



# Juan David Leongómez

ASSOCIATE PROFESSOR

Faculty of Psychology, Universidad El Bosque

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*I am a passionate scientist interested in human behaviour, and more recently quantitative methods and reproducible science.*

## About me

I am an Associate Professor and Researcher at the Human Behaviour Lab (LACH), Faculty of Psychology, at Universidad El Bosque in Bogotá, Colombia. My research interests include mate choice and human vocal communication, with an aspiration towards understanding musicality. I am also interested in bioacoustics and psychoacoustics, as well as hormonal effects on human behaviour. I am getting more and more passionate about quantitative methods and R programming, to promote reproducibility and open science.

## Primary Research Methods

- Experimental paradigms
- Online questionnaires
- Voice recording
- Acoustic analysis
- Facial photographs
- Geometric morphometrics
- Anthropometry
- Data Science-Based Reproducible Research

## Skills

<b>Data Science</b>	R (advanced: all data wrangling, analysis, plots and tables made in R)
<b>Reproducible Report</b>	Markdown/Rmarkdown
<b>Quantitative Research</b>	General and Generalised Linear Models, Linear Mixed Effects Models, PCA
<b>Software</b>	R, RStudio, Praat, Audacity, InkScape, Mendeley, Zotero
<b>Languages</b>	English/Spanish (native)

## Research Areas

- Human voice
- Vocal modulation
- Mate choice
- Human behaviour
- Hormones and behaviour

## Education

### University of Stirling

PHD - PSYCHOLOGY

- Dissertation Title: "Contextual musicality: vocal modulation and its perception in human social interaction".
- Supervisors: Prof. S. Craig Roberts, and Prof. Anthony C. Little.
- Committee members: Prof. Phyllis C. Lee (dissertation chair), and Prof. Stuart Semple.

Stirling, UK

2014

### University of Liverpool

MSC IN EVOLUTIONARY PSYCHOLOGY

- Supervisor: Prof. S. Craig Roberts.
- Best overall performance in the MSc.

Liverpool, UK

2009

## Working Experience (post PhD)

**Universidad El Bosque**

Bogota, Colombia

ASSOCIATE PROFESSOR

Apr. 2019 - Present

- Researcher at the Human Behaviour Analysis Lab (LACH).
- Leader of the Cognitive Processes and Education research group (Procesos Cognoscitivos y Educación) (since 2016).
- Supervision of a variety of undergraduate research projects associated with psychology and biology.
- Member of the Research Committee.
- Member of the Advisory Committee on Research Ethics.

**Universidad El Bosque**

Bogota, Colombia

ASSISTANT PROFESSOR

Jan. 2015 - Apr. 2019

- Researcher at the Human Behaviour Analysis Lab (LACH).
- Methodological and statistical advisor for postgraduate and faculty research projects.
- Leader of the Cognitive Processes and Education research group (Procesos Cognoscitivos y Educación) (since 2016).
- Organiser of the Nerd Café weekly conference series of the Faculty of Psychology (2016-2017).
- Supervision of a variety of undergraduate research projects associated with psychology and biology.
- Postdoctoral stay (2018-2019).
- Co-supervision of Doctoral Students: Milena Vásquez-Amézquita (PhD in Neuroscience, University of Valencia, Spain – 2015-2018).

**Universidad de La Sabana**

Chia, Colombia

CATHEDRATIC PROFESSOR

Jan. 2015 - Dec. 2016

- Teaching and supervision of research projects.

**University of Stirling**

Stirling, UK

TEACHING ASSISTANT

2011 - 2014

- Supervision of an MSc research project (Evolutionary Psychology MSc).
- Marking and statistical advice to MSc students.

**Universidad Pedagógica Nacional**

Bogota, Colombia

AUXILIAR PROFESSOR

2010

- Member of the Research Committee.
- Supervision of research projects.

