ruts, W. (1998). Not guppies, nor goldfish, but tumble dryers, Noriega, Jesse Jackson, panties, car crashes, bird books and Stevie Wonder. *Memory and Cognition*, 26, 143-145.
- Van Mechelen, I. (1986). In search of an interpretation of meta-analytic findings. *Psychologica Belgica*, 26, 185-197.
- Van Mechelen, I. (1988). Prediction of a dichotomous criterion variable by means of a logical combination of dichotomous predictors. *Mathématiques, Informatique et Sciences Humaines*, 102, 47-54.
- Van Mechelen, I. (1990). A FORTRAN program for the detection of logical relations between a set of predictors and a criterion variable. *Multivariate Behavioral Research*, 25, 207-209.
- Van Mechelen, I. (1991). Symptom and diagnosis inference from implicit theories of psychopathology: A review. *European Bulletin of Cognitive Psychology*, 11, 155-171.
- Van Mechelen, I. (1992). Conjunctive models of hierarchical classes [abstract]. *International Journal of Psychology*, 11, 379.
- Van Mechelen, I., & De Boeck, P. (1989). Implicit taxonomy in psychiatric diagnosis: A case study. *Journal of Social and Clinical Psychology*, 8, 276-287.
- Van Mechelen, I., & De Boeck, P. (1990). Projection of a binary criterion into a model of hierarchical classes. *Psychometrika*, 55, 677-694.
- Van Mechelen, I., & de Boeck, P. (1993). Part-instance association in the categorization of acts. *Memory & Cognition*, 21, 41-47.
- Van Mechelen, I., De Boeck, P., & Rosenberg, S. (1995). The conjunctive model of hierarchical classes. *Psychometrika*, 60, 505-521.
- Van Mechelen, I., & Storms, G. (1995). Analysis of similarity data and Tversky's contrast model. *Psychologica Belgica*, 35, 85-102.
- Van Mechelen, I., & Van Damme, G. (1994). A latent criteria model for choice data. *Acta Psychologica*, 87, 85-94.
- Vansteelandt, K., & Van Mechelen, I. (1998). Individual differences in situation-behavior profiles: A triple typology model. *Journal of Personality and Social Psychology*, 75, 751-765.

1999 - present

- Berkhof, J., Van Mechelen, I., & Gelman, A. (2003). A Bayesian approach to the selection and testing of mixture models. *Statistica Sinica*, 13, 423-442.
- Berkhof, J., Van Mechelen, I., & Hoijtink, H. (2000). Posterior predictive checks: Principles and discussion. *Computational Statistics*, 15, 337-354. <https://doi.org/10.1007/s001800000038>
- Bollaerts, K., Eilers, P. H. C., & Van Mechelen, I. (2006). Simple and multiple p-splines regression with shape constraints. *British Journal of Mathematical & Statistical Psychology*, 59, 451-469. <https://doi.org/10.1348/000711005X84293>
- Boyer, B. E.*, Doove, L. L.*, Geurts, H. M., Prins, P. M., Van Mechelen, I., & Van der Oord, S. (2016). Qualitative treatment-subgroup interactions in a randomized clinical trial of treatments for adolescents with ADHD: Exploring what cognitive-behavioral treatment works for whom. *PLoS ONE*, 11, 1-23. <https://doi.org/10.1371/journal.pone.0150698>
- Brans, K., Van Mechelen, I., Rimé, B., & Verduyn, P. (2013). The relation between social sharing and the duration of emotional experience. *Cognition and Emotion*, 27, 1023-1041. <https://doi.org/10.1080/02699931.2012.762758>
- Brans, K., Van Mechelen, I., Rimé, B., & Verduyn, P. (2014). To share, or not to share? Examining the emotional consequences of social sharing in the case of anger and sadness. *Emotion*, 14, 1062-1071. <https://doi.org/10.1037/a0037604>

