RAÏQ, HICHAM

- *Assistant Professor, Department of Social Sciences, Qatar University*
- *Data Scientist*

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WORK / TEACHING & RESEARCH EXPERIENCE

Qatar University, Doha / Qatar 2019 to Present
Assistant Professor
- Teaching and research activities / Committee member
- Taught courses: Digital Society / Quantitative Research / Research project / Social Statistics / Law & Society / Health, Culture & Disease / Language, Communication & Society / Anthropology

University of Montreal, Canada 2010 to 2019
- Teaching and research activities / Graduate and undergraduate programs
- Selected taught courses: Methodology and Data Analysis (Graduate program) / Advanced Statistics / Introduction to Research Methodology / Rationality & Rationalization / Research Methods in the Humanities / Labor Market and Social Inequality / Stratification and Social Mobility / Introduction to Arab World / Critical Theory

McGill University, Canada 2014 to 2016
Population Dynamic Research Center / Quebec Interuniversity Centre for Social Statistics
Postdoctoral researcher
- Led a research study to examine the labor market participation and job transitions. Data analysis methods (Longitudinal methods): General Linear Model using Stata / Overview of different types of longitudinal survey data / First differencing and lagged endogenous variables / Random intercepts models / Random coefficients models, Growth curves / Survival analysis / Sequence analysis / Population, longitudinal and bootstrap weights.

Quebec Public Health Institute, Canada 2011 to 2014
Statistical analyst
- Designed a statistical model to quantify the mediating effect of psychological distress in the relation between work exposures and occupational health problems to reflect on the implications for prevention. Methods: Structural equation modeling using Mplus / Multivariate risk scores / Linear and logistic regression with backward elimination (SAS)

McGill University, Canada 2009 to 2011
Research assistant / Data analyst
- Assisted with statistical modelling, analysis, and write-up of three reports

Lea Roback Research Center (affiliated to the Ministry of Public Health in Canada), Canada 2006 to 2009
Research assistant / Data analyst
- Developed a battery of indicators to evaluate the stratification in the labor market and social determinants of health with international comparisons

OTHER EXPERIENCE
1994-2004: Journalist and head of section – The Economist – Morocco (www.leconomiste.com)
1996-2004: Part time professor of economics – ET Dual Training School (Business School) - Morocco

LANGUAGES
Arabic (Fluent) / English (Fluent) / French (Fluent)

SOFTWARE EXPERTISE

• Quantitative data analysis:
    SAS, SAS Enterprise Miner, SPSS, STATA, R, Python, Mplus
• Qualitative data analysis (and mixed methods):
    QDA Miner (Text mining)
• Relational data analysis and big data management:
    SQL, SSIS (SQL Server Integration Services)

MSc Data sciences, HEC Montreal (Business School affiliated to the University of Montreal)   March 2019
- Big Data & Business Intelligence

EDUCATION

Postdoctoral research, McGill University - Canada   *June 2014 / August 2016*
Population dynamic research center / Quebec Interuniversity Centre for Social Statistics
- Research area: Population dynamics & longitudinal data analysis
- Fellowship Competition Awards (60,000$) - The Fonds de recherche du Québec – Société et culture

PhD, University of Montreal – Canada   *March 2013*
- Sociology: Social statistics & Policy analysis / Social determinant of health
- Scholarship Competition Awards (40,000$) - Social Sciences and Humanities Research Canadian Council
- Scholarship Competition Awards (20,000$) - The Fonds de recherche du Québec – Société et culture
- Scholarship Competition Awards (7,000$) - Canadian Institutes of Health Research (CIHR)
- Scholarship Competition Awards (5,000$) – University of Montreal

PhD exchange program, McGill University – Canada   Sep2009/May2010
- Informing Public Policy with Canadian Data: Longitudinal Analysis

MA, University of Montreal – Canada   June 2007
- Sociology (Social Statistics / Social Inequality & Health Disparities) with great distinction
- Scholarship Competition Awards (14,000$ & 3000$) – University of Montreal

BSc preparatory year, University of Montreal – Canada   2005
- Psychology & Sociology (Dean's Award of Excellence)

MA Engineering Education, University of Lille (Université des Sciences et Technologies de Lille) – France   2001

Graduate degree (Business School) in Management and Economic International Relations, Morocco   1994/1996

BSc in economics, University of Hassan II – Morocco   1990/1994

RECENT PUBLICATIONS (PEER REVIEWED)
- **Raïq, H**., Ourya M. (2020). The Satisfaction Degree of Young People In light of the Political and Economic Transformations after the "Arab Spring". Binary Logistic Regression Analysis for a Sample from the Maghreb. Syassat Arabia. Issue 46.
- **Raiq, H.,** Baya Chatti, C., Mohamed, A. A. M. (2020). Social inequality and homeownership from a comparative perspective: is there a return of the welfare State? Kultur Revista interdisciplinària sobre la cultura de la ciutat.

