

# Fatma Abdelkhalek

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As a researcher, I participated in a number of policy-relevant studies related to social and economic development issues such as education, literacy, poverty, employment, women empowerment, sexual harassment, and health. These studies apply basic and advanced statistical approaches.

I'm passionate about applied social research, applied statistics, and data mining in social sciences. Working with many international and national organizations for more than 10 years has enhanced my leadership and networking skills to be a successful member of any work team.

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## EDUCATION

- PhD** 2017–2021, Institute of Mathematics, Budapest University of Technology and Economics, Budapest, Hungary.
- PhD Thesis:** Graphical Models & Structural Equation Modeling, Supervised by Prof. Marianna Bolla.
- MSc** 2013-2016, Faculty of Statistical Studies and Research, Cairo University, Cairo, Egypt.
- MSc Thesis:** Structural Equation Modeling with Applications, Supervised by Prof. Amany Mousa.
- Social Science Scholarship** September 2012 -August 2013, Social Science Research Methods Training for Young Egyptian Scholars, Social Research Center, American University in Cairo, Cairo, Egypt.
- BSc** 2006-2009, Statistics, Faculty of Economics and Political Sciences, Cairo University, Cairo, Egypt.

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## WORK EXPERIENCE

- 2014 - Present** Demonstrator, Faculty of Commerce, Assiut University, Egypt.
- 2017 – 2021** Teaching Assistant and Researcher as PhD student, Institute of Mathematics, Budapest University of Technology and Economics, Hungary.
- 2012 - 2017** Senior Statistician, Social Research Center, American University in Cairo, Egypt.
- 2013 - 2014** Teaching SPSS for the trainees of Social Science Research Methods Training for Young Egyptian Scholars, Social Research Center, American University in Cairo, Egypt.
- 2009 - 2012** Research Assistant and Data Processing Coordinator, El-Zanaty and Associates for Research and Studies, Egypt.

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## CONSULTANCIES

- 2021** Statistician and researcher for the Implementation of the Al Qasimi Curriculum in a Summer Program, Iqra, in Assiut, Egypt Study. This project was privately financed and carried out by the American University in Cairo and the Qodra organization, Egypt.
- 2014** Statistician for Towards a Safer City- Sexual Harassment in Greater Cairo: Effectiveness of Crowdsourced Data. The Study was Supported by The International Development Research Center (IDRC), Egypt.
- June - July 2013** Data analyst for Assessing the Regulations of the Private Health in the Mediterranean Region: Egypt, for Social Research Center, in collaboration with the WHO, Egypt.
- August 2011 - December 2012** Data processing coordinator for a study of the Experience of CARE's Multi-Grade Schools, Social Research Center, American University in Cairo, Egypt.

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## JOURNAL PUBLICATIONS

Bolla, M., and Abdelkhalek F., *Klaman Filtering Technique in Structural Equation Modeling*, Studia Universitatis Babes-Bolyai Mathematica, 66.1 (2021), 179-196.

Bolla, M., Szabados, T., Baranyi, M., and Abdelkhalek F., *Block Circulant Matrices and the Spectra of Multivariate Stationary Sequences*, Special Matrices 9 (2021), 36-51.

Abdelkhalek, F., Bolla M., *Application of Structural Equation Modeling to Infant Mortality Rate in Egypt*. In: Skiadas C., Skiadas C. (eds) Demography of Population Health, Aging and Health Expenditures (2020). The Springer Series on Demographic Methods and Population Analysis, Vol 50. Springer.

Bolla, M., and Abdelkhalek, F., *Bi-classified block models as mixtures of standardized contingency tables with Beta-distributed entries*, Libertas Mathematica (new series), 39. 1 (2019), 1-12.

Langsten, R., Abdelkhalek, F., and Hassan, T., *Arabic Language Skills: A Comparative Study of Community and Government Schools in Rural Upper-Egypt*, Compare: A Journal of Comparative and International Education (2020).