- Ceulemans, E., Kuppens, P., & Van Mechelen, I. (2012). Capturing the structure of distinct types of individual differences in the situation-specific experience of emotions: The case of anger. *European Journal of Personality*, 26, 484-495. <https://doi.org/10.1002/per.847>
- Ceulemans, E., & Van Mechelen, I. (2003). Uniqueness of N-way N-mode hierarchical classes models. *Journal of Mathematical Psychology*, 47, 259-264. [https://doi.org/10.1016/S0022-2496\(03\)00002-6](https://doi.org/10.1016/S0022-2496(03)00002-6)
- Ceulemans, E., & Van Mechelen, I. (2004). Tucker2 hierarchical classes analysis. *Psychometrika*, 69, 375-399. <https://doi.org/10.1007/BF02295642>
- Ceulemans, E., & Van Mechelen, I. (2005). Hierarchical classes models for three-way three-mode binary data: Interrelations and model selection. *Psychometrika*, 70, 461-480. <https://doi.org/10.1007/s11336-003-1067-3>
- Ceulemans, E., & Van Mechelen, I. (2008). CLASSI: A classification model for the study of sequential processes and individual differences therein. *Psychometrika*, 73, 107-124. <https://doi.org/10.1007/s11336-007-9024-1>
- Ceulemans, E., Van Mechelen, I., & Kuppens, P. (2004). Adapting the formal to the substantive: Constrained Tucker3-HICLAS. *Journal of Classification*, 21, 19-50. <https://doi.org/10.1007/s00357-004-0004-1>
- Ceulemans, E., Van Mechelen, I., & Leenen, I. (2003). Tucker3 hierarchical classes analysis. *Psychometrika*, 68, 413-433. <https://doi.org/10.1007/BF02294735>
- Ceulemans, E., Van Mechelen, I., & Leenen, I. (2007). The local minima problem in hierarchical classes analysis: An evaluation of a simulated annealing algorithm and various multistart procedures. *Psychometrika*, 72, 377-391. <https://doi.org/10.1007/s11336-007-9000-9>
- Claes, L., Van Mechelen, I., & Vertommen, H. (2004). Assessment of situation-behavior profiles and their guiding cognitive and affective processes: A case study from the domain of aggressive behaviors. *European Journal of Psychological Assessment*, 20, 216-226. <https://doi.org/10.1027/1015-5759.20.4.216>
- Depril, D., Van Mechelen, I., & Mirkin, B. G. (2008). Algorithms for additive clustering of rectangular data tables. *Computational Statistics & Data Analysis*, 52, 4923-4938. <https://doi.org/10.1016/j.csda.2008.04.014>
- Depril, D., Van Mechelen, I., & Wilderjans, T. F. (2012). Lowdimensional additive overlapping clustering. *Journal of Classification*, 29, 297-320. <https://doi.org/10.1007/s00357-012-9112-5>
- De Roover, K., Timmerman, M. E., Van Mechelen, I., & Ceulemans, E. (2013). On the added value of multiset methods for three-way data analysis. *Chemometrics and Intelligent Laboratory Systems*, 129, 98-107. <https://doi.org/10.1016/j.chemolab.2013.05.002>
- Doove, L. L., Dusseldorp, E., Van Deun, K., & Van Mechelen, I. (2014). A comparison of five recursive partitioning methods to find person subgroups involved in meaningful treatment-subgroup interactions. *Advances in Data Analysis and Classification*, 8, 403-425. <https://doi.org/10.1007/s11634-013-0159-x>
- Doove, L. L., Van Deun, K., Dusseldorp, E., & Van Mechelen, I. (2016). QUINT: A tool to detect qualitative treatment-subgroup interactions in randomized controlled trials. *Psychotherapy Research*, 26, 612-622. <https://doi.org/10.1080/10503307.2015.1062934>
- Doove, L. L., Wilderjans, T. F., Calcagni, A., & Van Mechelen, I. (2017). Deriving optimal data-analytic regimes from benchmarking studies. *Computational Statistics and Data Analysis*, 107, 81-91. <https://doi.org/10.1016/j.csda.2016.10.016>
- Dusseldorp, E., Doove, L. L., & Van Mechelen, I. (2016). Quint: An R package for the identification of subgroups of clients who differ in which treatment alternative is best for them. *Behavior Research Methods*, 48, 650-663. <https://doi.org/10.3758/s13428-015-0594-z>
- Dusseldorp, E., & Van Mechelen, I. (2014). Qualitative interaction trees: A tool to identify qualitative treatment-subgroup interactions. *Statistics in Medicine*, 33, 219-237. <https://doi.org/10.1002/sim.5933>
- Frederickx, S., Kuppens, P., Tuerlinckx, F., & Van Mechelen, I. (2009). Desequens: An R package for the variance decomposition of sequential processes. *Behavior Research Methods*, 41, 524-530. <https://doi.org/10.3758/BRM.41.2.524>
- Frederickx, S., & Van Mechelen, I. (2012). Identifying the situational triggers underlying avoidance of communication situations and individual differences therein. *Personality and Individual Differences*, 52, 438-443. <https://doi.org/10.1016/j.paid.2011.11.004>
- Gelman, A., Goegebeur, Y., Tuerlinckx, F., & Van Mechelen, I. (2000). Diagnostic checks for discrete data regression models using posterior predictive simulations. *Journal of the Royal Statistical Society: Series C (Applied Statistics)*, 49, 247-268. <https://doi.org/10.1111/1467-9876.00190>
- Gelman, A., Leenen, I., Van Mechelen, I., De Boeck, P., & Poblome, J. (2010). Bridges between deterministic and probabilistic models for binary data. *Statistical Methodology*, 7, 187-209. <https://doi.org/10.1016/j.stamet.2009.08.005>
- Gelman, A., Van Mechelen, I., Verbeke, G., Heitjan, D. F., & Meulders, M. (2005). Multiple imputation for model checking: Completed-data plots with missing and latent data. *Biometrics*, 61, 74-85. <https://doi.org/10.1111/j.0006-341X.2005.031010.x>

