

# Sentiment in Children's vs. Adult Literature

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## Abstract

This study examines how sentiment differs between children's and adult literature by leveraging computational sentiment analysis. Children's literature often demonstrates a positivity bias, aligning with the Pollyanna Effect, characterized by frequent use of positive lexicon. In contrast, adult literature explores a broader emotional spectrum, integrating complex and negative sentiments. The research integrates findings from prior studies and applies advanced sentiment analysis tools to diverse text corpora, focusing on developmental and cultural influences on emotional expression. A key methodology for this task is lexicon-based sentiment analysis to quantify positivity and negativity across genres. Previous literature studies results confirm heightened positivity in children's texts and reveal developmental trends in sentiment dynamics, particularly during adolescence. By comparing these findings with adult literature, the research enlightens differences in affective complexity and narrative intent. This investigation enhances understanding of emotional constructs in literature, offering implications for educational strategies and literary criticism.

## Introduction

Sentiment analysis, the computational evaluation of emotional tone in text, has become a crucial method for exploring how individuals interact with written material. Prabowo and Thelwall (2009) introduced a hybrid classification approach that combines rule-based, machine learning, and unsupervised methods to improve sentiment anal-

ysis accuracy. This approach has been applied effectively across domains, including product reviews and social media, highlighting its ability to capture nuanced emotional expressions.

In the context of literature, studies reveal a distinct positivity bias in children's texts, known as the Pollyanna Effect, which caters to the developmental and emotional needs of young readers Jacobs et al. (2020). Further analysis of poetry by children and adolescents shows developmental trends where negativity increases during adolescence before declining again, underscoring how age influences emotional expression in writing Hipson (2019). In contrast, adult literature often explores a more diverse emotional landscape, incorporating complex and negative themes that reflect broader human experiences.

This study seeks to answer the question: \*How does sentiment differ between children's and adult literature?\* We hypothesize that children's literature exhibits a consistent positivity bias, with less emotional variability, whereas adult literature features greater emotional complexity and a balanced distribution of sentiments. This hypothesis is grounded in prior findings on sentiment in children's and youth literature Jacobs et al. (2020); Hipson (2019) and the effectiveness of hybrid sentiment analysis methods Prabowo and Thelwall (2009).

To address this, we integrate hybrid sentiment analysis techniques, including rule-based classification, machine learning, and vector space modeling, to compare sentiment dynamics across these genres. By investigating these differences, this research aims to contribute to the understanding of how literature aligns with the emotional and cognitive needs of its target audience.

## Related Work

Prabowo and Thelwall (2009) proposed a hybrid sentiment analysis approach combining rule-based, supervised, and unsupervised methods, achieving improved classification accuracy across diverse datasets. Jacobs et al. (2020) identified a positivity bias in children’s literature, known as the Pollyanna Effect, using vector space modeling. Hipson (2019) explored sentiment in youth poetry, highlighting developmental trends, including increased negativity during adolescence. These works underpin this study’s exploration of sentiment differences across genres.

## Data

We will use classic texts from Project Gutenberg, a publicly accessible repository of digitized literary works. The subset *classical texts* from project Gutenberg will be divided into two further subsets: children’s literature and adult literature. For children’s literature, we will select works by authors such as Lewis Carroll (*Alice’s Adventures in Wonderland*) and Charles Dickens (*A Child’s Dream of a Star*). For adult literature, texts by authors such as Jane Austen (*Pride and Prejudice*) and Herman Melville (*Moby Dick*) will be included, any texts that can not be clearly identified as either category will be disregarded in this study.

**Text Selection** The texts will be selected based on metadata provided by Project Gutenberg, such as the author’s intended audience and genre. Additionally, a manual review of content will ensure that texts are appropriately categorized. Children’s literature will include texts explicitly targeting younger audiences, with simpler language and themes, while adult literature will feature more complex narratives and emotional depth.

**Variable Derivation** The sentiment score will be derived using SpaCyTextBlob, an NLP library that computes polarity and subjectivity. Texts will be tokenized into sentences, and sentiment scores will be averaged for each text. This automated process enables consistent sentiment analysis across the corpus but may struggle with older language styles or figurative language, which could introduce noise.

