

# Trait Analysis to Facilitate Children's Books Recommender Systems

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## 1. Background

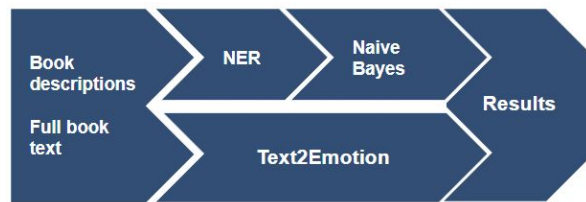
- **Children** don't leave many **book reviews** when compared to **adults**
- **Target age** instead of similar users or previous preferences expressed through reviews
- **Explore traits** that can aid in targeting specific **age groups**
- The relation children have with **perspective** and **sentiment** change as children **age**

## 2. Research Question

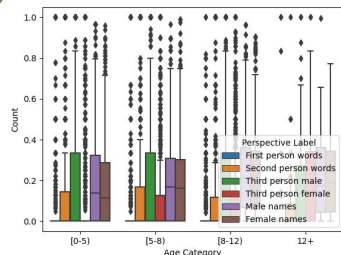
What **sentiment** and **perspective** traits can be extracted from book **descriptions** and **fulltext** and how do these **traits** differ when **compared** between those two sources?

## 3. Method

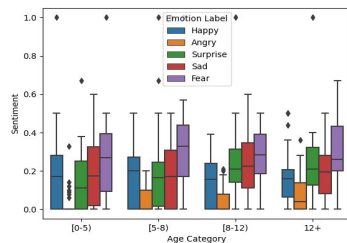
Sentiment	Perspective
Happiness Anger Sadness Surprise Fear	First person Second person Third person Names



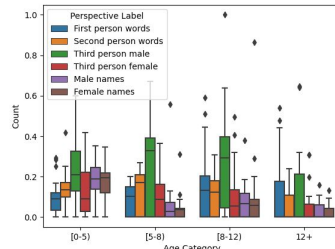
## 4. Results



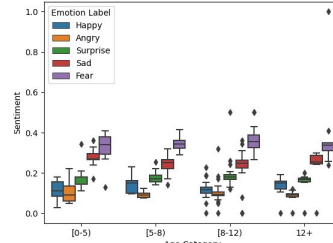
Perspective traits in book descriptions



Sentiment traits in book descriptions



Perspective traits in full book text



Sentiment traits in full book text

## 5. Findings

- Shift from **names** to **pronouns** when advancing through the age groups
- **All 5 emotions** aid in age group distinction when extracted from **full book text**
- Difference in **first person perspective** between description and full book text
- A lot more **variance** in book descriptions when compared to full book text

## 6. Conclusion

- Both **sentiment** and **perspective** traits that can be used for **differentiating books by age** can be extracted from book descriptions and full book text.
- Traits extracted from **full book text** show **more promise** in this process when compared to those obtained from **book descriptions**

## 7. Limitations

- Limited **book count** in full book text part of dataset
- Public domain books use **antiquated writing**
- **Tool selection** has a lot of impact on the results of sentiment trait extraction
- **Name detection** struggles with foreign names

## References:

- \* aman2656. Text2emotion. <https://github.com/aman2656/text2emotion-library>, 2022.
- \* SSA America. Popular baby names in the usa. <https://www.ssa.gov/OACT/babynames/limits.html>.
- \* Timothy K Armstrong. Rich texts: Wikisource as an open access repository for law and the humanities. U of Cincinnati Public Law Research Paper, (10-09), 2010.
- \* Arthur M Jacobs. Sentiment analysis for words and fiction characters from the perspective of computational (neuro-) poetics. Frontiers in Robotics and AI, 6:53, 2019. J J Slee. Who is the average goodreads user? <https://www.goodreads.com/jan-2017>.
- \* Andrea Schwenke Wylie. The value of singularity in first-and restricted third-person engaging narration. Children's Literature, 31(1):116-141, 2003.