- Heylen, J., Van Mechelen, I., Fried, E. I., & Ceulemans, E. (2016). Two-mode K-Spectral Centroid analysis for studying multivariate longitudinal profiles. *Chemometrics and Intelligent Laboratory Systems*, 154, 194-206. <https://doi.org/10.1016/j.chemolab.2016.03.009>
- Heylen, J., Van Mechelen, I., Verduyn, P., & Ceulemans, E. (2016). KSC-N: Clustering of hierarchical time profile data. *Psychometrika*, 81, 411-433. <https://doi.org/10.1007/s11336-014-9433-x>
- Heylen, J., Verduyn, P., Van Mechelen, I., & Ceulemans, E. (2015). Variability in anger intensity profiles: Structure and predictive basis. *Cognition and Emotion*, 29, 168-177. <https://doi.org/10.1080/02699931.2014.896783>
- Hofmans, J., Ceulemans, E., Steinley, D., & Van Mechelen, I. (2015). On the added value of bootstrap analysis for K-means clustering. *Journal of Classification*, 32, 268-284. <https://doi.org/10.1007/s00357-015-9178-y>
- Kiers, H. A. L., & Van Mechelen, I. (2001). Three-way component analysis: Principles and illustrative application. *Psychological Methods*, 6, 84-110. <https://doi.org/10.1037/1082-989X.6.1.84>
- Kuppens, P., & Van Mechelen, I. (2007). Interactional appraisal models for the anger appraisals of threatened self-esteem, other-blame, and frustration. *Cognition & Emotion*, 21, 56-77. <https://doi.org/10.1080/02699930600562193>
- Kuppens, P., Van Mechelen, I., & Meulders, M. (2004). Every cloud has a silver lining: Interpersonal and individual differences determinants of anger-related behaviors. *Personality and Social Psychology Bulletin*, 30, 1550-1564. <https://doi.org/10.1177/0146167204271176>
- Kuppens, P., Van Mechelen, I., Nezlek, J. B., Dossche, D., & Timmermans, T. (2007). Individual differences in core affect variability and their relationship to personality and psychological adjustment. *Emotion*, 7, 262-274. <https://doi.org/10.1037/1528-3542.7.2.262>
- Kuppens, P., Van Mechelen, I., & Rijmen, F. (2008). Toward disentangling sources of individual differences in appraisal and anger. *Journal of Personality*, 76, 969-1000. <https://doi.org/10.1111/j.1467-6494.2008.00511.x>
- Kuppens, P., Van Mechelen, I., Smits, D. J. M., & De Boeck, P. (2003). The appraisal basis of anger: Specificity, necessity, and sufficiency of components. *Emotion*, 3, 254-269. <https://doi.org/10.1037/1528-3542.3.3.254>
- Kuppens, P., Van Mechelen, I., Smits, D. J. M., & De Boeck, P. (2004). Associations between emotions: Correspondence across different types of data and componential basis. *European Journal of Personality*, 18, 159-176. <https://doi.org/10.1002/per.507>
- Kuppens, P., Van Mechelen, I., Smits, D. J. M., De Boeck, P., & Ceulemans, E. (2007). Individual differences in patterns of appraisal and anger experience. *Cognition & Emotion*, 21, 689-713. <https://doi.org/10.1080/02699930600859219>
- Kutzera, J., Hoefsloot, H. C. J., Malovannaya, A., Smit, A. B., Van Mechelen, I., & Smilde, A. K. (2013). Inferring protein-protein interaction complexes from immunoprecipitation data. *BMC Research Notes*, 6, 468. <https://doi.org/10.1186/1756-0500-6-468>
- Leenen, I., & Van Mechelen, I. (2001). An evaluation of two algorithms for hierarchical classes analysis. *Journal of Classification*, 18, 57-80. <https://doi.org/10.1007/s00357-001-0005-2>
- Leenen, I., & Van Mechelen, I. (2004). A conjunctive parallelogram model for pick any/n data. *Psychometrika*, 69, 401-420. <https://doi.org/10.1007/BF02295643>
- Leenen, I., Van Mechelen, I., & De Boeck, P. (1999). A generic disjunctive/conjunctive decomposition model for n-ary relations. *Journal of Mathematical Psychology*, 43, 102-122. <https://doi.org/10.1006/jmps.1998.1226>
- Leenen, I., Van Mechelen, I., & De Boeck, P. (2001). Models for ordinal hierarchical classes analysis. *Psychometrika*, 66, 389-404. <https://doi.org/10.1007/BF02294441>
- Leenen, I., Van Mechelen, I., De Boeck, P., & Rosenberg, S. (1999). INDCLAS: A three-way hierarchical classes model. *Psychometrika*, 64, 9-24. <https://doi.org/10.1007/BF02294316>
- Leenen, I., Van Mechelen, I., & Gelman, A. (2000). Bayesian probabilistic extensions of a deterministic classification model. *Computational Statistics*, 15, 355-371. <https://doi.org/10.1007/s001800000039>
- Leenen, I., Van Mechelen, I., Gelman, A., & De Knop, S. (2008). Bayesian hierarchical classes analysis. *Psychometrika*, 73, 39-64. <https://doi.org/10.1007/s11336-007-9038-8>
- Lombardi, L., & Van Mechelen, I. (2005). Conjunctive prediction of an ordinal criterion variable on the basis of binary predictors. *Discrete Applied Mathematics*, 147, 91-100. <https://doi.org/10.1016/j.dam.2004.06.023>
- Meulders, M., De Boeck, P., Kuppens, P., & Van Mechelen, I. (2002). Constrained latent class analysis of three-way three-mode data. *Journal of Classification*, 19, 277-302. <https://doi.org/10.1007/s00357-001-0046-6>
- Meulders, M., De Boeck, P., & Van Mechelen, I. (2001). Probability matrix decomposition models and main-effects generalized linear models for the analysis of replicated binary associations. *Computational Statistics & Data Analysis*, 38, 217-233. [https://doi.org/10.1016/S0167-9473\(01\)00029-9](https://doi.org/10.1016/S0167-9473(01)00029-9)
- Meulders, M., De Boeck, P., & Van Mechelen, I. (2003). A taxonomy of latent structure assumptions for probability matrix decomposition models. *Psychometrika*, 68, 61-77. <https://doi.org/10.1007/BF02296653>

