

# CURRICULUM VITÆ

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Institute of Public Health, University of Porto (ISPUP), Porto, Portugal

Medical School of Porto University, Porto, Portugal

## EDUCATION

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**07/2013** - PhD in Public Health | University of Porto Medical School, Porto, Portugal.

**04/2008** - Master in Public Health | University of Porto Medical School, Porto, Portugal.

**08/2003** - Bachelor in Social Sciences | Porto Institute of Social Work, Porto, Portugal.

## PREVIOUS AND CURRENT SCIENTIFIC AND/OR PROFESSIONAL ACTIVITIES

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**2019-** Epidemiology Research Unit: Coordinator of Social Epidemiology Group

**2018-** Institute of Public Health – Porto University, Porto, Portugal: Researcher Associate

**2014-2018** - Institute of Public Health – Porto University, Porto, Portugal: Post-doc fellow

**2009-2013** - Medical School of Porto University, Porto, Portugal: PhD student

**2006-2009** - Cardiovascular Research & Development Unit, Porto University, Portugal: Research Fellow

**2005-2006** - Faculty of Engineering of Porto University, Porto, Portugal: Research Fellow

**2003-2004** - Medical School of Porto University, Porto, Portugal: Research Fellow

## OTHER TRAINING

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She also spent several research periods in different research settings.

- Institute of Hygiene and Tropical Medicine of Lisbon University (October 2008 to February 2009) for a research project on socioeconomic determinants of HIV testing among immigrants in Portugal.

- Institute of Social and Preventive Medicine - (IUMSP), Lausanne, Switzerland (November 2013; May 2015; March-May 2017) for training research on social epidemiology.

## RESEARCH PROJECTS

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### International Projects

1. Life course biological pathways underlying social differences in healthy ageing (Grant Agreement N° 633666) PI: Paolo Vineis (Team member) 2015-2019
2. Science and Technology in childhood Obesity Policy (Grant Agreement N°774548) PI: Franco Sassi (Team member) 2018-2022

### National Projects

1. When do health inequalities start? Understanding the impact of childhood social adversity on health trajectories from birth to early adolescence (POCI-01-0145-FEDER--029567) (Principal Investigator) 2018-2012
2. The pediatric roots of amplified pain: from contextual influences to risk stratification (POCI-01-0145-FEDER-029087) PI: Raquel Lucas, (Team member) 2018-2021
3. How childhood social adversity shapes health: the biology of social adversity (PTDC/DTP-EPI/1687/2014) (Principal Investigator) 2016 - 2019
4. Socio-economic and health determinants of elder abuse (PTDC/IVC-SOC/6782/2014) PI: Isabel Dias, (Team member) 2016 - 2019
5. Influence of Indoor Hygrothermal Conditions on Human Quality of Life in Social Housing (EXPL/ECM-COM/1999/2013) PI: Nuno Ramos (Team member) 2014-2015
6. Post doc scholarship "From interpersonal violence to chronic diseases: a perspective on the biological consequences of abuse" (SFRH/BPD/97015/2013)
7. Violence in various stages of life: frequency, determinants and consequences of health (PTDC/SAU-SAP/122904/2010) PI: Henrique Barros (Team member) 2012-2015
8. Parenting roles and knowledge in neonatal intensive care units (PTDC/CS-ECS/120750/2010) PI: Susana Silva (Team member) 2012-2015
9. Violência Doméstica – Informar a Comunidade (Projeto M10-92 Alto Comissariado da Saúde, Ministério da Saúde) PI: Henrique Barros (Team member) 2011
10. Capital social e jovens adultos e o seu papel na promoção da saúde e bem-estar (PP-IJUP 2011-328) PI: Elisabete Ramos (Team member) 2011

11. PhD scholarship (SFRH/BD/44408/2008) 2009-2012
12. Born in 1990 - Adolescent Health in Porto (POCI/SAU-ESP/62399/2004) PI: Carla Lopes (Team member) 2005-2008

#### International Networks

1. Biosocial Birth Cohort Research: A Cross-Disciplinary Network. Wellcome Trust, Social Sciences and Humanities, 2019–2021. Saira Gibbon (Coordinator), Amber Benezra, Michelle Kelly-Irving, Angela M. Filipe, Silvia Stringhini, Elizabeth Roberts, Silvia Fraga, Martha MTélez-Rojo, Nina Hallowell, Martine Lappé, Michelle Pentecost, Janelle Lamoureaux, Yvonne Kelly, Susana Silva, Arachu Castro, Barbara Prainsack (collaborators).

