

Curriculum Vitae

Personal information

First name(s) / Surname(s)	Purya Baghaei
Professional e-mail	purya.baghaei@iea-hamburg.de
Work phone	+49 (0)40 48500 673
* Nationality	
* Date of birth	
* Gender	Male

Position / Organisation

Work experience

Dates	2023–Present
Occupation or position held	Senior research analyst
Main activities and responsibilities	Psychometric analysis of assessment tools
Name of employer	IEA Hamburg
Type of business or sector	
Dates	2008–2022
Occupation or position held	Professor in Foreign Language Educational and Assessment
Main activities and responsibilities	Teaching and researching
Name of employer	Islamic Azad University, Mashhad, Iran
Type of business or sector	
Dates	
Occupation or position held	
Main activities and responsibilities	
Name of employer	
Type of business or sector	

* Other Professional Activities

Current
Past

Education and training

Dates	2004–2007
Title of qualification awarded	Ph. D
Principal subjects/occupational skills covered	Applied linguistics
Name and type of organisation providing education and training	Alpen-Adria-Universität Klagenfurt, Austria
Dates	2000–2002
Title of qualification awarded	MA
Principal subjects/occupational skills covered	Teaching English as a foreign language
Name and type of organisation providing education and training	Allameh Tabataba'i University, Tehran, Iran
Dates	
Title of qualification awarded	1995 –1999 BA
Principal subjects/occupational skills covered	English literature
Name and type of organisation providing education and training	
Dates	
Title of qualification awarded	
Principal subjects/occupational skills covered	
Name and type of organisation providing education and training	

Personal skills and competences

Mother tongue(s)	Persian
Other language(s)	English
Computer skills and competences	

Publications

Books:

- Baghaei, P. (2021). *Mokken scale analysis in language assessment*. Münster: Waxmann Verlag.
- Baghaei, P. (2022). *Elements of psychometrics*. Mashhad: Sokhan Gostar Publishing (2nd Ed.).
- Baghaei, P. & Zohoorian, Z. (2018). *English for students of statistics*. Tehran: SAMT Publications.
- Baghaei, P. (2009). *Understanding the Rasch model*. Mashhad: Mashhad Islamic Azad University Press.

Book chapters:

- Liaw, Y.-L., Baghaei, P., Strietholt, R., Meinck, S., & Strello, A. (2025). Environmental knowledge: Conceptualization and measurement. In Isac, M. M., Sandoval-Hernández, A., & Sass, W. (Eds.), *Knowledge and willingness to act pro-environmentally* (pp. 31–56). Springer. https://doi.org/10.1007/978-3-031-76033-4_4
- Baghaei, P., & Effatpanah, F. (2023). An alternative strategy for modeling local item dependence in C-Tests. In Dobrić, N., Cesnik, H., & Harsch, C. (Eds.), *Festschrift in honour of Günther Sigott: Advanced methods in language testing* (pp. 153–163). Peter Lang.
- Baghaei, P., Kemper, C., Reichert, M., & Greif, S. (2019). Mixed Rasch modeling in assessing reading comprehension. In Aryadoust, V. & Raquel, M. (Eds.), *Quantitative Data Analysis for Language Assessment* (Vol. II) (pp. 15-32). Routledge.
- Baghaei, P. (2016). Modeling multidimensionality in foreign language comprehension tests: An Iranian example. In Aryadoust, V., & Fox, J. (Eds.), *Trends in Language Assessment Research and Practice: The View from the Middle East and the Pacific Rim* (pp.47-66). Cambridge Scholars.
- Baghaei, P., Bensch, D., & Ziegler, M. (2016). Measurement invariance across gender and major in the University of Tehran English Proficiency Test. In Aryadoust, V., & Fox, J. (Eds.), *Trends in Language Assessment Research and Practice: The View from the Middle East and the Pacific Rim* (pp.167-183). Cambridge Scholars.
- Baghaei, P., & Grotjahn, R. (2014). The validity of C-Tests as measures of academic and everyday language proficiency: A multidimensional item response modeling study. In R. Grotjahn (Ed.), *Der C-Test: Aktuelle Tendenzen/The C-Test: Current trends* (pp. 163-171.). Peter Lang.
- Baghaei, P. (2014). Development and validation of a C-Test in Persian. In R. Grotjahn (Ed.), *Der C-Test: Aktuelle Tendenzen/The C-Test: Current trends* (pp.299-312). Peter Lang.
- Baghaei, P., & Salavati, O. (2012). Double-track true-false items: A viable method to test reading comprehension? In Pishgadam, R. (Ed.), *Selected papers of the 1st conference on language learning and teaching: An interdisciplinary approach* (pp. 109-120). Ferdowsi University Press.
- Baghaei, P. (2010). An investigation of the invariance of Rasch item and person measures in a C-Test. In R. Grotjahn (Ed.), *Der C-Test: Beiträge aus der aktuellen Forschung/ The C-Test: Contributions from Current Research* (pp.100-112). Peter Lang.

