PAMELA I. INOSTROZA FERNÁNDEZ

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PROFESSIONAL SUMMARY

Statistician with long experience in research and programming. Experience in social research. Advanced programming skills in R, SAS, and data management. Many projects as an independent consultant. Available part-time, full time from September 2021. Interest areas: Statistical programming, Psychometrics, Statistical Methods, Data Visualization.

EDUCATION

KATHOLIEKE UNIVERSITEIT LEUVEN - KU LEUVEN   **LEUVEN, BELGIUM**
Master in Statistics and Data Science   SEP. 2019– JUL. 2021
· Becas Chile (ANID) scholarship, 2 years fully funded.
· Specialization: Social, Behavioral and Educational sciences

UNIVERSIDAD DE SANTIAGO DE CHILE   **SANTIAGO, CHILE**
Bachelor of Statistics and Computer Science   MAR. 2003– JUL. 2007
· Governmental scholarship, 30% of total fee.

PROFESSIONAL EXPERIENCE

EDUCATION QUALITY AGENCY (MINISTRY OF EDUCATION)   **SANTIAGO, CHILE**
Statistical consultant   SEP. 2016– SEP. 2019
· **Statistical programmer** for the computation of Indicators of personal and social development using contextual questionnaires for all students in the Chilean educational system in specific grades.
· Implementation of **automatized yearly validation** of questionnaires for national and international assessments, scales and indicators, using statistical methodologies.
· Improvement of question-wording of background questionnaires, study of items reduction, and simplification of response options. Evaluation of items, using Item Response Theory.
· **National reports** result and creation of **sample framework** for international studies where Chile participate.
· **Reporting of results** for different audiences, parents, teachers/school principals and policymakers.

ECONOMIC COMMISSION FOR LATIN AMERICA AND THE CARIBBEAN – ECLAC   **SANTIAGO, CHILE**
Statistical consultant   MAR. 2016– SEP. 2016
· **Statistical researcher** in the study "Scholar Violence" using data from TERCE 2013.
· Validation of scales from background questionnaires, reporting of findings and **co-writing of chapter** for publishing.

COMPARATIVE EDUCATIONAL POLICIES CENTRE, DIEGO PORTALES UNIVERSITY   **SANTIAGO, CHILE**
Coordinator and researcher in TERCE study   AUG. 2012– JAN. 2016
· **Revision and edition of design** and formatting of contextual questionnaires applied to Students, Parents, Teachers and School Principals in large scale assessment TERCE evaluated in 15 countries in Latin America.
· Revision of **country-specific text adaptations** of contextual questionnaires, review of question-wording, and homogenization and simplification of response categories.
· Application of large-scale assessment in Latin American countries (TERCE 2013), **direct coordination** with each national centre representative for the correct application of the survey following protocols and deadlines.
· Reception and **review** of the intermediate datasets with responses of the contextual questionnaires, feedback, and **consolidation of final datasets**.
· **Validation of questionnaires**, cleaning and recodification of items, evaluation and creation of scales and derived variables, using Confirmatory Factor Analysis and Classical Test Theory.
· Evaluation of relevant factors that influence the achievement of students, considering **complex sampling design**, **nested data,** and scores as plausible values (**multiple imputations**) using **Multilevel Modelling**.
· Writing of **technical report** of the implementation of TERCE 2013 indicating procedures, techniques, and results.

DATA PROCESSING AND RESEARCH CENTER (IEA - DPC)   **HAMBURG, GERMANY**
SAS programmer   JUL. 2011– JUN. 2012
· Implementation of SAS coding for **cleaning data** from multiple countries participating in studies provided by IEA (TIMSS, PIRLS 2011, PIACC, among others).
· Management of SAS coding for processing data cleaning, **pre-processing** and revision of final dataset to be used in statistical analysis.
· Implementation of **updated procedures** in main programs, using advance macro programming in SAS.
· Use of **version control systems** (VCS) to manipulate code and keep track of changes.

NATIONAL INSTITUTE OF STATISTICS (INE)   **SANTIAGO, CHILE**
Statistical Analyst   JUL. 2007– MAY. 2011
· **Research of methodologies** for the actualization of CPI calculation, the definition of which type of product use geometric or arithmetic mean in the aggregation of varieties.
· **Implementation of SAS coding** for automatized calculation of the index, using advance macro programming.
· Implementation of statistical techniques for weekly **validations of prices data** included in the calculation, identification of outliers, number of optimal prices sample, verification of typos and inconsistent values.
· Analysis of the National Household Budget Survey to obtain weights of products used in the calculation of CPI
· Implementation of statistical techniques to **imputation of missing values**, considering the regression model, mean imputation and other methodologies depending on the product and temporality.
· In charge of the monthly calculation of the official CPI indexes, providing tables and summaries to publishing. Responsible for **confidential information** and **challenging time pressure** to be published on time.
· **Direct interaction with the IT department** for implementation and verification of the procedures using SQL in parallel.
· Writing of the **technical report**, with methodologies and procedures used in each stage of the calculation.

