Applying the Census Approach to Japanese Visual Media

Identifying Changes in Popular Culture with Metadata Analytics

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Martin Roth and Zoltan Kacsuk
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Outline of the presentation

1. Introduction: A census of fictional characters
2. Methodology: The Japanese Visual Media Graph
3. Results: Who populates Anime? Considering the Anime Characters Database
Introduction: A census of fictional characters
Background: The Virtual Census of Videogame Characters (Williams et al. 2009)

- “Measuring the imbalances that exist on the screen can tell us what imbalances exist in social identity formation, social power and policy formation in daily life.” (Williams et al. 2009, 819)

- “The results show a systematic over-representation of males, white and adults and a systematic under-representation of females, Hispanics, Native Americans, children and the elderly” (Ibid., 815)
A recent update of the study (Harrisson et al. 2020) suggests some change:

“similarly to the 2009 study, most characters proportionally are White, male, and adult.” (Harrisson et al. 2020, 2)

“the overall proportion of female characters has nearly doubled from 13% in 2005 to 22% in 2017. [...] this increase was primarily due to non-playable secondary roles” (ibid.)

Aim: A census of fictional characters in Japanese visual media

- Who *populates* Japanese visual media (Jvm)?
- What does the fictional population of Jvm *represent*?
Methodology: The Japanese Visual Media Graph
Introducing the JVMG project

- Databases by enthusiast communities are the go to resource for checking information

- **Japanese Visual Media Graph (JVMG) project**

- **Project aim:** Make these databases available for large-scale quantitative research, in collab. with the communities

- Funded by the **German Research Foundation**’s (Deutsche Forschungsgemeinschaft) e-Research Technologies program
# Example enthusiast communities & statistics

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<th>The Visual Novel Database</th>
<th>Visual Novel Works</th>
<th>Unique Releases</th>
<th>Characters</th>
<th>Descriptive Work Tags</th>
<th>Descriptive Character Tags</th>
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Results: Who populates Anime? Considering the Anime Characters Database
Distribution of all* ACDB characters by age

* Excluding characters with no publication year.
Distribution of all* ACDB characters by age

* Excluding characters with no publication year.
Distribution of all ACDB characters by gender

Number of characters

Gender

Female
Male
Not Applicable
Unknown / Ambiguous
Androgyne
None
Many
Distribution of all ACDB characters by gender

- Female: 60,000
- Male: 40,000
- Not Applicable: 6,000
- Unknown / Ambiguous: 1,000

Gender
Distribution of all ACDB characters by gender

- **Female**: 60,000 characters
- **Male**: 40,000 characters
- **Not Applicable**: 0 characters
- **Unknown / Ambiguous**: 0 characters

- **All characters, male**: 85.23%
- **All characters, female**: 14.77%
- **Primary characters, male**: 89.55%
- **Primary characters, female**: 10.45%
- **Secondary characters, male**: 85.47%
- **Secondary characters, female**: 14.65%
Distribution of all ACDB characters by age and year

- Adult
- Ageless
- Child
- Not Applicable
- Senior
- Teen

Number of characters

Year

Distribution of all ACDB characters by gender and year
Distribution of ACDB characters by gender, age and year.

- Gender
  - Female
  - Male
- Age
  - Adult
  - Teen

Number of characters vs Year:
- 1970 to 2020
- Peaks in the late 2000s and early 2010s
Distribution of ACDB characters by gender, age and year

<table>
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<td>Female</td>
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Year

- 1970
- 1980
- 1990
- 2000
- 2010
- 2020
Distribution of ACDB characters by gender, age and year

- Gender
  - Female
  - Male
- Age
  - Adult
  - Teen

Number of characters

Year

- 1970
- 1980
- 1990
- 2000
- 2010
- 2020
Distribution of ACDB characters* by media type

* Removed characters with publication year 2021 and/or with missing media type.
Distribution of ACDB characters* by media type

- **Anime**
- **H-Game**
- **Video Game**

* Removed characters with publication year 2021 and/or with missing media type.
The effect of h-games
The anime and video games population
The anime population: gender and age

Number of characters

Year

Gender
Female
Male
Age
Adult
Teen
The anime population: gender and age

- Gender
- Female
- Male
- Age
- Adult
- Teen

Number of characters vs. Year (1970-2020)
Database bias or actual change in anime?

• **Possible source of database bias 1:** Characters that are left out of the database
  ○ Random sample of 30-30 anime that are in the database with publication dates 2001-2009 and 2011-2019

• **Possible source of database bias 2:** Anime that are left out of the database
  ○ Random sample of 30-30 anime that are **NOT** in the database with publication dates 2001-2009 and 2011-2019

• **If the data were complete our results would be even more pronounced**

Actual change in anime
Something happened in the nineties

- Tamaki Saitō (2000): Explosion of “beautiful fighting girl” works in the nineties
- Hiroki Azuma (2001): Rise of database consumption from the late nineties
- Gō Itō (2005): Gangan manga and the centrality of kyara from the nineties
- Satoshi Maejima (2010): Sekaikei and post-Evangelion works from the late nineties
Thank you for your attention!

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Visit our project website:
https://jvmg.iuk.hdm-stuttgart.de/

Visit the JVMG database:
https://mediagraph.link/