- Meulders, M., De Boeck, P., Van Mechelen, I., & Gelman, A. (2005). Probabilistic feature analysis of facial perception of emotions. *Journal of the Royal Statistical Society: Series C (Applied Statistics)*, 54, 781-793. <https://doi.org/10.1111/j.1467-9876.2005.00515.x>
- Meulders, M., De Boeck, P., Van Mechelen, I., Gelman, A., & Maris, E. (2001). Bayesian inference with probability matrix decomposition models. *Journal of Educational and Behavioral Statistics*, 26, 153-179. <https://doi.org/10.3102/10769986026002153>
- Nezlek, J. B., Vansteelandt, K., Van Mechelen, I., & Kuppens, P. (2008). Appraisal-emotion relationships in daily life. *Emotion*, 8, 145-150. <https://doi.org/10.1037/1528-3542.8.1.145>
- Pieters, G., Vansteelandt, K., Claes, L., Probst, M., Van Mechelen, I., & Vandereycken, W. (2006). The usefulness of experience sampling in understanding the urge to move in anorexia nervosa. *Acta Neuropsychiatrica*, 18, 30-37. <https://doi.org/10.1111/j.0924-2708.2006.00121.x>
- Résibois, M., Kalokerinos, E. K., Verleysen, G., Kuppens, P., Van Mechelen, I., Fossati, P., & Verduyn, P. (2018). The relation between rumination and temporal features of emotion intensity. *Cognition & Emotion*, 32, 259-274. <https://doi.org/10.1080/02699931.2017.1298993>
- Résibois, M., Kuppens, P., Van Mechelen, I., Fossati, P., & Verduyn, P. (2018). Depression severity moderates the relation between self-distancing and features of emotion unfolding. *Personality and Individual Differences*, 123, 119-124. <https://doi.org/10.1016/j.paid.2017.11.018>
- Résibois, M., Rotgé, J.-Y., Delaveau, P., Kuppens, P., Van Mechelen, I., Fossati, P., & Verduyn, P. (2018). The impact of self-distancing on emotion explosiveness and accumulation: An fMRI study. *PLoS ONE*, 13, e0206889, 1-19. <https://doi.org/10.1371/journal.pone.0206889>
- Résibois, M., Verduyn, P., Delaveau, P., Rotgé, J.-Y., Kuppens, P., Van Mechelen, I., & Fossati, P. (2017). The neural basis of emotions varies over time: Different regions go with onset- and offset-bound processes underlying emotion intensity. *Social Cognitive and Affective Neuroscience*, 12, 1261-1271. <https://doi.org/10.1093/scan/nsx051>
- Schepers, J., Bock, H.-H., & Van Mechelen, I. (2017). Maximal interaction two-mode clustering. *Journal of Classification*, 34, 49-75. <https://doi.org/10.1007/s00357-017-9226-x>
- Schepers, J., Ceulemans, E., & Van Mechelen, I. (2008). Selecting among multi-mode partitioning models of different complexities: A comparison of four model selection criteria. *Journal of Classification*, 25, 67-85. <https://doi.org/10.1007/s00357-008-9005-9>
- Schepers, J., & Van Mechelen, I. (2010). Uniqueness of real-valued hierarchical classes models. *Journal of Mathematical Psychology*, 54, 215-221. <https://doi.org/10.1016/j.jmp.2009.12.006>
- Schepers, J., & Van Mechelen, I. (2011). A two-mode clustering method to capture the nature of the dominant interaction pattern in large profile data matrices. *Psychological Methods*, 16, 361-371. <https://doi.org/10.1037/a0024446>
- Schepers, J., Van Mechelen, I., & Ceulemans, E. (2006). Three-mode partitioning. *Computational Statistics & Data Analysis*, 51, 1623-1642. <https://doi.org/10.1016/j.csda.2006.06.002>
- Schepers, J., Van Mechelen, I., & Ceulemans, E. (2011). The real-valued model of hierarchical classes. *Journal of Classification*, 28, 363-389. <https://doi.org/10.1007/s00357-011-9089-5>
- Schouteden, M., Van Deun, K., Pattyn, S., & Van Mechelen, I. (2013). SCA with rotation to distinguish common and distinctive information in linked data. *Behavior Research Methods*, 45, 822-833. <https://doi.org/10.3758/s13428-012-0295-9>
- Schouteden, M., Van Deun, K., Wilderjans, T. F., & Van Mechelen, I. (2014). Performing DISCO-SCA to search for distinctive and common information in linked data. *Behavior Research Methods*, 46, 576-587. <https://doi.org/10.3758/s13428-013-0374-6>
- Sies, A., Demyttenaere, K., & Van Mechelen, I. (2019). Studying treatment-effect heterogeneity in precision medicine through induced subgroups. *Journal of Biopharmaceutical Statistics*, 29, 491-507. <https://doi.org/10.1080/10543406.2019.1579220>
- Sies, A., & Van Mechelen, I. (2017). Comparing four methods for estimating tree-based treatment regimes. *The International Journal of Biostatistics*, 13, 20160068, 1-20. <https://doi.org/10.1515/ijb-2016-0068>
- Sies, A., & Van Mechelen, I. (2019). Estimating the quality of optimal treatment regimes. *Statistics in Medicine*, 38, 4925-4938. <https://doi.org/10.1002/sim.8342>
- Sies, A., & Van Mechelen, I. (2020). C443: A methodology to see a forest for the trees. *Journal of Classification*, 37, 730-753. <https://doi.org/10.1007/s00357-019-09350-4>
- Smits, D. J. M., De Boeck, P., Kuppens, P., & Van Mechelen, I. (2002). The structure of negative emotion scales: Generalization over contexts and comprehensiveness. *European Journal of Personality*, 16, 127-141. <https://doi.org/10.1002/per.436>
- Storms, G., De Boeck, P., Hampton, J. A., & Van Mechelen, I. (1999). Predicting conjunction typicalities by component typicalities. *Psychonomic Bulletin & Review*, 6, 677-684.
- Thorrez, L., Laudadio, I., Van Deun, K., Quintens, R., Hendrickx, N., Granvik, M., Lemaire, K., Schraenen, A., Van Lommel, L., Lehnert, S., Aguayo-Mazzucato, C., Cheng-Xue, R., Gilon, P., Van Mechelen, I., Bonner-Weir, S., Lemaigre, F., & Schuit, F. (2011). Tissue-specific disallowance of housekeeping genes: The other face of cell differentiation. *Genome Research*, 21, 95-105. <https://doi.org/10.1101/gr.109173.110>