## Teaching Experience

**Universidad El Bosque**

Bogota, Colombia

ASSOCIATE PROFESSOR

2017 - Present

- Quantitative Methods II (Psychology MSc).

**Universidad El Bosque**

Bogota, Colombia

ASSISTANT PROFESSOR

2017

- Quantitative Methods I (Psychology MSc).

**Universidad El Bosque**

Bogota, Colombia

ASSISTANT PROFESSOR

2018

- Research Degree Project.

**Universidad El Bosque**

Bogota, Colombia

ASSISTANT PROFESSOR

2015

- Sources and Documentation Styles in Psychology.

**Universidad de La Sabana**

Chia, Colombia

CATHEDRATIC PROFESSOR

2016

- Evolution and Development of Vocal Communication: Songs, Fashion, and Language.

**Universidad de La Sabana**

Chia, Colombia

CATHEDRATIC PROFESSOR

2015 - 2016

- Inferential Statistics.
- Descriptive Statistics).

## University of Stirling

TEACHING ASSISTANT

- Animal Behaviour (lecture on vocal communication).

Stirling, UK

2012

## University of Stirling

TEACHING ASSISTANT

- Quantitative Methods (Psychology MSc – several lectures, practical supervision, one-on-one teaching).
- Cognition Module (leading research projects in psychoacoustics).

Stirling, UK

2012-2014

## Universidad Pedagógica Nacional

AUXILIAR PROFESSOR

- Research Project I.
- Research Lab II.

Bogota, Colombia

2010

## Scholarships, Awards and Honors

### Universidad El Bosque

VIII EXCELLENCE AWARDS

- COP\$7.000.000

Bogota, Colombia

Dic. 2019

### Universidad El Bosque

VII EXCELLENCE AWARDS

- COP\$5.000.000

Bogota, Colombia

Dic. 2018

### Universidad El Bosque

VI EXCELLENCE AWARDS

- COP\$5.000.000

Bogota, Colombia

Dic. 2017

### Experimental Psychology Society

GRINDLEY GRANTS

Canterbury, UK

Sep. 2014

### Colciencias

FRANCISCO JOSÉ DE CALDAS SCHOLARSHIP FOR DOCTORAL STUDIES

Bogota, Colombia

Oct. 2010 - Oct. 2014

### School of Life Sciences – University of Liverpool

ANNUAL PRIZE IN EVOLUTIONARY PSYCHOLOGY

- Best overall performance in the MSc.

Liverpool, UK

Oct. 2009

### University of Liverpool

UNIVERSITY OF LIVERPOOL INTERNATIONAL SCHOLARSHIP

Liverpool, UK

Sep. 2008 - Sep. 2009

### Colfuturo

SCHOLARSHIP-LOAN PROGRAMME

Bogota, Colombia

Sep. 2008 - Sep. 2009

## Grants

### Colciencias

POSTDOCTORAL RESEARCH STAYS - COLCIENCIAS BENEFICIARIES 2017

- Project: Perceptible signs of physical and mental health in faces, voices and body odors, and their relationship with hormonal levels
- COP\$84.000.000

Bogota, Colombia

Jan. 2018 - Jan. 2019

### Universidad El Bosque

IX INTERNAL CALL FOR FINANCING RESEARCH AND TECHNOLOGICAL INNOVATION PROJECTS EL BOSQUE UNIVERSITY, 2017

- Project: Perceptible signs of physical and mental health in faces, voices and body odors, and their relationship with hormonal levels
- COP\$136.586.537

Bogota, Colombia

Jan. 2018 - Dec. 2021

### Universidad El Bosque

VIII INTERNAL CALL FOR FINANCING RESEARCH AND TECHNOLOGICAL INNOVATION PROJECTS EL BOSQUE UNIVERSITY, 2016

- Project: Effect of evolutionary relevant static signals (sex, dominance, and attractiveness) on cortical face processing in humans
- COP\$80.000.000

