The Role of Audience Gender in Giving Product Presentations

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Introduction

• Speakers have always used their vocal charisma to persuade an audience and attract followers. Being more charismatic means to speak faster and clearer, in shorter prosodic phrases, at higher f0 and intensity levels, and with a greater intensity variation. However, recent studies indentified a **gender bias in producing and perceiving charismatic speech** [5, 6].

• The present study analyzes in a cross-cultural perspective, if and how the **speech-production behavior of male and female speakers** is affected when they give a speech in front of a same-gender or an opposite-gender audience.

• We address this question with several acoustic-prosodic parameters, whose effects on charisma are well researched [7] and which, moreover, probably differ most consistently and stereotypically between male and female speakers.

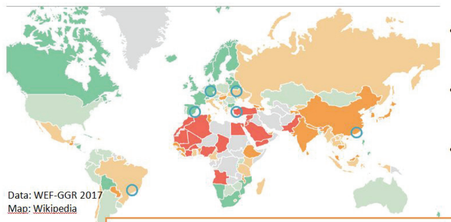
WOPS

• The data of this study was taken from the **World-of-Public-Speaking (WoPS) corpus**. It consists of recordings of male and female speakers that together represent 12 major countries and languages in the world.

• All WoPS speakers are similar in terms of age, educational background, and public-speaking experience; and they all were given the same set of elicitation tasks and recorded under the same condition.

• The countries/languages that are included in the current study are: **Mandarin Chinese, Ukrainian, Spanish, and Turkish, German, Brazil.**

• The subset of 6 countries was selected as it represents different cultures and, moreover, **three different levels of equality of men and women** (i.e. different gender-gap levels) according to the gender-gap report of the World Economic Forum (WEF).

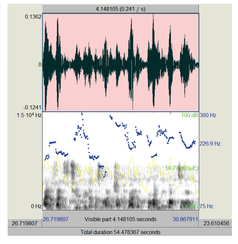


Data: WEF-GGR 2017
Map: Wikipedia

• 2 countries above average
  • Germany
  • Spain
• 2 country at about average
  • Ukraine
  • Brazil
• 2 countries below average
  • China
  • Turkey

The two members of a pair were selected to be very different w.r.t. language & culture

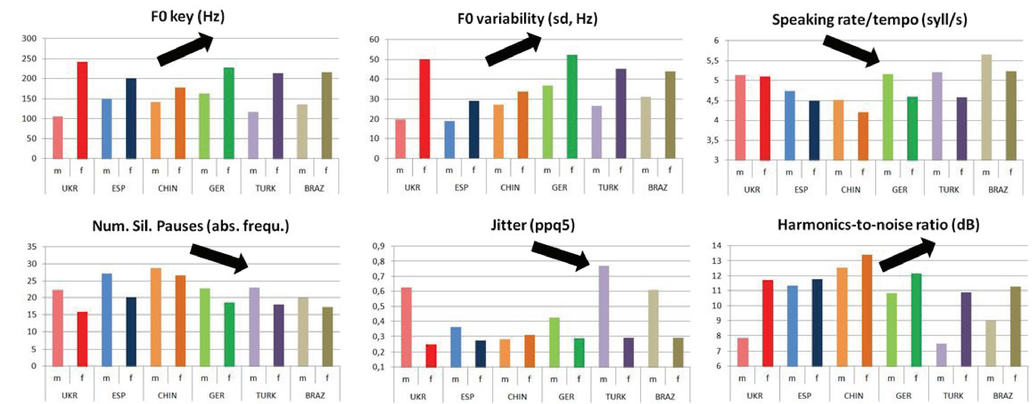
• Gender gap report: Joint initiative of the UN and the World Economics Forum (since 2006)
• The report's Gender Gap Index ranks countries according to calculated gender gap between women and men in four key areas: health, education, economy and politics to gauge the state of gender equality in a country (e.g., Hausmann et al. 2009).