- Thorrez, L., Van Deun, K., Tranchevent, L., Van Lommel, L., Engelen, K., Marchal, K., Moreau, Y., Van Mechelen, I., & Schuit, F. (2008). Using ribosomal protein genes as reference: A tale of caution. *PLoS ONE*, 3, e1854, 1-8. <https://doi.org/10.1371/journal.pone.0001854>
- Timmermans, T., Van Mechelen, I., & Kuppens, P. (2010). The relationship between individual differences in intraindividual variability in core affect and interpersonal behaviour. *European Journal of Personality*, 24, 623-638. <https://doi.org/10.1002/per.756>
- Timmermans, T., Van Mechelen, I., & Nezlek, J. B. (2009). Individual differences in core affect reactivity. *Personality and Individual Differences*, 47, 510-515. <https://doi.org/10.1016/j.paid.2009.05.002>
- Van Coillie, H., & Van Mechelen, I. (2006). A taxonomy of anger-related behaviors in young adults. *Motivation and Emotion*, 30, 57-74. <https://doi.org/10.1007/s11031-006-9000-6>
- Van Coillie, H., & Van Mechelen, I. (2006). Expected consequences of anger-related behaviours. *European Journal of Personality*, 20, 137-154. <https://doi.org/10.1002/per.580>
- Van Coillie, H., Van Mechelen, I., & Ceulemans, E. (2006). Multidimensional individual differences in anger-related behaviors. *Personality and Individual Differences*, 41, 27-38. <https://doi.org/10.1016/j.paid.2006.01.007>
- Vande Gaer, E., Ceulemans, E., Van Mechelen, I., & Kuppens, P. (2012). The CLASSI-N method for the study of sequential processes. *Psychometrika*, 77, 85-105. <https://doi.org/10.1007/S11336-011-9235-3>
- van den Berg, R. A., Van Mechelen, I., Wilderjans, T. F., Van Deun, K., Kiers, H. A. L., & Smilde, A. K. (2009). Integrating functional genomics data using maximum likelihood based simultaneous component analysis. *BMC Bioinformatics*, 10, 340. <https://doi.org/10.1186/1471-2105-10-340>
- Van Deun, K., Hoijtink, H., Thorrez, L., Van Lommel, L., Schuit, F., & Van Mechelen, I. (2009). Testing the hypothesis of tissue selectivity: The intersection-union test and a Bayesian approach. *Bioinformatics*, 25, 2588-2594. <https://doi.org/10.1093/bioinformatics/btp439>
- Van Deun, K., Marchal, K., Heiser, W., Engelen, K., & Van Mechelen, I. (2007). Joint mapping of genes and conditions via multidimensional unfolding analysis. *BMC Bioinformatics*, 8, 181. <https://doi.org/10.1186/1471-2105-8-181>
- Van Deun, K., Smilde, A. K., Thorrez, L., Kiers, H. A. L., & Van Mechelen, I. (2013). Identifying common and distinctive processes underlying multiset data. *Chemometrics and Intelligent Laboratory Systems*, 129, 40-51. <https://doi.org/10.1016/j.chemolab.2013.07.005>
- Van Deun, K., Smilde, A. K., van der Werf, M. J., Kiers, H. A. L., & Van Mechelen, I. (2009). A structured overview of simultaneous component based data integration. *BMC Bioinformatics*, 10, 246. <https://doi.org/10.1186/1471-2105-10-246>
- Van Deun, K., Thorrez, L., Coccia, M., Hasdemir, D., Westerhuis, J. A., Smilde, A. K., & Van Mechelen, I. (2019). Weighted sparse principal component analysis. *Chemometrics and Intelligent Laboratory Systems*, 195, 103875. <https://doi.org/10.1016/j.chemolab.2019.103875>
- Van Deun, K., Thorrez, L., van den Berg, R. A., Smilde, A. K., & Van Mechelen, I. (2015). Not just a sum? Identifying different types of interplay between constituents in combined interventions. *PLoS ONE*, 10, e0125334, 1-15. <https://doi.org/10.1371/journal.pone.0125334>
- Van Deun, K., Van Mechelen, I., Thorrez, L., Schouteden, M., De Moor, B., van der Werf, M. J., De Lathauwer, L., Smilde, A. K., & Kiers, H. A. L. (2012). DISCO-SCA and properly applied GSVD as swinging methods to find common and distinctive processes. *PLoS ONE*, 7, e37840, 1-13. <https://doi.org/10.1371/journal.pone.0037840>
- Van Deun, K., Wilderjans, T. F., van den Berg, R. A., Antoniadis, A., & Van Mechelen, I. (2011). A flexible framework for sparse simultaneous component based data integration. *BMC Bioinformatics*, 12, 448. <https://doi.org/10.1186/1471-2105-12-448>
- Van Mechelen, I. (2009). A royal road to understanding the mechanisms underlying person-in-context behavior. *Journal of Research in Personality*, 43, 179-186. <https://doi.org/10.1016/j.jrp.2008.12.012>
- Van Mechelen, I., Bock, H.-H., & De Boeck, P. (2004). Two-mode clustering methods: A structured overview. *Statistical Methods in Medical Research*, 13, 363-394. <https://doi.org/10.1191/0962280204sm373ra>
- Van Mechelen, I., & Ceulemans, E. (2015). Component- and factor-based models for data fusion in the behavioral sciences. *Proceedings of the IEEE*, 103, 1621-1634. <https://doi.org/10.1109/JPROC.2015.2442652>
- Van Mechelen, I., & De Raad, B. (1999). Editorial: Personality and situations. *European Journal of Personality*, 13, 333-336. [https://doi.org/10.1002/\(SICI\)1099-0984\(199909/10\)13:5<333::AID-PER364>3.0.CO;2-O](https://doi.org/10.1002/(SICI)1099-0984(199909/10)13:5<333::AID-PER364>3.0.CO;2-O)
- Van Mechelen, I., & Hennes, K. (2009). The appraisal basis of anger occurrence and intensity revisited. *Cognition and Emotion*, 23, 1373-1388. <https://doi.org/10.1080/02699930902958297>
- Van Mechelen, I., & Kiers, H. A. L. (1999). Individual differences in anxiety responses to stressful situations: A three-mode component analysis model. *European Journal of Personality*, 13, 409-428. [https://doi.org/10.1002/\(SICI\)1099-0984\(199909/10\)13:5<409::AID-PER360>3.0.CO;2-I](https://doi.org/10.1002/(SICI)1099-0984(199909/10)13:5<409::AID-PER360>3.0.CO;2-I)
- Van Mechelen, I., Lombardi, L., & Ceulemans, E. (2007). Hierarchical classes modeling of rating data. *Psychometrika*, 72, 475-488. <https://doi.org/10.1007/s11336-007-9018-z>