Journal articles:

- Baghaei, P., Grammatikopoulou, E., Johansson, S., & Strietholt, R. (2025). Comparing linear and nonlinear reading assessments in PIRLS 2016. *Studies in Educational Evaluation*, 87: 101513. <https://doi.org/10.1016/j.stueduc.2025.101513>
- Baghaei, P., Ravand, H., & Strietholt, R. (2025). Modeling local item dependence in PIRLS 2016: Comparing ePIRLS and paper-based PIRLS using the Rasch testlet model. *Psychological Test and Assessment Modeling*, 67, 127– 140. <https://doi.org/10.2440/001-002>
- Baghaei, P., & Robitzsch, A. (2025). A tutorial on item response modeling with multiple groups using TAM. *Educational Methods and Psychometrics*, 3, 14. <https://dx.doi.org/10.61186/emp.2025.1>
- Effatpanah, F., Baghaei, P., Ravand, H., & Kunina-Habenicht, O. (2024). Fitting the mixed Rasch model to the listening comprehension section of the IELTS: Identifying latent class differential item functioning. *International Journal of Testing*, 25(1), 50–89. <https://doi.org/10.1080/15305058.2024.2414423>
- Heister, H., Strietholt, R., Doebler, P., & Baghaei, P. (2024). Circumventing construct-irrelevant variance in international assessments using cognitive diagnostic modeling: A curriculum-sensitive measure. *Studies in Educational Evaluation*, 83, 101393. <https://doi.org/10.1016/j.stueduc.2024.101393>
- Ravand, H., Effatpanah, F., Ma, W., de la Torre, J., Baghaei, P., & Kunina-Habenicht, O. (2024). Exploring interrelationships among L2 writing subskills: Insights from cognitive diagnostic models. *Applied Measurement in Education*, 37(4), 329–355. <https://doi.org/10.1080/08957347.2024.2424550>
- Shoahosseini, R., Baghaei, P., Khodabakhshzadeh, H., & Ashraf, H. (2024). C-Test construct validity: Evidence from nonparametric item response theory. *Language Testing in Asia* 14: 10. <https://doi.org/10.1186/s40468-024-00279-z>
- Effatpanah, F., Baghaei, P., Babaii, E., & Tabatabaee-Yazdi, M. (2024). A new scoring method for item response theory analysis of C-Tests. *Language Testing*. <https://doi.org/10.1177/02655322241265350>
- Effatpanah, F., Baghaei, P., & Karimi, M. N. (2024). A mixed Rasch model analysis of multiple profiles in L2 writing. *Assessing Writing*, 59, 100803. <https://doi.org/10.1016/j.asw.2023.100803>
- Baghaei, P., & Effatpanah, F. (2024). Nonparametric kernel smoothing item response theory analysis of Likert items. *Psych*, 6(1), 236-260. <https://doi.org/10.3390/psych6010015>
- Effatpanah, F., & Baghaei, P. (2024). Examining the dimensionality of linguistic features in L2 writing using the Rasch measurement model. *Educational Methods & Practice*, 2, 9. <https://dx.doi.org/10.61186/emp.2024.3>
- Baghaei, P., & Christensen, K. B. (2023). Modelling local item dependence in C-Tests with the Loglinear Rasch Model. *Language Testing Journal*, 40(3), 820-827. DOI: 10.1177/02655322231155109
- Effatpanah, F., & Baghaei, P. (2023). Kernel smoothing item response theory in R: A didactic. *Practical Assessment, Research, and Evaluation*, 28, Article 7. Available at: <https://scholarworks.umass.edu/pare/vol28/iss1/7>