Bogota, Colombia

Jan. 2017 - Dec. 2020

### Universidad El Bosque

VII INTERNAL CALL FOR FINANCING RESEARCH AND TECHNOLOGICAL INNOVATION PROJECTS EL BOSQUE UNIVERSITY, 2015

- Project: Efectos de los niveles hormonales, masculinidad y feminidad, en la discriminación tonal en hombres y mujeres
- COP\$13.000.000

Bogota, Colombia

Jan. 2016 - Dec. 2019

## PREPRINTS AND ARTICLES UNDER REVISION OR REVIEW

**Leongómez, J. D.**, Sánchez, O. R., Vásquez-Amézquita, M., & Roberts, S. C. (submitted-). *Contextualising courtship: Odour effects on vocal modulation*.

**Leongómez, J. D.**, Sánchez, O. R., Vásquez-Amézquita, M., Valderrama, E., Castellanos-Chacón, A., Morales-Sánchez, L., Nieto, J., & González-Santoyo, I. (2020). Self-reported Health is Related to Body Height and Waist Circumference in Rural Indigenous and Urbanised Latin-American Populations. *bioRxiv*, 562942. <https://doi.org/10.1101/562942>

Kleisner, K., Tureček, P., Roberts, S. C., Havlicek, J., Varella Valentova, J., Akoko, R. M., **Leongómez, J. D.**, Apostol, S., Varella, M. A. C., & Saribay, S. A. (2020). How and why patterns of sexual dimorphism in human faces vary across the world. *PsyArXiv*. <https://doi.org/10.31234/osf.io/7vdm6>

Martínez, C. A., & **Leongómez, J. D.** (2019). Dehumanization Effects on Agency Attributions, Retributive Justice judgments, and Resocialization Attitudes towards Former Perpetrators in Post-conflict. *PsyArXiv*. <https://doi.org/10.31234/osf.io/w5tka>

## JOURNAL ARTICLES

Jones, B. C., DeBruine, L. M., Flake, J. K., Aczel, B., Adamkovic, M., Alaei, R., Alper, S., Solas, S. Á., Andreychik, M. R., Ansari, D., Arnal, J. D., Babinčák, P., Balas, B., Baník, G., Krystian, Barzykowski, Baskin, E., Batres, C., Beaudry, J. L., ... Chartier, C. R. (accepted-). Social perception of faces around the world: How well does the valence-dominance model generalize across world regions? *Nature Human Behaviour*. <https://doi.org/10.31234/osf.io/n26dy>

Bonilla, F. M., & **Leongómez, J. D.** (2019). Efectos de la expresión emocional y de la orientación del rostro sobre las respuestas conductuales y el componente N170. *Psychologia*, 13(2), 95–106. <https://doi.org/10.21500/19002386.3473>

Vásquez-Amézquita, M., **Leongómez, J. D.**, Seto, M. C., Bonilla, F. M., Rodríguez-Padilla, A., & Salvador, A. (2019). Visual Attention Patterns Differ in Gynephilic and Androphilic Men and Women Depending on Age and Gender of Targets. *Journal of Sex Research*, 56(1), 85–101. <https://doi.org/10.1080/00224499.2017.1372353>

Vásquez Amézquita, M., **Leongómez, J. D.**, Seto, M. C., & Salvador, A. (2019). Differences in Visual Attention Patterns to Sexually Mature and Immature Stimuli Between Heterosexual Sexual Offenders, Nonsexual Offenders, and Nonoffending Men. *Journal of Sex Research*, 56(2), 213–228. <https://doi.org/10.1080/00224499.2018.1511965>

Watkins, C. D., **Leongómez, J. D.**, Bovet, J., Żelaźniewicz, A., Korbmacher, M., Corrêa Varella, M. A., Fernandez, A. M., Wagstaff, D., & Bolgan, S. (2019). National income inequality predicts cultural variation in mouth to mouth kissing. *Scientific Reports*, 9, 6698. <https://doi.org/10.1038/s41598-019-43267-7>