## PUBLICATIONS

### RESEARCH PAPERS IN PEER-REVIEWED JOURNALS

1. Fraga S, Soares S, Santos AC, Barros H. Parents' use of extreme physical violence is associated with elevated high-sensitivity C-reactive protein in children. *J Affect Disord* 2021.
2. Abrahamyan A, Soares S, Peres FS, **Fraga S**. Exposure to violence and suicidal ideation among school-going adolescents. *Journal of Child & Adolescent Mental Health* 2020.
3. Leão T, Amorim M, **Fraga S**, Barros H. What doubts, concerns and fears about COVID-19 emerged during the first wave of the pandemic? *Patient Education and Counseling* 2020.
4. Dias NG, **Fraga S**, Soares J, Hatzidimitriadou E, Ionnidi-Kapolou E, Lindert J, Sundin O, Toth O, Barros H, Ribeiro AI. Contextual determinants of intimate partner violence: a multi-level analysis in six European cities. *Int J Public Health* 2020
5. Rocha V\* & **Fraga S\***, Moreira C, Carmeli C, Lenoir A, Steptoe A, Giles G, Goldberg M, Zins M, Kivimaki M, Vineis P, Vollenweider P, Barros H, Stringhini S, for the LIFEPAth Consortium. Life-course socioeconomic disadvantage and lung function: a multicohort study of 70 496 individuals *Eur Respir J*. 2020
6. Maurel M, Castagné R, Berger E, Bochud M, Chadeau-Hyam M, **Fraga S**, Gandini M, Hutri-Kähönen, Jalkanen S, Kivimäki M, Marmot M, McCrory C, Preisig M, Raitakari O, Ricceri F, Salmi M, Steptoe A, Vineis P, Delpierre C, Kelly-Irving M. Patterning of educational attainment across inflammatory markers: findings from a multi-cohort study. *Brain Behav Immun* 2020.
7. Soares S, López-Chéda A, Santos AC, Barros H, Fraga S. How do early socioeconomic circumstances impact inflammatory trajectories? Findings from Generation XXI. *Psychoneuroendocrinology* 2020.
8. Henriques A, Silva S, Severo M, **Fraga S**, Barros H. Socioeconomic position and quality of life among older people: the mediating role of social support. *Prev Med* 2020.
9. Vineis P, Avendano-Pabon M, Barros H, Bartley M, Carmeli C, Carra L, Chadeau-Hyam M, Costa G, Delpierre C, D'Errico A, **Fraga S**, Giles G, Goldberg M, Kelly-Irving M, Kivimaki M, Lepage B, Lang T, Layte R, MacGuire F, Mackenbach J, Marmot M, McCrory C, Milne R, Muennig P, Nusselder W, Petrovic D, Polidoro S, Ricceri F, Robinson O, Stringhini S, Zins M. The biology of inequalities in health - the Lifepath consortium. *Frontiers in Public Health* 2020.
10. De Freitas C, Massag J, Amorim M, **Fraga S**. Involvement in maternal care by migrants and ethnic minorities: a narrative review. *Public Health Reviews* 2020.
11. Soares S, Santos AC, Peres FS, Barros H, **Fraga S**. Early life socioeconomic circumstances and cardiometabolic health in childhood: evidence from the Generation XXI cohort. *Prev Med* 2020.
12. Ribeiro AI, **Fraga S**, Costa L, McCrorie C, Barros H. Socioeconomic disadvantage and health in early childhood: a population-based birth cohort study from Portugal. *Pediatr Res* 2020.
13. **Fraga S**, Severo M, Ramos E, Kelly-Irving M, Silva S, Ribeiro AI, Petrovic D, Barros H, Stringhini S. Childhood socioeconomic conditions are associated with increased chronic low grade inflammation over adolescence: findings from the EPITeen cohort study. *Arch Dis Child* 2020.
14. Nimi T, **Fraga S**, Costa D, Campos P, Barros H. Prevalence, determinants, and effects of violence during pregnancy: A maternity based cross-sectional study in Luanda, Angola. *J Public Health Afr*. 2019