PUBLICATIONS (PEER REVIEWED)
- Stock, S**., Raïq, H**., Nicolakakis, N., & Messing, K. (2016). Towards understanding relations among social inequalities, gender and working conditions associated with work-related musculoskeletal disorders. British Medical Journal, Oemed (Occupational & Environmental Medicine), 73(1).
- Stock, S., & **Raïq, H**. (2015). Understanding the relationships between social inequalities and working conditions associated with work-related musculoskeletal disorders: implications for prevention. Paper presented at 19th Triennial Congress of the IEA, Melbourne, 9-14 August.
- Stock, S., Nicolakakis, N., **Raïq, H**., Messing, K., Lippel, K., & Turcot, A. (2014). Underreporting Work Absences for Nontraumatic Work-Related Musculoskeletal Disorders to Workers' Compensation: Results of a 2007–2008 Survey of the Quebec Working Population. American Journal of Public Health.
- Stock, S., **Raïq, H**., Nicolakakis, N., Messing, K., Turcot, A., & Abrahamowicz, M. (2014). Psychological distress: What role does it play in the relation between work-related back pain and psychosocial factors? In L. Lerouge (Ed.), Approche interdisciplinaire des risques psychosociaux au travail. Toulouse: Octares.
- Stock, S., Nicolakakis, N., Messing, K., Turcot, A., **& Raïq, H.** (2014), The relation between work-related musculoskeletal disorders and psychosocial factors. Perspectives interdisciplinaires sur le travail et la santé, 15(2), 2-20
- **Raïq, H.,** & Plantes, C. (2013). Trajectoires de pauvreté et monoparentalité : Le Québec dans une perspective comparative (Poverty trajectories and single motherhood: Quebec in comparative perspective). Revue Sociologie et Société, Presses de l'Université de Montréal, XLV(1), 5-15.
- Fleury, C., & Raïq, H. (2013). Innovations sociologiques et parcours de vie (Innovation in Sociology and Life Course). Sociologie et sociétés, 45(1), 5-15.

Peer reviewed book

- Van den Berg, A., Plantes, C., **Raïq, H**., Proulx, C., & Faustmann, S. (2017). Combating Poverty Quebec's Pursuit of a Distinctive Welfare State. Toronto Buffalo London: University of Toronto Press.

OTHER PUBLICATIONS

Abstract

- El Rayah O. & **Raïq, H**. (2016). Does Motherhood Influences Arab Women's Employment Participation? Working paper presented at the Southern sociological society annual meeting, Atlanta, March 2016.
- Al Mashrafia R. **& Raïq, H**. Qatari women: transitional labor markets and child socialization. Abstract (with poster) presented at the University of Chicago, May 2016.

Book chapters

- **Raïq, H.**, & van den Berg, A. (2014). Les familles protégées par la redistribution (Families protected by social redistribution). In A. Noël & M. Fahmy (Eds.), Miser sur l'égalité (pp. 79-90). Montréal: Fides.
- **Raïq, H**., & van den Berg, A. (2014). La lutte contre la pauvreté au Québec. Vers une social-démocratie nordique (Combating poverty in Quebec: Towards a Nordic social democracy). In S. Pacquin & P. Lévesque (Eds.), Social-démocratie : le Québec comparé aux pays scandinaves: Collection politiques mondiales, Presses de l'Université de Montréal.
- **Raïq, H.,** Bernard, P., & Van den Berg, A. (2012). Quebec's distinct welfare state. Inroads: The Canadian Journal of Opinion, 31(summer-fall 2012), 59-67.
- **Raïq, H**., P. Bernard et A. van den Berg. (2011). Family Type and Poverty under Different Welfare Regimes. In G. Fréchet, D. Gauveau, & J. Poirier (Eds.), Social Statistics, Poverty and Social Exclusion: Perspectives from Quebec, Canada and Abroad (pp. 32-46). Montréal: PUM.
- Proulx, C., Faustmann, S**., Raïq, H.,** & van den Berg, A. (2011). Internal Diversity in Social Policy Regimes: The Case of Canada's Four Major Provinces. In G. Fréchet, D. Gauveau & J. Poirier (Eds.), Social Statistics, Poverty and Social Exclusion: Perspectives from Quebec, Canada and Abroad (pp. 176-189). Montréal: PUM.
- **Raïq, H**., Plante, C., & van den Berg, A. (2011). Interactions between family and employment: issues and risks of poverty in Québec in a comparative perspective. In G. Fréchet, D. Gauveau & J. Poirier (Eds.), Social Statistics, Poverty and Social Exclusion: Perspectives from Quebec, Canada and Abroad (pp. 190-202). Montréal: PUM.