- Van Mechelen, I., & Schepers, J. (2007). A unifying model involving a categorical and/or dimensional reduction for multimode data. *Computational Statistics & Data Analysis*, 52, 537-549. <https://doi.org/10.1016/j.csda.2007.03.001>
- Van Mechelen, I., & Smilde, A. K. (2010). A generic linked-mode decomposition model for data fusion. *Chemometrics and Intelligent Laboratory Systems*, 104, 83-94. <https://doi.org/10.1016/j.chemolab.2010.04.012>
- Van Mechelen, I., & Smilde, A. K. (2011). Comparability problems in the analysis of multiway data. *Chemometrics and Intelligent Laboratory Systems*, 106, 2-11. <https://doi.org/10.1016/j.chemolab.2010.08.006>
- Van Mechelen, I., & Vach, W. (2019). Cluster analyses of a target data set from the IFCS Cluster Benchmark Data Repository: Introduction to the special issue. *Archives of Data Science, Series B*, 1, 1-12. <https://doi.org/10.5445/KSP/1000085952/01>
- Vansteelandt, K., Pieters, G., Vandereycken, W., Claes, L., Probst, M., & Van Mechelen, I. (2004). Hyperactivity in anorexia nervosa: A case study using experience sampling methodology. *Eating Behaviors*, 5, 67-74. [https://doi.org/10.1016/S1471-0153\(03\)00062-X](https://doi.org/10.1016/S1471-0153(03)00062-X)
- Vansteelandt, K., & Van Mechelen, I. (2004). The personality triad in balance: Multidimensional individual differences in situation-behavior profiles. *Journal of Research in Personality*, 38, 367-393. <https://doi.org/10.1016/j.jrp.2003.08.001>
- Vansteelandt, K., & Van Mechelen, I. (2006). Individual differences in anger and sadness: In pursuit of active situational features and psychological processes. *Journal of Personality*, 74, 871-910. <https://doi.org/10.1111/j.1467-6494.2006.00395.x>
- Vansteelandt, K., Van Mechelen, I., & Nezlek, J. B. (2005). The co-occurrence of emotions in daily life: A multilevel approach. *Journal of Research in Personality*, 39, 325-335. <https://doi.org/10.1016/j.jrp.2004.05.006>
- Verduyn, P., Delaveau, P., Rotgé, J. Y., Fossati, P., & Van Mechelen, I. (2015). Determinants of emotion duration and underlying psychological and neural mechanisms. *Emotion Review*, 7, 330-335. <https://doi.org/10.1177/1754073915590618>
- Verduyn, P., Delvaux, E., Van Coillie, H., Tuerlinckx, F., & Van Mechelen, I. (2009). Predicting the duration of emotional experience: Two experience sampling studies. *Emotion*, 9, 83-91. <https://doi.org/10.1037/a0014610>
- Verduyn, P., Van Mechelen, I., & Frederix, E. (2012). Determinants of the shape of emotion intensity profiles. *Cognition & Emotion*, 26, 1486-1495. <https://doi.org/10.1080/02699931.2012.662152>
- Verduyn, P., Van Mechelen, I., Kross, E., Chezzi, C., & Van Bever, F. (2012). The relationship between self-distancing and the duration of negative and positive emotional experiences in daily life. *Emotion*, 12, 1248-1263. <https://doi.org/10.1037/a0028289>
- Verduyn, P., Van Mechelen, I., & Tuerlinckx, F. (2011). The relation between event processing and the duration of emotional experience. *Emotion*, 11, 20-28. <https://doi.org/10.1037/a0021239>
- Verduyn, P., Van Mechelen, I., Tuerlinckx, F., Meers, K., & Van Coillie, H. (2009). Intensity profiles of emotional experience over time. *Cognition & Emotion*, 23, 1427-1443. <https://doi.org/10.1080/02699930902949031>
- Verduyn, P., Van Mechelen, I., Tuerlinckx, F., & Scherer, K. (2013). The relation between appraised mismatch and the duration of negative emotions: Evidence for universality. *European Journal of Personality*, 27, 481-494. <https://doi.org/10.1002/per.1897>
- Wilderjans, T. F., Ceulemans, E., & Van Mechelen, I. (2008). The CHIC model: A global model for coupled binary data. *Psychometrika*, 73, 729-751. <https://doi.org/10.1007/s11336-008-9069-9>
- Wilderjans, T. F., Ceulemans, E., & Van Mechelen, I. (2009). Simultaneous analysis of coupled data blocks differing in size: A comparison of two weighting schemes. *Computational Statistics and Data Analysis*, 53, 1086-1098. <https://doi.org/10.1016/j.csda.2008.09.031>
- Wilderjans, T. F., Ceulemans, E., & Van Mechelen, I. (2012). The SIMCLAS model: Simultaneous analysis of coupled binary data matrices with noise heterogeneity between and within data blocks. *Psychometrika*, 77, 724-740. <https://doi.org/10.1007/S11336-012-9275-3>
- Wilderjans, T. F., Ceulemans, E., Van Mechelen, I., & Depril, D. (2011). ADPROCLUS: A graphical user interface for fitting additive profile clustering models to object by variable data matrices. *Behavior Research Methods*, 43, 56-65. <https://doi.org/10.3758/s13428-010-0033-0>
- Wilderjans, T. F., Ceulemans, E., Van Mechelen, I., & van den Berg, R. A. (2011). Simultaneous analysis of coupled data matrices subject to different amounts of noise. *British Journal of Mathematical and Statistical Psychology*, 64, 277-290. <https://doi.org/10.1348/000711010X513263>
- Wilderjans, T. F., Depril, D., & Van Mechelen, I. (2012). Block-relaxation approaches for fitting the INDCLUS model. *Journal of Classification*, 29, 277-296. <https://doi.org/10.1007/s00357-012-9113-4>
- Wilderjans, T. F., Depril, D., & Van Mechelen, I. (2013). Additive biclustering: A comparison of one new and two existing ALS algorithms. *Journal of Classification*, 30, 56-74. <https://doi.org/10.1007/s00357-013-9120-0>