15. Rocha V, Stringhini S, Henriques A, Falcão H, Barros H, **Fraga S**. Life-course socioeconomic status and lung function in adulthood: a study in the EPIPorto Cohort. *J Epidemiol Community Health* 2019.
16. Petrovic D, Haba-Rubio J, Mestral Vargas Cd, Kelly-Irving M, Vineis P, Kivimaki M, Nyberg S, Gandini M, Bochud M, Vollenweider P, d'Errico A, Barros H, **Fraga S**, Goldberg M, Zins M, Steptoe A, Delpierre C, Heinzer R, Carmeli C, Chadeau-Hyam M, Stringhini S, for the Lifepath consortium. The contribution of sleep to social inequalities in cardiovascular disorders: a multi cohort study. *Cardiovasc Res*. 2019
17. Ribeiro AI, **Fraga S**, Kelly-Irving M, Delpierre C, Stringhini S, Kivimaki M, Joost S, Guessous I, Gandini M, Vineis P, Barros H. Neighbourhood socioeconomic deprivation and allostatic load: a multi-cohort study. *Sci Reports* 2019.
18. Dias NG, Ribeiro AI, Henriques A, Soares J, Hatzisimitriadou E, Ioannidi-Kapolou E, Lindert J, Orjan S, Toth O, Barros H, **Fraga S**. Intimate partner violence and primary care and emergency use: the role of informal social support. *Health & Social Work* 2019.
19. Rocha V, Soares S, Stringhini S, **Fraga S**. Socioeconomic circumstances and respiratory function from childhood to early adulthood: a systematic review and meta-analysis. *BMJ Open* 2019
20. Silva-Rocha N, Soares S, Brochado S, **Fraga S**. Bullying involvement, family background, school life and well-being feeling among adolescents. *J Public Health: From Theory to Practice (Berl)* 2020; 28:481-489.
21. McCrory C, Leah S, Ribeiro AI, **Fraga S**, Barros H, Avendano M, Vineis P, Layte for LIFEPAth consortium. Maternal educational inequalities in measured body mass index trajectories in 3 European countries. *Paediatr Perinat Epidemiol* 2019; 33(3):226-237.
22. Henriques A, Silva S, Severo M, **Fraga S**, Ramos E. The influence of question-wording on interpersonal trust: a comparison in randomly-equivalent groups. *Methodology* 2019; 15(2): 56-66.
23. Soares S, Araujo J, Ramos E, **Fraga S**. Sleep duration and physical fighting involvement in late adolescence. *J Public Health (Berl): From theory to practice* 2018;
24. Dias NG, Costa D, Soares J, Hatzisimitriadou E, Ioannidi-Kapolou E, Lindert J, Orjan S, Toth O, Barros H, **Fraga S**. Social support and intimate partner violence victimization among adults from six European countries. *Fam Pract* 2018.
25. Ribeiro AI, Amaro J, Lisi C, **Fraga S**. Neighborhood socioeconomic deprivation and allostatic load: A scoping review. *Int J Environ Res Public Health* 2018; 15:1092.
26. Chaquisse E, Meireles P, **Fraga S**, Mbofana F, Barros H. Knowledge about HIV, HBV and HCV modes of transmission among pregnant women in Nampula – Mozambique. *Aids Care* 2018.
27. Stringhini S, Carmeli C, Jokela M, Avendaño M, McCrory C, d'Errico A, Bochud M, Barros H, Costa G, Chadeau-Hyam M, Delpierre C, Gandini M, **Fraga S**, Goldberg M, Giles GG, Lassale C, Kenny RA, Kelly-Irving M, Paccaud F, Layte R, Muennig P, Marmot MG, Ribeiro AI, Severi G, Steptoe A, Shipley MJ, Zins M, Mackenbach JP, Vineis P, Kivimaki M, for the Lifepath consortium. Association of socioeconomic status and non-communicable disease risk factors with walking speed in older adults: a multi-cohort study. *BMJ* 2018; 360:k1046
28. Neves BB, de Carvalho, DD, Serra F, Torres A, **Fraga S**. Social capital in transition(s) to early adulthood: a longitudinal and mixed-methods approach. *J Adolesc Res* 2018.