- Effatpanah, F., & Baghaei, P. (2022). Exploring rater quality in rater-mediated assessment using the non-parametric item characteristic curve estimation. *Psychological Test and Assessment Modeling*, 64 (3), 216-252.
- Effatpanah, F., & Baghaei, P. (2022). Evaluating different scoring methods for the speeded cloze-elide test: The application of the Rasch partial credit model. *The Quantitative Methods for Psychology*, 18(3), 241–254. doi:10.20982/tqmp.18.3.p41
- Effatpanah, F. & Baghaei, P. (2021). Cognitive components of writing in a second language: An Analysis with the Linear Logistic Test Mode. *Psychological Test and Assessment Modeling*, 63, 13-44.
- Ravand, H., Baghaei, P., & Doebler, P. (2020). Examining parameter invariance in a general diagnostic classification model. *Frontiers in Psychology*, 10:2930. Doi: 10.3389/fpsyg.2019.02930
- Shoahosseini, R., & Baghaei, P. (2020). Validation of the Persian translation of the Children's Test Anxiety Scale: A multidimensional Rasch model analysis. *European Journal of Investigations in Health Psychology and Education*, 10, 59-60. [10.3390/ejihpe10010006](https://doi.org/10.3390/ejihpe10010006)
- Forthmann, B., Grotjahn, R., Doebler, P., & Baghaei, P. (2020). A comparison of different item response theory models for scaling speeded C-Tests. *Journal of Psychoeducational Assessment*, 38, 692-705. Doi: 10.1177/0734282919889262
- Karami, M., Pishghadam, R., & Baghaei, P. (2019). A probe into EFL learners' emotioncy as a source of test bias: Insights from differential item functioning analysis. *Studies in Educational Evaluation*, 60, 170-178.
- Baghaei, P., & Ravand, H. (2019). Method bias in cloze tests as reading comprehension measures. *Sage Open*, 9, 1-8. doi: 10.1177/2158244019832706
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- Ravand, H., & Baghaei, P. (2020). Diagnostic classification models: Recent development, practical issues and prospects. *International Journal of Testing*, 20, 24-56. Doi: 10.1080/15305058.2019.1588278
- Baghaei, P., & Shoahosseini, R. (2019). A note on the Rasch model and the instrument-based account of validity. *Rasch Measurement Transactions*, 32, 1705-1708.
- Nadri, M., & Baghaei, P., & Zohoorian, Z. (2019). The contribution of cognitive abilities and general language proficiency to explaining listening comprehension in English as a foreign language. *Cogent Education*, 6, 1567010. Doi: 10.1080/2331186X.2019.1567010
- Nadri, M., & Baghaei, P., & Zohoorian, Z. (2019). Analysis of the Ruff 2 & 7 Test of Attention with the Rasch Poisson Counts Model. *The Open Psychology Journal*, 12, 7-11. doi: 10.2174/1874350101912010007
- Baghaei, P., Ravand, H., Nadri, M. (2019). Is the d2 test of attention Rasch scalable? Analysis with the Rasch Poisson Counts Model. *Perceptual and Motor Skills*, 126, 70-86. doi: 10.1177/0031512518812183.
- Baghaei, P. & Doebler, P. (2019). Introduction to the Rasch Poisson Counts Model: An R tutorial.

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Karami, M., Pishghadam, R., & Baghaei, P. (2019). A probe into EFL learners' emotioncy as a source of test bias: Insights from differential item functioning analysis. *Studies in Educational Evaluation*, 60, 170-178.

Tabatabaee-Yazdi, M., Motallebzadeh, K., Ashraf, H., & Baghaei, P. (2018). Continuing Professional Development Strategies: A Model for the Iranian EFL Teachers' Success. *SAGE Open*, 8(1), 2158244018764234.

Tabatabaiei, M., Motallebzade, K., Ashraf, H., & Baghaei, P. (2017). A latent variable analysis of continuing professional development constructs using PLS-SEM modeling. *Cogent Education*, 4, 1-15.