Culpepper, P. D., Havlíček, J., **Leongómez, J. D.**, & Roberts, S. C. (2018). Visually Activating Pathogen Disgust: A New Instrument for Studying the Behavioral Immune System. *Frontiers in Psychology*, 9, 1397. <https://doi.org/10.3389/fpsyg.2018.01397>

Danel, D. P., Valentova, J. V., Sánchez, O. R., **Leongómez, J. D.**, Corrêa Varella, M. A., & Kleisner, K. (2018). A cross-cultural study of sex-typicality and averageness: Correlation between frontal and lateral measures of human faces. *American Journal of Human Biology*, 30(5), e23147. <https://doi.org/10.1002/ajhb.23147>

Vásquez-Amézquita, M., **Leongómez, J. D.**, Seto, M. C., Bonilla, F. M., Rodríguez-Padilla, A., & Salvador, A. (2018). No relation between digit ratio (2D:4D) and visual attention patterns to sexually preferred and non-preferred stimuli. *Personality and Individual Differences*, 120, 151–158. <https://doi.org/10.1016/j.paid.2017.08.022>

Bonilla, F. M., & **Leongómez, J. D.** (2017). Efectos en la amplitud y la latencia del componente N170 ante la presentación de rostros emocionales de ira y miedo. *Psychologia*, 11(1), 39–48. <https://doi.org/10.21500/19002386.3100>

**Leongómez, J. D.**, Mileva, V. R., Little, A. C., & Roberts, S. C. (2017). Perceived differences in social status between speaker and listener affect the speaker's vocal characteristics. *PLoS One*, 12(6), e0179407. <https://doi.org/10.1371/journal.pone.0179407>

- Cobey, K. D., Nicholls, M., **Leongómez, J. D.**, & Roberts, S. C. (2015). Self-reported Dominance in Women: Associations with Hormonal Contraceptive use, Relationship Status, and Testosterone. *Adaptive Human Behavior and Physiology*, 1(4), 449–459. <https://doi.org/10.1007/s40750-015-0022-8>
- Leongómez, J. D.** (2015). La música como objeto de estudio científico: consideraciones en torno a la musicalidad y el origen de la música. *Pensamiento Palabra Y Obra*, 13, 77–86. <https://doi.org/10.17227/2011804X.15PP077.86>
- Leongómez, J. D.** (2014). *Contextual musicality: vocal modulation and its perception in human social interaction* (PhD August, University of Stirling). <https://doi.org/10.13140/RG.2.2.36521.39520>
- Leongómez, J. D.**, Binter, J., Kubicová, L., Stolařová, P., Klapilová, K., Havlíček, J., & Roberts, S. C. (2014). Vocal modulation during courtship increases perceptivity even in naive listeners. *Evolution and Human Behavior*, 35(6), 489–496. <https://doi.org/10.1016/j.evolhumbehav.2014.06.008>
- Binter, J., **Leongómez, J. D.**, Moyano, N., Valentova, J., Jouza, L., & Klapilová, K. (2012). Sex differences in the incidence of sexual fantasies focused on evolutionary relevant objects. *Anthropologie*, 50(1), 83–93. <http://puvodni.mzm.cz/Anthropologie/article.php?ID=1413>
- Ferdenzi, C., Lemaître, J.-F., **Leongómez, J. D.**, & Roberts, S. C. (2011). Digit ratio (2D:4D) predicts facial, but not voice or body odour, attractiveness in men. *Proceedings of the Royal Society B: Biological Sciences*, 278(1724), 3551–3557. <https://doi.org/10.1098/rspb.2011.0544>
- Leongómez, J. D.** (2009). *Variation of pitch and loudness range of human voice in response to intra- and inter-sexual stimuli* (MSc September). University of Liverpool.
- Leongómez, J. D.** (2008). El origen no humano de la música. (*Pensamiento*), (*Palabra*) Y *Obra*, 1(1), 87–97. <https://revistas.pedagogica.edu.co/index.php/revistafba/article/view/50>