29. Chaquisse E, **Fraga S**, Meireles P, Barros H. Sexual and physical intimate partner violence among women using antenatal care in Nampula, Mozambique. *J Public Health Afr*. 2018; 9:744.
30. Ribeiro AI, **Fraga S**, Barros H. Residents' dissatisfaction and all-cause mortality. Evidence from 74 European cities. *Front in Psychol* 2018; 8: 2319.
31. Ramos NMM, Almeida R, Simões ML, Delgado J, Pereira PF, Curado A, Soares S, **Fraga S**. Indoor hygrothermal conditions and quality of life in social housing: A comparison between two neighbourhoods. *Sustainable Cities and Society* 2018; 38:80-90.
32. Rocha V, Ribeiro AI, Severo M, Barros H, **Fraga S**. Neighbourhood socioeconomic deprivation and health-related quality of life: a multilevel analysis. *Plos One* 2017; 12(12):e0188736.
33. Brochado S, **Fraga S**, Soares S, Ramos E, Barros H. Cyberbullying among adolescents: the influence of different modes of inquiry. *J Interpers Violence* 2017.
34. Vineis P, Avendano-Pabon, Barros H, Chadeau-Hyam M, Costa G, Dijmarescu M, Delpierre C, D'Errico A, **Fraga S**, Giles G, Goldberg M, Zins M, Kelly-Irving M, Kivimaki M, Lang T, Layte R, Mackenbach JP, Marmot M, McCrory C, Carmeli C, Milne RL, Muenning P, Nusselder W, Polidoro S, Ricceri F, Robinson O, Stringhini S. The biology of inequalities in health: the LIFEPAH project. *Longitudinal and Life Course Studies* 2017; 8(4):417-449.
35. McCrory C, O'Leary N, **Fraga S**, Ribeiro AI, Barros H, Kartiosou N, Raitakari O, Kivimaki M, Vineis P, Layte R; LIFEPAH Consortium. Socioeconomic differences in children's growth trajectories from infancy to early adulthood: evidence from four European countries. *J Epidemiol Community Health* 2017; 71(10):981-989.
36. **Fraga S**, Soares J, Melchiorre MG, Barros H, Eslami B, Ioannidi-Kapoulou E, Lindert J, Macassa G, Stankunas M, Torres-Gonzales F, Viitasara E. Lifetime abuse and quality of life among older people. *Health Soc Work* 2017; 42(4):215-222.
37. Sara S, Brochado S, Barros H, **Fraga S**. Does cyberbullying prevalence among adolescents relate with country socioeconomic and development indicators? An ecological study of 31 countries. *Violence Vict* 2017; 32(5):771-790.
38. **Fraga S**, Ramos E, Barros H. Depressive symptoms and involvement in physical fighting among Portuguese Adolescents. *Health Soc Work* 2017; 42(2):e77-e85.
39. Stringhini S, Carmeli C, Jokela M, Avendaño M, Muennig P, Guida F, Ricceri F, d'Errico A, Barros H, Bochud M, Chadeau-Hyam M, Clavel-Chapelon F, Costa G, Delpierre C, **Fraga S**, Goldberg M, Giles G, Krogh V, Kelly Irving M, Layte R, Lasserre AM, Marmot MG, Preisig M, Shipley MJ, Vollenweider P, Zins M, Kawachi I, Steptoe A, Mackenbach JP, Vineis P, Kivimäki M, for the LIFEPAH consortium. Socioeconomic status and the 25x25 risk factors as determinants of premature mortality: a multicohort study of 1.7 million men and women. *Lancet* 2017; 389 (10075):1229-1237.
40. Nimi T, **Fraga S**, Costa D, Campos P, Barros H. Prenatal care and pregnancy outcomes: A cross-sectional study in Luanda, Angola. *Int J Gynecol Obstet* 2016; 135 (Suppl 1): S72-S78.
41. Soares S, Brochado S, Ramos N, Duarte R, Norton P, Delgado J, **Fraga S**. Health and living conditions in social housing: comparison between rehabilitated and non-rehabilitated neighbourhoods. *J Public Health* 2016; 24 (6): 535-544.
42. **Fraga S**. Methodological and ethical challenges in violence research. *Porto Biomedical Journal* 2016; 1(2):77-80.
43. **Fraga S**, Ramos E, Barros H. Family characteristics and health-related behaviours influence physical fighting involvement in late adolescence: a study from 13 to 17 years of age. *J Public Health* 2016; 24(6):461-468.
44. Brochado S, Soares S, **Fraga S**. A scoping review on studies of cyberbullying prevalence among adolescents. *Trauma Violence Abuse* 2016 Apr 5.
45. Rodrigues E, Faria P, Santos A, **Fraga S**. Deaths resulting from the use of firearms by police against motor vehicles: Study of cases in Porto, Portugal. *J Forensic Leg Med* 2016; 39:1-9.
46. Samorinha C, **Fraga S**, Alves E, Sousa S, Figueiredo B, Machado H, Silva S. Self-reported psychosocial factors among In Vitro Fertilization patients interviewed alone or with the partner. *Psychol Health Med* 2015; 7:1-8.