Tabatabaee-Yazdi, M., Motallebzadeh, K., Ashraf, H., & Baghaei, P. (2018). Development and Validation of a Teacher Success Questionnaire Using the Rasch Model. *International Journal of Instruction*, 11(2), 129-144.

Tabatabaee-Yazdi, M., & Baghaei, P. (2018). Reading comprehension in English as a foreign language and some Cattell-Horn-Carroll cognitive ability factors. *Reading Matrix*, 18, 19-26.

Tabatabaiei, M., Motallebzade, K., Ashraf, H., & Baghaei, P. (2017). A latent variable analysis of continuing professional development constructs using PLS-SEM modeling. *Cogent Education*, 4, 1-15.

Baghaei, P., Khoshdel-Niyat, F., & Tabatabaee-Yazdi, M. (2017). The Persian adaptation of Baddeley's 3-min Grammatical Reasoning Test. *Psicologia: Reflexão e Crítica*, 30:16. doi: 10.1186/s41155-017-0070-z

Baghaei, P., & Hohensinn, C. (2017). A method of Q-matrix validation for the linear logistic test model. *Frontiers in Psychology*, 8: 897. doi: 10.3389/fpsyg.2017.00897.

Pishghadam, R., Baghaei, P., & Seyednozadi, Z. (2017). Introducing emotioncy as a potential source of test bias: A mixed Rasch modeling Study. *International Journal of Testing*, 17, 127-140. doi: 10.1080/15305058.2016.1183208.

Ghahramanlou, M., Zohoorian, Z., & Baghaei, P. (2017). Understanding the cognitive processes underlying performance in the IELTS listening comprehension test. *International Journal of Language Testing*, 7, 62-72.

Baghaei, P., Yanagida, T., & Heene, M. (2017b). A new fit statistic for the dichotomous Rasch model: Modified cut-off values. *Rasch Measurement Transactions*, 31, 1621-1624.

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Baghaei, P., & Tabatabaee-Yazdi, M. (2016). The logic of latent variable analysis as validity evidence in psychological measurement. *The Open Psychology Journal*, 9, 168-175.

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Assessment, Research & Evaluation, 21(11). <http://pareonline.net/getvn.asp?v=21&n=11>.

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Baghaei, P. & Kubinger, K. D. (2015). Linear logistic test modeling with R. *Practical Assessment, Research & Evaluation*, 20, 1-11.

Baghaei, P., & Aryadoust, V. (2015). Modeling local item dependence due to common test format with a multidimensional Rasch model. *International Journal of Testing*, 15, 71-87. <https://doi.org/10.1080/15305058.2014.941108>

Eckes, T., & Baghaei, P. (2015). Using testlet response theory to examine local dependency in C-Tests. *Applied Measurement in Education*, 28, 85-98.

Baghaei, P., & Cassady, J. (2014). Validation of the Persian translation of the Cognitive Test Anxiety Scale. *Sage Open*, 4, 1-11. <https://doi.org/10.1177/2158244014555113>

Baghaei, P., Hohensinn, C., & Kubinger, K.D. (2014). The Persian adaptation of the foreign language reading anxiety scale: A psychometric analysis. *Psychological Reports*, 114, 315-325.

Baghaei, P., & Grotjahn, R. (2014). Establishing the construct validity of conversational C-Tests using a multidimensional Item Response Model. *Psychological Test and Assessment Modeling*, 56, 60-82.

Saeidi, M., Yousefi, M., & Baghaei, P. (2013). Rater bias in assessing Iranian EFL learners' writing performance. *Iranian Journal of Applied Linguistics* 16, 145-175.

Baghaei, P., & Carstensen, C. H. (2013). Fitting the mixed Rasch model to a reading comprehension test: Identifying reader types. *Practical Assessment, Research & Evaluation*, 18, 1-13.

Baghaei, P. (2013). Development and psychometric evaluation of a multidimensional scale of willingness to communicate in a foreign language. *European Journal of Psychology of Education*, 28, 1087-1103.

Baghaei, P., & Motallebzadeh, K. (2012). An Appraisal of "Establishing a Life-Language Model of Proficiency: A New Challenge for Language Testers" by Pishghadam and Zabihi (2012). *Iranian Journal of Language Testing*, 2, 116-119.