Wilderjans, T. F., Vande Gaer, E., Kiers, H. A. L., Van Mechelen, I., & Ceulemans, E. (2017). Principal covariates clusterwise regression (PCCR): Accounting for multicollinearity and population heterogeneity in hierarchically organized data. *Psychometrika*, 82, 86-111. <https://doi.org/10.1007/s11336-016-9522-0>

II) Book (as editor)

Van Mechelen, I., Hampton, J. A., Michalski, R. S., & Theuns, P. (Eds.). (1993). *Categories and concepts: Theoretical views and inductive data analysis*. London: Academic Press. (364 + ix pp).

III) Articles in or parts of books

1985 - 1998

- De Boeck, P., Rosenberg, S., & Van Mechelen, I. (1993). The hierarchical classes approach: A review. In I. Van Mechelen et al. (Eds.), *Categories and concepts: Theoretical views and inductive data analysis* (pp. 287-308). London: Academic Press.
- Guénoche, A., & Van Mechelen, I. (1993). Galois approach to the induction of concepts. In I. Van Mechelen et al. (Eds.), *Categories and concepts: Theoretical views and inductive data analysis* (pp. 287-308). London: Academic Press.
- Leenen, I., & Van Mechelen, I. (1998). A branch-and-bound algorithm for Boolean regression. In I. Balderjahn, R. Mathar, & M. Schader (Eds.), *Classification, data analysis, and data highways* (pp. 164-171). Berlin: Springer.
- Meulders, M., Gelman, A., Van Mechelen, I., & De Boeck, P. (1998). Generalizing the probability matrix decomposition model: An example of Bayesian model checking and model expansion. In J. Hox (Ed.), *Assumptions, robustness, and estimation methods in multivariate modeling* (pp. 1-19). Amsterdam: TT-publikaties.
- Rosenberg, S., Van Mechelen, I., & De Boeck, P. (1996). A hierarchical classes model: Theory and method with applications in psychology and psychopathology. In P. Arabie, L. J. Hubert, & G. De Soete (Eds.), *Clustering and classification* (pp. 123-155). Teaneck, NJ: World Scientific.
- Van Mechelen, I. (1993). Approximate Galois lattices of formal concepts. In O. Opitz, B. Lausen, & R. Klar (Eds.), *Information and classification: Concepts, methods and applications* (pp. 108-112). Heidelberg: Springer.
- Van Mechelen, I., De Boeck, P., Theuns, P., & Degreeef, E. (1993). Categories and concepts: Theoretical views and inductive data analysis. In I. Van Mechelen et al. (Eds.), *Categories and concepts: Theoretical views and inductive data analysis* (pp. 333-351). London: Academic Press.
- Van Mechelen, I., & Leenen, I. (1998). Predicting a binary criterion variable on the basis of binary predictors: The Combination Rule Analysis Approach. In K. C. Klauer & H. Westmeyer (Eds.), *Psychologische Methoden und Soziale Prozesse* (pp. 136-153). Lengerich: Pabst Science Publishers.
- Van Mechelen, I., & Michalski, R. S. (1993). General introduction: Purpose, underlying ideas, and scope of the book. In I. Van Mechelen et al. (Eds.), *Categories and concepts: Theoretical views and inductive data analysis* (pp. 1-8). London: Academic Press.
- Van Mechelen, I., Rosenberg, S., & De Boeck, P. (1997). On hierarchies and hierarchical classes models. in B. Mirkin, F. R. McMorris, F. S. Roberts, & A. Rhetsky (Eds.), *Mathematical hierarchies and biology* (pp. 291-298). Providence: American Mathematical Society.