**Pre-processing** To prepare the data for analysis, we will tokenize the texts into sentences and words using SpaCy. Non-alphanumeric characters and

formatting artifacts will be removed, while punctuation and capitalization will be retained where relevant to preserve context. Lemmatization and part-of-speech tagging will be applied to support sentiment extraction.

Title	Average Sentiment examples
<i>Alice’s Adventures in Wonderland</i>	Positive: 0.72
<i>A Child’s Dream of a Star</i>	Neutral: 0.50
<i>Pride and Prejudice</i>	Neutral: 0.56
<i>Moby Dick</i>	Negative: -0.30

Table 1: Sample texts from Project Gutenberg and their sentiment scores. Sentiment scores are illustrative examples.

This dataset, combined with rigorous pre-processing and sentiment analysis, will provide a robust framework for exploring sentiment differences between children’s and adult literature.

## Predicted Results

Based on the literature, we expect to observe distinct differences in sentiment expression between children’s and adult literature. Specifically, we anticipate that children’s literature will exhibit a higher average positivity bias, consistent with the Pollyanna Effect, as demonstrated in prior studies Jacobs et al. (2020). This bias is expected to manifest in higher average sentiment scores for texts categorized as children’s literature compared to adult literature.

For adult literature, we anticipate a more balanced distribution of sentiment, reflecting a broader emotional range. Previous research has shown that adult texts often delve into complex, negative, or neutral themes, leading to sentiment scores that are more evenly distributed across the spectrum Prabowo and Thelwall (2009). Additionally, developmental trends, such as those noted in youth poetry, suggest that works aimed at older audiences might feature more nuanced emotional expression Hipson (2019).

Table 2 summarizes the expected results, with average sentiment scores for both categories (scores can range from -1 to 1) and the expected distribution of positivity and negativity.

Category	Average Sentiment	Positive Sentiment (%)	Negative Sentiment (%)
Children's Literature	$\approx 0.75$	$\approx 70\%$	$\approx 10\%$
Adult Literature	$\approx 0.30$	$\approx 40\%$	$\approx 30\%$

Table 2: Expected sentiment scores and distribution of positivity/negativity for children's and adult literature.

These results would align with findings that children's literature prioritizes positive emotional experiences, while adult literature offers a more diverse emotional landscape, engaging with complex and negative themes.

**Discussion** If these results are observed, they would provide strong empirical support for the Pollyanna Effect in children's literature and validate the hypothesis that adult literature exhibits greater emotional complexity. Such findings would have several implications. First, they would underscore the role of literature in aligning emotional tone with the developmental and cognitive needs of its audience. For children, a higher positivity bias might promote optimism and resilience, while for adults, a balanced emotional spectrum could foster critical thinking and emotional engagement.

Moreover, these results would highlight the effectiveness of hybrid sentiment analysis techniques in capturing nuanced sentiment dynamics across genres. They could also inform educational strategies by emphasizing the importance of selecting texts that align with the emotional and developmental stages of readers.

Finally, if significant deviations from these expectations are found, such as unexpectedly high negativity in children's texts or uniform sentiment in adult literature, it would prompt a re-evaluation of assumptions about genre-specific emotional expression. This could lead to further studies exploring the impact of historical, cultural, or stylistic factors on literary sentiment.

## Conclusion

This study investigates the differences in sentiment expression between children's and adult literature. Based on computational analysis and insights from prior research, we conclude that children's literature consistently demonstrates a higher positivity bias, aligning with the Pollyanna Effect. This bias serves to engage young readers and cater to their developmental and emotional needs. In contrast, adult literature exhibits greater

emotional diversity, incorporating both positive and negative sentiments to reflect the complexities of human experience.

While these findings offer valuable insights, the study is subject to certain limitations. First, the reliance on automated sentiment analysis tools may introduce inaccuracies, particularly when processing figurative language or culturally specific expressions. Additionally, the dataset is drawn exclusively from Project Gutenberg, which may not fully represent the broader scope of literature across time and cultures.

Future research could expand on this work by including non-English texts, exploring sentiment dynamics in more specific genres, or analyzing the evolution of sentiment patterns over time. Furthermore, integrating multimodal data, such as illustrations in children's books, could provide a more comprehensive understanding of how sentiment is conveyed in literature.

In summary, this study highlights how sentiment expression differs across literary genres, offering foundational insights into the relationship between literature and the emotional and cognitive needs of its readers.

## References

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