Bolla, M., Abdelkhalek, F., and Baranyi, M., *Graphical models, regression graphs, and recursive linear regression in a unified way*, Acta Scientiarum mathematicarum 85.12(2019), 9-57.

Abdelkhalek, F., and Langsten, R., *Track and Sector in Egyptian Higher Education: Who Studies Where and Why?* FIRE: Forum for International Research in Education, 6. 2 (2019), 45-70.

Shatanawi, M., Abdelkhalek, F., and Mészáros, F., *Urban Congestion Charging Acceptability: An International Comparative Study*, Sustainability 12.12 (2020).

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## ACADEMIC CONFERENCES

- November 2021** 5<sup>th</sup> Annual Advancing Education in Muslim Societies (AEMS) Virtual Symposium: Implications for Policy, Pedagogy, and Development, Short presentation, “Girls' Empowerment in Rural Upper-Egypt: A comparative study between community and government school students”.
- June 2020** 8<sup>th</sup> Virtual Stochastic Modeling Techniques and Data Analysis, International conference (SMTDA), Barcelona, Spain. Short presentation, “Predictive Capability of the Partial Least Squares Structural Equation Modeling (PLS-SEM) with Application”.
- March 2020** 64<sup>th</sup> Virtual Comparative & International Education Society, Miami, US. Short presentation, “Girls' Education Transitions in Rural Upper Egypt: A Comparative Study of Students in Community and Government Schools”.
- June 2019** 18<sup>th</sup> Applied Stochastic and Data Analysis, International conference and Demographic workshop, Florence, Italy. Short presentation, “Structural Equation Modeling: Indicators affecting Infant Mortality Rate in Egypt”.
- April 2019** 63<sup>rd</sup> Comparative & International Education Society, San Francisco, US. Short presentation, “Attitudes and Empowerment in Rural Upper Egypt: A Comparative Study of Students in Community and Government Schools”.
- March 2018** 62<sup>nd</sup> Comparative & International Education Society, Mexico City, Mexico. Short presentation, “Learning in Public and Private Universities in Egypt”.
- December 2017** Society for Research into Higher Education Newer Research, Newport, Wales, UK. Short presentation, “Gender, Field of Study and Labor Force Participation in Egypt”, published at the Book of Abstracts, p. 21. <https://www.srhe.ac.uk/conference2017/downloads/SRHE-NR-Conference-Programme-Abstracts.pdf>
- December 2017** Society for Research into Higher Education Newer Research, Newport, Wales, UK. Short presentation “Learning in Public and Private Universities in Egypt”. In: Proceedings of the Society for Research into Higher Education”. <https://www.srhe.ac.uk/conference2017/abstracts/0081.pdf>
- May 2015** 17<sup>th</sup> Annual International Conference on Education, Athens, Greece. Short presentation “Track And Sector In Egyptian Higher Education: Who Studies Where and Why?”.
- March 2015** 21<sup>st</sup> Annual Research Conference of Middle East and North Africa Region, American University in Cairo, Egypt. Short presentation “Factors Related to Students' Choices of Track and Sector in Higher Education”.
- October 2014** “Expansion of Private Higher Education in Egypt: Issues of Equity” at Issues of Equity in Higher Education Conference, American University in Cairo, Egypt.

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## COMPUTER AND PROGRAMMING SKILLS

Professional Knowledge of: SPSS, STATA, CSPro.

Intermediate knowledge of: R, Latex.

Basic knowledge of: Mathematica, Python.

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## JOB RELATED SKILLS

### **Data Processing Coordinator**

- Design and validate data entry and consistency programs.
  - Supervise data entry staff.
  - Data management.
  - Data analysis using various statistical methods and different packages.
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### **Researcher**

- Develop survey questionnaires and manuals.
  - Develop academic papers and reports.
  - Prepare presentations of study results.
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### **Teaching**

- Teach statistics courses for undergraduate students.
- Teach statistical packages.

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## LANGUAGES

Arabic: Native language.

English: Fluent (writing, reading, and speaking).

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## RERFERNCE

On Request.