AREAS OF EXPERTISE (APPLIED METHODOLOGY AND DATA ANALYSIS)

CONSULTING IN DATA SCIENCES / BIG DATA

- Carried out a study on real estate market to predict the number of days needed to sale a house. Data analysis methods: logistic regression with selection "all-subset", classification table analysis with matrix of gains and losses and cross validation. Software: SAS and R.
- Designed a model to predict the potential donators to launch a successful fundraising campaign. Implemented a predictive model testing many algorithms (Decision tree, Bagging and Boosting, Neural network, Random forest, Incremental value, classifying rare classes, K-Nearest Neighbors). Algorithms with SAS-Enterprise Miner.
- Designed a segmentation model to build a loyalty program for theater companies. Empirical validation of various scenarios of CLV (Customer Lifetime Value). Segmentation carried out with the RFM approach (Recency, Frequency, and Monetary) to estimate the future behaviors. Designed a segmentation with hierarchical, non-hierarchical, k-means and two steps clustering approaches. Software: SAS and SPSS.
- Carried out a study on the union orientation of employees and its impact on opinion towards scientists in relation to global warming. Modeling with analysis of interaction effects (2nd order and 3rd order) to identify the variables exacerbating the positive or negative attitude towards environmental protection in the industrial process.
- Contribution to a study on the evolution of the Apple share (according to daily variations over the last 20 years). Use programming with "LAG" functions to create new variables with the equation that can systematically calculate quantity increases while preparing the data for future predictive analysis.
- Contribution to a study using SERVQUAL which is a tool allowing to study different factors (dimensions) linked to the quality of service (tangibles, reliability, responsiveness, assurance and empathy). Designed a model to compare the perception of the service offered according to customer expectations towards more than 500 bank branches. Performed several statistical tests controlling for the "family error rate" with an analysis of the interaction effects to better target the areas requiring training actions.
- Contribution to a project to resolve the TSM (Traveling Salesman Problem) using "NetworkX" (Python package to study the complex networks). Programming with different algorithms to understand network problems with visualization models of nodes, edges and graph (plot).
- Analysing relational data with SQL (mainly in the field of human resources and industrial relations). Conceptual modeling and system-oriented logical modeling / Data manipulation language / Data management…

SOCIOECONOMIC STUDIES & PATHOLOGICAL BEHAVIOR

- Carried out a research study to understand how the gambling experience can lead to pathological behavior with a serious impact on health. Designed a model (regressions) to examine the relation between many independent variables (measuring SES, attitudes and exposure to sponsorship) and two dependent variables measuring two levels of pathology gambling. Results: The positive attitude towards gambling sponsorship tends to exacerbate the pathological risks, particularly among vulnerable populations. Recommendations: target vulnerable people through diagnostic tools to assess their gambling experience.
- Designed a questionnaire survey to evaluate the new experience and the challenges of the home quarantine (In the context of the pandemic effect of COVID19). After data collection, I identified the main factors that explain the social representations of Covid19 (using Factor Analysis). I tested the relation between family socio-economic characteristics and social representations. Then I designed a model to predict behaviors (preventive measures) through a set of social representation factors. The study can identify the social determinants of unhealthy behaviors, which can help decision-makers for policy design in the field of public health and other public organizations.

LONGITUDINAL STUDIES / LIFE course PERSPECTIVE / POLICY analysis / OCCUPATIONAL HEALTH

- Explored advanced longitudinal methods (mostly survival and sequential analysis) to examine the labor market participation of women (and job transitions) according to their family status and others socioeconomic characteristics. I built on the large literature on the theory of gender and the life-course perspective. I found that the decentralized nature of the Canadian welfare state leads to significant differences between the country's major provinces.
- Carried out a research in collaboration with Quebec Public Health Institute. I implemented a model with gender/sex stratified multivariate analyses in 3 steps: 1) logistic regression models to estimate the impact of work exposures; 2) calculation (by gender) of multivariate risk scores (MRS) for occupational health problems; 3) linear regression models of the relation between MRS (dependent variable) and three measures of socioeconomic status adjusted for age and weekly number of hours worked. The research suggests developing preventive interventions that will reach workers with high-risk scores.
- Led many studies to focus on the role of welfare state & welfare regimes. My researches offer paths for restructuring the welfare state and designing public policies in the context of economic crisis.

HOBBIES

- Coaching and mentoring in team sports
  (Soccer coach & soccer player in Canadian recreational league 2005-2019)
- Computing & Graphic design
- Reading & Learning new skills