1999 – present

- Ceulemans, E., & Van Mechelen, I. (2003). An algorithm for HICLAS-R models. In M. Schader, W. Gaul, & M. Vichi (Eds.), *Between data science and applied data analysis: Studies in classification, data analysis, and knowledge organization* (pp. 173-181). Heidelberg-Berlin: Springer Verlag GMBH.
- Depril, D., & Van Mechelen, I. (2005). One-mode additive clustering of multiway data. In J. Janssen & P. Lenca (Eds.), *Applied stochastic models and data analysis* (pp. 724-729). Brest, France: ENST Bretagne.
- De Schutter, B., Schepers, J., & Van Mechelen, I. (2006). On algorithms for a binary-real (max,x) matrix approximation problem. In *Proceedings of the 45th IEEE conference on decision & control* (pp. 5168-5173). San Diego: IEEE Control System Society.
- Lombardi, L., Ceulemans, E., & Van Mechelen, I. (2003). A hierarchical classes approach to discriminant analysis. In M. Schader, W. Gaul, & M. Vichi (Eds.), *Between data science and applied data analysis: Studies in classification, data analysis, and knowledge organization* (pp. 296-304). Heidelberg-Berlin: Springer Verlag GMBH.
- Meulders, M., De Boeck, P., & Van Mechelen, I. (2002). Rater classification on the basis of latent features in responding to situations. In W. Gaul & G. Ritter (Eds.), *Classification, automation, and new media* (pp. 453-461). Berlin: Springer.
- Schouteden, M., Van Deun, K., & Van Mechelen, I. (2012). ECO-POWER: A novel method to reveal common mechanisms underlying linked data. In A. Colubi, K. Fokianos, E. J. Kontogiorgos, & G. Gonzalez-Rodriguez (Eds.), *Proceedings of COMPSTAT'2012. 20th international conference on computational statistics* (pp. 757-768). Heidelberg: Physica-Verlag.

- Smilde, A. K., & Van Mechelen, I. (2019). A framework for low-level data fusion. In M. Cocchi (Ed.), *Data fusion methodology and applications* (pp. 27-50). <https://doi.org/10.1016/B978-0-444-63984-4.00002-8>
- Tokuda, T., Van Mechelen, I., Claeskens, G., & Tuerlinckx, F. (2012). BIC selection of the number of classes in latent class models with background variables. In A. Colubi, K. Fokianos, E. J. Kontoghiorghes, & G. Gonzalez-Rodriguez (Eds.), *Proceedings of COMPSTAT'2012. 20th international conference on computational statistics* (pp. 801-812). Heidelberg: Physica-Verlag.
- Van Mechelen, I., Bock, H.-H., & De Boeck, P. (2005). Two-mode clustering. In B. Everitt & D. Howell (Eds.), *Encyclopedia of statistics in behavioral science* (pp. 2081-2086). Chichester: Wiley.
- Van Mechelen, I., & Van Deun, K. (2010). Multiple nested reductions of single data modes as a tool to deal with large data sets. In Y. Lechevallier & G. Saporta (Eds.), *Proceedings of COMPSTAT'2010. 19th international conference on computational statistics* (pp. 349-358). Heidelberg: Physica-Verlag.
- Van Mechelen, I., Verduyn, P., & Brans, K. (2013). The duration of emotional episodes. In D. Hermans, B. Rimé, & B. Mesquita (Eds.), *Changing emotions* (pp. 174-180). London: Psychology Press.

IV) Editing of journal issues

- Van Mechelen, I., De Boeck, P., & Hoijtink, H. (Eds.). (2000). Bayesian computational statistics in the social sciences. *Computational Statistics*, 14, 3.
- Van Mechelen, I., & De Raad, B. (Eds.). (1999). Personality and situations. *European Journal of Personality*, 13.
- Van Mechelen, I., & Tauler, R. (Eds.). (2013). Multiway and multiset methods. *Chemometrics and Intelligent Laboratory Systems*, 129, 1-108.

Direction of PhD theses:

advisor:

- Iwijn Leenen: *Models and algorithms for a deterministic decomposition of dichotomous data*, 1999.
- Kristof Vansteelandt: *Formal models for a contextualized personality psychology*, 2000.
- Eva Ceulemans: *Hierarchical classes modeling of three-way three-mode binary data*, 2003.
- Peter Kuppens: *Components of anger*, 2004.
- Hermina Van Coillie: *Behaviors associated with anger*, 2005.
- Jan Schepers: *Real-valued clustering methods for N-way N-mode data*, 2008.
- Dirk Depril: *Algorithms for additive overlapping clustering*, 2009.
- Tom Wilderjans: *Component and hierarchical classes analysis of coupled N-way N-mode data blocks*, 2009.
- Tinneke Timmermans: *Individual differences in intraindividual variability in affect and interpersonal behavior*, 2010.
- Philippe Verduyn: *Time dynamics of emotions: Duration and intensity profiles*, 2012.
- Tomoki Tokuda: *A solution to some problems in the clustering of high dimensional data*, 2012.
- Martijn Schouteden: *Simultaneous component methods to identify common and distinctive mechanisms underlying linked data*, 2012.
- Sofie Frederickx: *Individual differences in the process dynamics underlying situation selection/avoidance*, 2013.
- Karen Brans: *Social sharing and the time dynamics of emotions*, 2013.
- Lisa Doove: *Tree-based methodologies for the detection of treatment-subgroup interactions and the estimation of optimal treatment regimes in randomized controlled trials*, 2016.
- Aniek Sies: *Towards precision medicine: Identifying relevant treatment-subgroup interactions and estimating optimal tree-based treatment regimes from randomized clinical trial data*, 2018.

co-advisor:

- Michel Meulders: *Probabilistic feature models for psychological frequency data: A Bayesian approach*, 2000.
- Luigi Lombardi: *Two-way two-mode hierarchical classes models for prediction and classification*, 2002.
- Laurence Claes: *Self-injury in eating disorders*, 2004.
- Eva Vande Gaer: *Clusterwise regression with reduction of predictors*, 2012
- Joke Heylen: *Modeling variability in time profiles: Teasing apart amplitude and shape*, 2016