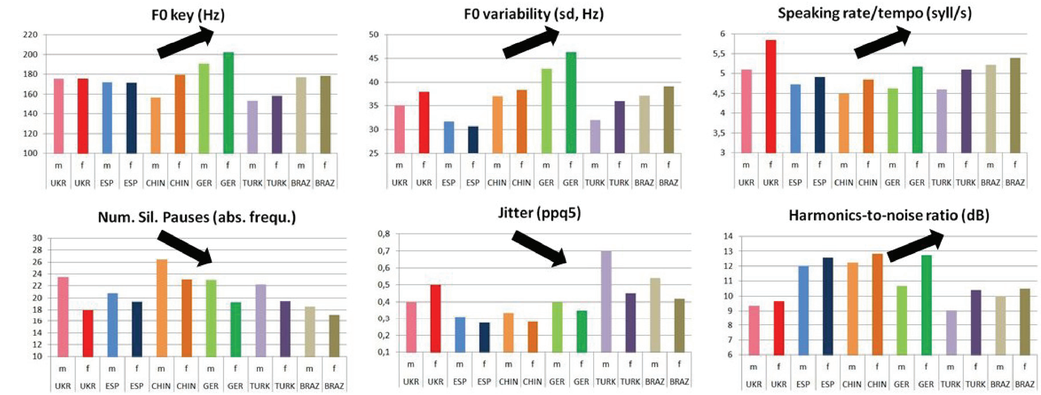
Speech data elicitation

➢ We analyzed 10 male and 10 female speakers per country/language, i.e. **120 speakers** in total.
➢ The analyzed speech material was an **award-winning product presentation**, given by speakers with the intention to acquire startup investor capital for a new smart-phone app that tracks employees' work time.
➢ A pilot study identified this product/topic as the most gender-neutral one, e.g., compared to other typical startup products/topics that concern engineering, healthcare, or food).
➢ Speakers received the product presentation as a written text and had at least one day to familiarize themselves with the text prior to being recorded.
➢ The text was translated from English into the analyzed languages by professional interpreters.
➢ In the recording session, speakers were asked to **give the product presentation twice**, once addressing an **imagined male** audience and once addressing an **imagined female** audience (of potential investors). **Order was balanced** across speakers.
➢ Recordings were made while talking into an **iPhone** (always the same model across languages).
➢ Acoustic-prosodic measurements were made with PRAAT.

Results 1: Mean differences between women and men presenting



Results 2: Mean differences between m/f-oriented presentations



When addressing a female audience

➢ …GER and esp. CHIN speakers raise their pitch level
➢ …UKR, GER, TURK, BRAZ speakers increase their pitch variability
➢ … Fewer pauses are used across all languages
➢ … Higher HNR level is used across all languages, esp. GER and TURK
➢ … Jitter is lower – esp. for TURK and BRAZ speakers – but not for UKR speakers
➢ …Tempo is higher across all languages/countries
➢ **Note: this m/f prosody adjustment occurs not before the presentation starts!**

• 2 countries above average
  • Germany
  • Spain
• 2 countries at about average
  • Ukraine
  • Brazil
• 2 countries below average
  • China
  • Turkey

➢ **YES** → Speakers adjust their prosody to the gender of the **imagined** (!) audience.
➢ **YES** → More male/female-colored prosody when addressing men/women.
➢ **YES** → The magnitude of gender-related prosody adjustment differs between languages, but at least not obviously as a function of the gender-gap score.

ESP, UKR and BRAZ speakers adjust least ↔ CHIN speakers most!
TURK speakers adjust more than GER speakers despite similar gender differences in production.

Outlook

The prosody of the speakers becomes more similar to that of the gender of the audience that they address. As in our study, all speakers used a higher-pitched and breathier voices as well as fewer pauses when presenting for female listeners -- or a lower-pitched and more resonant (i.e. modal) voice when presenting for male listeners.

This **audience-gender sensitive speech-production behavior was not clearly linked to the WEF languages'/countries' gender-gap levels** – However, if not in production, then perhaps such a link exists in perception?
➢ Are (indirect) ratings of speaker charisma related to the gender-gap score?
➢ Do male speakers sound more and female speakers less charismatic in countries with larger gender gaps?
➢ Audience adjustment: Does a country's gender gap affect how much a male/female-adjusted prosody supports or undermines a speaker's perceived charisma?

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Acknowledgements: The authors are greatly indebted to all volunteers who helped us with recording data in the respective countries and with compiling WOPS.