#### DIVULGATION ARTICLES

- Mileva, V. R., & **Leongómez, J. D.** (2017). We change our voice when we talk to high-status people, shows new study. *The Conversation*. <https://shorturl.at/FL015>
- Mileva, V. R., & **Leongómez, J. D.** (2018). Want to know if your partner's cheating on you? Just listen to their voice. *The Conversation*. <https://shorturl.at/fhlHK>

## Conference Presentations, Posters and Workshops

- Leongómez, J.D.** & Sánchez, O. R. (2019, September). *Association between height and waist circumference with health in rural indigenous and urban populations in Latin America*. Workshop at the Vicerectory of Research (Universidad El Bosque), Bogotá, Colombia.
- Leongómez, J.D.**, Sánchez, O.R., Vásquez-Amézquita, M., Valderrama, E., Castellanos-Chacón, A., Morales-Sánchez, L., Nieto, J., & González-Santoyo, I. (2019, August). *Self-reported Health is Related to Body Height and Waist Circumference in Rural Indigenous and Urbanised Latin-American Populations*. Paper presented at the VII Summer Institute of the International Society for Human Ethology (ISHE), Zadar, Croatia.
- Leongómez, J.D.** (2019, June). *Experimental Designs*. Workshop at the Vicerectory of Research (Universidad El Bosque), Bogotá, Colombia.
- Leongómez, J.D.**, Murray, A.K., & Roberts, S.C. (2018, September). *Contextualising courtship: male body odour effects on vocal modulation*. Paper presented at the XXIV Biannual Conference for Human Ethology (ISHE), Santiago, Chile.
- Leongómez, J.D.** (2017, September). *Effects of hormonal levels, masculinity and femininity, on men's and women's pitch discrimination*. Paper presented at the XXIII Institutional Research Congress (El Bosque University), Bogotá, Colombia.
- Leongómez, J.D.** (2017, August). *The sound of seduction: Vocal modulations and their effects during courtship*. Plenary session at the 2nd Symposium of Neurosciences, Cognition and Society (Javeriana University), Bogotá, Colombia.

- Leongómez, J.D.** (2017, March). *Is the relationship between musical and linguistic processing a vestige of the evolutionary origins of music?*. Plenary session at the 2017 Brain Awareness Week 2017 (El Bosque University), Bogotá, Colombia.
- Leongómez, J.D.**, Mileva, V.R., Little, A.C., & Roberts, S.C. (2016, August). *Perceived differences in social status between speaker and listener affect the speaker's vocal characteristics*. Paper presented at the XXIII Biennial Congress On Human Ethology (ISHE), Stirling, UK.
- Leongómez, J.D.**, Binter, J., Kubicová, L., Stolařová, P., Klapilová, K., Havlíček, J., & Roberts, S.C. (2014, April). *Vocal modulation during courtship increases proceptivity even in naive listeners*. Paper presented at the European Human Behaviour and Evolution Association (EHBEA) Annual Meeting 2014 (University of Bristol), Bristol, UK.
- Leongómez, J.D.**, & Roberts, S.C. (2013, April). *The sound of sweet nothings: How men and women modulate vocal parameters in speech directed towards attractive and unattractive individuals*. Oral presentation for the Mind and Brain Group (University of Stirling), Stirling, UK.
- Leongómez, J.D.**, & Roberts, S.C. (2013, March). *The sound of sweet nothings: How men and women modulate vocal parameters in speech directed towards attractive and unattractive individuals*. Poster presented at the European Human Behaviour and Evolution Association (EHBEA) Annual Meeting 2013 (VU University Amsterdam), Amsterdam, Netherlands.
- Leongómez, J.D.** (2013, March). *Voice research techniques using Praat*. Workshop at the Faculty of Humanities (Charles University), Prague, Czech Republic.
- Leongómez, J.D.** (2013, March). *Acoustic Communication*. Oral presentation at the Centre for Theoretical Study, Prague, Czech Republic.
- Leongómez, J.D.**, & Roberts, S.C. (2012, May). *The sound of sweet nothings: How men and women modulate vocal parameters in speech directed towards attractive and unattractive individuals*. Oral presentation for the Group of Human Ethology (Charles University), Prague, Czech Republic.
- Leongómez, J.D.** (2013, March). *Voice research techniques using Praat*. Workshop at the Scottish Universities Psychology Postgraduate Research Training – SUPPORT (University of Stirling), Stirling, UK.
- Leongómez, J.D.**, & Roberts, S.C. (2011, February). *The sound of sweet nothings: How men and women modulate vocal parameters in speech directed towards attractive and unattractive individuals*. Oral presentation for the Behaviour and Evolution Research Group (University of Stirling), Stirling, UK.
- Leongómez, J.D.**, & Roberts, S.C. (2010, December). *Context-dependant modulation of vocal parameters*. Poster presented at The Language of Music, the Music of Language; Meeting 2: Entrainment/Meaning (Centre for Music & Science, University of Cambridge), Cambridge, UK.