47. Soares S, **Fraga S**, Delgado JMPQ, Ramos NMM. Influence of indoor hygrothermal conditions on human quality of life in social housing: a study protocol. *J Public Health Res* 2015; 4(3):589.
48. Baía I, Alves E, Amorim M, **Fraga S**, Silva S. Parental needs and stress in neonatal intensive care units: effect of data collection period. *Arq Med* 2015; 29(6):160-162.
49. Rodrigues E, Faria P, Santos A, **Fraga S**. Police shootings against civilians in Portugal: Contextual, forensic medical and judicial characterization. *J Forensic Leg Med* 2015; 33:50-5.
50. **Fraga S**, Marques-Vidal P, Vollenweider P, Waeber G, Guessous I, Paccaud F, Barros H, Stringhini S. Association of socioeconomic status with inflammatory markers: A two cohort comparison. *Prev Med* 2015; 71:12-19.
51. Trigo S, Silva S, **Fraga S**, Ramos E. Social representations of adolescents about drug use | Representações sociais de adolescentes sobre o consumo de drogas. *Arq Med* 2015; 29(2):39-45.
52. Alves E, Amorim M, **Fraga S**, Barros H, Silva S. Parenting roles and knowledge in neonatal intensive care units: protocol of a mixed methods study. *BMJ Open* 2014;4:e005941.
53. **Fraga S**, Lucas R, Barros H. A comparison of methods to assess intimate partner abuse one year postpartum. *Ann Epidemiol* 2014; 24(5):404-6
54. **Fraga S**, Lindert J, Barros H, Torres-Gonzalez, Ioannidi-Kapoulou E, Melchiorre MG, Stankunas M, Soares JF. Elder abuse and socioeconomic inequalities: A multilevel study in 7 European countries. *Prev Med* 2014; 61:42-7.
55. Soares JF, **Fraga S**, Viitasara E, Stankunas M, Sundin Ö, Melchiorre MG, Macassa G, Barros H. The chronicity and severity of abuse among older persons by country: A European study. *Journal of Agression, Conflict and Peace Research* 2014; 6(1):3-25.
56. **Fraga S**, Lucas R, Costa D, Barros H. Interviewer effects when investigating abuse were not compatible with effect modification but instead with confounding. *J Clin Epidemiol* 2013; 66(8):911-8.
57. Alves E, Rodrigues C, **Fraga S**, Barros H, Silva S. Parents' views on factors that help or hinder breast milk supply in neonatal care units: systematic review. *Arch Dis Child Fetal Neonatal Ed*. 2013; 98(6):F511-7.
58. Dias S, **Fraga S**, Barros H. Interpersonal violence among immigrants in Portugal. *J Immigr Minor Health* 2013; 15(1):119-24.
59. **Fraga S**, Costa D, Dias S, Barros H. Does interview setting influence disclosure of violence? A study in elderly. *Age and Ageing* 2012; 41(1):70-5.
60. Lucas R, **Fraga S**, Ramos E, Barros H. Early initiation of smoking and alcohol drinking as a predictor of lower forearm bone mineral density in late adolescence: a cohort study in girls. *Plos One* 2012;7 (10):e46940.
61. Costa D, Severo M, **Fraga S**, Barros H. Mini-Cog and Mini-Mental State Examination: Agreement in a cross-sectional study with an elderly sample. *Dementia and Geriatric cognitive Disorders*. 2012; 33(2-3):118-124.
62. Neto C, **Fraga S**, Ramos E. Illicit substances use by Portuguese adolescents | Consumo de substâncias ilícitas por adolescentes portugueses. *Rev Saúde Pública* 2012; 46(5):808-15
63. **Fraga S**, Ramos E, Sousa S, Dias S, Barros H. Alcohol use among 13-year-old adolescents: associated factors and perceptions. *Public Health* 2011; 125(7):448-56.
64. Gomes A, **Fraga S**, Ramos E. Hand washing and diarrhea in adolescents. *J Public Health* 2011; 19(5):401-407.
65. **Fraga S**, Severo M, Costa D, Lopes C, Ramos E. Clustering behaviours among 13-year-old Portuguese adolescents. *J Public Health* 2011; 19 (Suppl 1): S21-S27.
66. **Fraga S**, Ramos E, Dias S, Barros H. Physical fighting among school-going Portuguese adolescents: social and behavioural correlates. *Prev Med* 2011; 52(5):401-4.
67. **Fraga S**, Sousa S, Ramos E, Dias I, Barros H. Social representations of smoking behaviour in 13-year-old adolescents | Representações sociais do comportamento de fumar em adolescentes de 13 anos. *Rev Port Pneumol* 2011; 17:27-31.
68. Sousa S, Correia T, Ramos E, **Fraga S**, Barros H. Violence in adolescents: social and behavioural factors. *Gac Sanit* 2010; 24 (1):47-52.