- Pishghadam, R., Baghaei, P., Bazri, E., & Ghaviandam, S. (2012). Using Rasch to validate a measure of English language teacher prejudice. *Journal of the Teaching English Language and Literature Society of Iran (TELL)*, 6, 25-47.
- Baghaei, P. (2012). The application of multidimensional Rasch models in large scale assessment and validation: An empirical example. *Electronic Journal of Research in Educational Psychology*, 10, 233-252.
- Baghaei, P., Dourakhshan, A., & Salavati, O. (2012). The relationship between willingness to communicate and success in learning English as a foreign language. *Modern Journal of Applied Linguistics*, 4 (2), 53-67.
- Baghaei, P., & Roshanzamir, M. (2011). Barrasi baxsh paziriye sazeze darke matlab dar zabane khareji. [Investigating the divisibility of foreign language comprehension construct: A multidimensional item response modelling approach]. *The Journal of Language and Translation Studies*, 42, 1-19.
- Motallebzadeh, K., & Baghaei, P. (2011). Models of language proficiency: A reflection on the construct of language ability. *Iranian Journal of Language Testing*, 1, 42-48.
- Baghaei, P., & Amrahi, N. (2011). The effects of the number of options on the psychometric characteristics of multiple choice items. *Psychological Test and Assessment Modeling*, 53, 192-211.
- Pishghadam, R., Baghaei, P., Shahriari Ahmadi, H. (2011). Development and validation of an English language teacher competency test using Item Response Theory. *The International Journal of Educational and Psychological Assessment*, 8, 54-68.
- Pishghadam, R., Baghaei, P., Shams, M.A., & Shamsaee, S. (2011). Construction and validation of a narrative intelligence scale with the Rasch rating scale model. *The International Journal of Educational and Psychological Assessment*, 8, 75-90.
- Baghaei, P., & Amrahi, N. (2011). Validation of a multiple choice English vocabulary test with the Rasch model. *Journal of Language Teaching and Research*, 2, 1052-1060.
- Baghaei, P. (2011). Do C-Tests with different number of gaps measure the same construct? *Theory and Practice in Language Studies*, 1, 688-693.
- Baghaei, P. (2011). Test score equating and fairness in language assessment. *Journal of English Language Studies*, 1, 113-128.
- Baghaei, P. (2011). Optimal number of gaps in C-Test passages. *International Education Studies*, 4, 166-171.
- Baghaei, P. (2010). A comparison of three polychotomous Rasch models for super-item analysis. *Psychological Test and Assessment Modeling*, 52, 313-323.
- Baghaei, P., & Roshanzamir, M. (2010). A new perspective on C-Test construct validity: examining its relationship with multiple intelligences. *Ferdowsi Review: An Iranian Journal of TESL, Literature and Translation Studies*, 1, 21-31.
- Baghaei, P. & Motallebzadeh, K. (2010). The effects of the prior knowledge of passage content on C-Test scores: An investigation of text-level processing. *Iranian Journal of Teaching English as a*

Foreign Language and Literature, 2, 39-51.

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Baghaei, P., & Amrahi, N. (2009). Introduction to Rasch measurement. *Iranian EFL Journal*, 5, 139-154.

Baghaei, P., Monshi Toussi, M.T., & Boori, A. A. (2009). An Investigation into the validity of conversational C-Test as a measure of oral abilities. *Iranian EFL Journal*, 4, 94-109.

Baghaei, P. & Pishghadam, R. (2008). The effects of the violation of local independence assumption on the person measures under the Rasch model. *Iranian Journal of Applied Linguistics*, 11, 49-65.

Baghaei, P. (2008). The Rasch model as a realization of the fundamental measurement in the social sciences. *Language Teaching Journal*, 4, 27-44.

Baghaei, P. (2008). The effects of the rhetorical organization of texts on the C-Test construct: A Rasch modelling study. *Melbourne Papers in Language Testing*, 13, 32-51.

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Baghaei, P. (2008). An attempt to fit the Rasch model to a C-Test. *Iranian EFL Journal*, 2, 6-15.

Baghaei, P. (2007). Applying the Rasch rating-scale model to set multiple cut-offs. *Rasch Measurement Transactions*. 20, 1075-76.

Baghei, P. (2007). Local dependency and Rasch measures. *Rasch Measurement Transactions*. 21, 1105-1106.