## Postgraduate Supervision

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### Postgraduate

#### PhD

- Milena Vásquez-Amézquita (2015 - 2018). PhD in Neuroscience, University of Valencia, Spain. Supervised together with Alicia Salvador.
- Francisco Javier Flores (2015 - 2018). Professional Doctorate in Counselling Psychology, University of East London, UK. Supervised together with Lisa Chiara Fellin.

### Postgraduate

#### MSc

- Julia Sanz-Vidania (2013 - 2014). Psychological Research Methods (Evolutionary Psychology) MSc, University of Stirling, UK. Supervised together with S. Craig Roberts.
- Adrián Acosta Guerrero (2019 - Present). MSc in Psychology. Universidad El Bosque, Colombia. Supervised together with Milena Vásquez-Amézquita.

## Undergraduate

Universidad El Bosque

### PSYCHOLOGY

- Paula Andrea Betancourt Velandia (2018 - 2019).
- Ana Sofía Gómez Castelblanco (2018 - 2019).
- Lina María García Hoyos (2016 - 2017).
- Angie Liliana Pérez Rodríguez (2016 - 2018).
- Lina María Morales Sánchez (2016 - 2017).
- Laura Milena Estupiñán Aldana (2016 - 2017).
- Vanesa Díaz Güiza (2016 - 2018).
- Cindy Paola Moncada Gómez (2016 - 2017).
- Haydn Ricardo Roldán Morales (2015 - 2016).

## Undergraduate

Universidad El Bosque

### BIOLOGY

- Maria Alejandra Abello Mozo (2018 - 2018).

## Undergraduate

Universidad Pedagógica Nacional

### MUSIC PEDAGOGY

- Natalia Elíizabeth Moreno Buitrago (2017 - 2019).
- Juan Felipe Pérez Ariza (2017 - 2019).

# Editorial Appointments

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## Editorial Boards

### REVIEW EDITOR

2019 - Present

- Frontiers in Psychology - specialty section on Evolutionary Psychology

## Ad Hoc Reviewer

### JOURNALS INCLUDE

Since 2013

- Proceedings of the Royal Society B: Biological Sciences
- Basic and Applied Social Psychology
- Royal Society Open Science
- Journal of Nonverbal Behavior
- Frontiers in Psychology
- Human Ethology Bulletin

## Academic Reviewer

### PUBLICATION EVALUATION

Since 2015

- Colciencias
- Universidad Nacional de Colombia

# Memberships

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## CURRENT

- International Society for Human Ethology (ISHE)

## PAST

- European Human Behaviour and Evolution Association (EHBEA)
- Association for Psychological Science (APS)