69. Gama A, Fraga S, Dias S. Impact of Socio-Demographic Factors on HIV Testing Among African Immigrants in Portugal. *J Immigr Minor Health* 2010; 12(6): 841-46.
70. Fraga S. Tobacco: Panacea in the XVI century and pathology in the XX century | Tabaco: Panacea no Século XVI e Patologia no Século XX. *Acta Med Port* 2010; 23(2):243-46.
71. Fraga S, Ramos E, Martins A, Samúdio G, Silva G, Oliveira Fernandes E, Barros H. Indoor air quality and respiratory symptoms in Porto schools | Qualidade do ar interior e sintomas respiratórios em escolas do Porto. *Rev Port Pneumol* 2008; XIV (4): 487-507.
72. Fraga S, Ramos E, Barros H. Smoking and its associated factors in Portuguese adolescent students | Uso de tabaco por adolescentes portugueses e fatores associados. *Rev. Saúde Pública* 2006; 40(4): 620-6.
73. Fraga S, Sousa S, Santos AC, Mello M, Lunet N, Padrão P, Barros H. Tobacco consumption in Portugal | Tabagismo em Portugal. *Arq Med* 2005; 19(5-6):207-229.

## **BOOKS AND BOOK CHAPTERS**

**Silva S & Fraga S.** 2012. Qualitative Research in Epidemiology. In *Epidemiology- Current Perspectives on Research and Practice*. Ed. Lunet, N. 63-84, ISBN:978-953-51-0382-0. Croatia: InTech.