PARTICIPATION IN PROJECTS

Independent/Freelance consultant   2016– PRESENT
· *Verification of translated background questionnaires PISA 2022. cApStAn.*   *Brussels, Belgium (2019-2020)*
  ⁺ **Language verification** and adaptations from English to Latin-American Spanish of PISA 2022 field test questionnaires, including new Global Crisis Module. Use of translation tools as OmegaT, Virtaal and web portals.
· *"Economic development for San Antonio municipality" study. Synthesis Consultants.*   *Santiago, Chile (2019)*
  ⁺ **Design of surveys** that measured main factors that influence the development of new entrepreneurship, as well as small, medium, and large businesses. **Modelling and evaluation** of relevant factors to be considered for policymakers to improve economic growth in the municipality.
· *"Determination of indirect product packaging in imports and exports", Environmental Ministry.*   *Santiago, Chile (2018)*
  ⁺ Creation of a **computational system** in software R to estimate the number of residual wastes. Simulation of the amount of paper/cardboard, glass, wood, plastic, and metal for the most commercialized type of products and packaging.
· *"Improving the Availability of Education Data in The Caribbean", IEA DPC.*   *Hamburg, Germany (2017-2018)*
  ⁺ Creation, **validation of context questionnaire** to be applied together with examinations, implemented by the Caribbean Examination Council (CXC)
· *"Automatize and updating the information of statal universities files". UNDP.*   *Santiago, Chile (2017)*
  ⁺ **Automation of administrative reports** of each Statal University in Chile. Implementation in R software, code generation that allows the replicability of reports, and updating tables and graphs.
· *"Technical Assistance for processing Associated Factors (ICFES)". Pontifical Catholic University.*   *Santiago, Chile (2017)*
  ⁺ Technical Assistance for processing national evaluations that the Colombian Institute performed during 2012-2015, automatization in software R, **interaction with technical team** and transfer of codes.
· *Evaluation of National Performance Evaluation System (SNED). Ministry of Education.*   *Santiago, Chile (2016)*
  ⁺ **Replication of official methodology** for determination of schools' winners of grants, evaluation of methodology, simulation of alternatives and suggestions for improvement.
· *"Accompaniment to the Nicaraguan Ministry of Education". Pontifical Catholic University.*   *Santiago, Chile (2016)*
  ⁺ Implementation and analysis of the results for their national educational evaluation
  ⁺ Conduct **training to members** of the ministry's evaluation department, educational research methodologies and practical exercises using SPSS and HLM software

LANGUAGES

Spanish (Native); English (Advanced)

IT SKILLS

- **R** (Advanced) - Shiny - RMarkdown
- **SAS** (Advanced) - Base and macro programming certifications
- Python (Basic)
- SPSS (Intermediate); JMP (Intermediate)
- MPLUS (Intermediate); HLM (Intermediate); MLWin (Intermediate); LEM (Intermediate); Latent Gold (Basic)
- Power BI (Intermediate); Tableau (Intermediate); SAS Viya (Intermediate)
- **SQL** (Intermediate); AQL - ArangoDB (Intermediate)
- **Latex** (Intermediate); **Git** (Intermediate)

PUBLICATIONS

- (2017) Trucco, D.; Inostroza, P. Las violencias en el espacio escolar. Santiago: OREALC/UNESCO.
- (2016) UNESCO OREALC. Inequidad de género en los logros de aprendizaje en educación primaria ¿Qué nos puede decir TERCE? Santiago: OREALC/UNESCO.
- (2015) UNESCO OREALC. Reporte Técnico Tercer Estudio Regional Comparativo y Explicativo (TERCE)". Capítulo 7: Análisis de datos factores asociados. Santiago: OREALC/UNESCO.
- (2015) Treviño, E.; Fraser P.; Meyer, A.; Morawietz, L.; Inostroza, P. & Naranjo, E. Informe de resultados Tercer Estudio Comparativo y Explicativo (TERCE). Cuadernillo Nº3 Factores Asociados, Santiago: OREALC/UNESCO.

ADDITIONAL INFORMATION

- Passionate about travelling and living cultural experiences
- Enjoyment of nature and photograpy

REFERENCES

- Andres Sandoval-Hernández (+44 0 1225 38 4003), email: A.Sandoval@bath.ac.uk
- Claudia Matus Correa (+56 9 9323 4444), email: claudia.matus@agenciaeducacion.cl

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