Still on the same page: A gender comparison of the top 100 picture books from the UK and China published 2011–2020

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Abstract
As a primary source for the early ages, picture books guide preschool children’s gender perception through stories and illustrations. However, previous studies have criticised an overall gender inequality in children’s picture books. Compared to the increasing attention on gender diversity in the UK picture book industry, there has been little concern shown about gender diversity in the Chinese picture book market (which has only developed in the 21st Century). This article compares gender representation and gender stereotypes within 200 UK and Chinese bestselling picture books published between 2011 and 2020. It examines a range of aspects including authors’ gender, and gendered aspects of book texts and illustrations via content analysis and text mining. Results show (1) there is male dominance in bestselling Chinese authorship, while titles from female authors are more prevalent in the UK list; (2) there is a predominance of male central characters in both bestselling UK and Chinese titles; (3) the narratives in bestselling picture books, especially in Chinese book texts, promote gender essentialism and gender biases in picture books from both markets; (4) that UK titles in translation, as well as other foreign titles, become an essential means of promoting gender equality in the
INTRODUCTION

Children's picture books convey gender messages. As the primary source for children aged 3–8 years old, picture books can shape their perception of sex roles and gender social identity. However, inequitable and judgemental gender representations have recurred in children's picture books globally (Allen et al., 1993; Casey et al., 2021; McCabe et al., 2011). Increasing gender misperceptions may influence children's career choices (RSA, n.d.), and may even result in gender segregation and hinder gender equality in society (Blaise, 2005; Garrett et al., 1977; Martinot & Désert, 2007).

The UK has a long and reputable history in children's picture books. By the 1970s, with the second-wave feminist movement, researchers promoted awareness of gender inequality and gender stereotypes in picture books (Adams et al., 2011; Casey et al., 2021; Gooden & Gooden, 2001). Children's publishers from the UK slowly published more titles with independent female protagonists and presented diverse gender characters. By contrast, modern children's picture books which tell stories by a combination of texts and illustrations within several pages (Withrow & Withrow, 2009, p. 15) have only been properly introduced in China since the 21st Century, with prevailing images of men and representations of traditional gender stereotypes (Xiao, 2021).

With the fast economic development and the increasing emphasis on children's education in Chinese society, the Chinese picture book market has quickly grown as one of the largest children's book markets in the world (Johnson, 2018a, 2018b). Given it has imported and translated a large number of international titles to China over the last few years (Bartz, 2008; Li et al., 2020), diverse gender information in Western titles can has been brought into the Chinese picture book market (Chen, 2012). However, Yu and Ma (2020) compared the gender stereotypes of parents as characters and suggested that traditional gender roles still prevail in both Chinese and English picture books. Recently, the call for a Chinese traditional culture renaissance¹ under the Chinese government has influenced the popularity of local Chinese titles in China; this might reinforce traditional gender perceptions for children (Du, 2021). Under this context, it is worth investigating the similarities and differences in gender representation between the UK and Chinese picture books.

From a comparative perspective, this article combines quantitative content analysis and text mining to investigate gender in the UK and Chinese bestselling picture books published over a 10-year period, from 2011 to 2020, inclusive. It analyses book contents, including texts and illustrations in 200 bestselling picture books by discussing two questions:

KEYWORDS
China, gender biases, gender equality, picture books, preschool children, the UK
1. How is gender represented in bestselling UK and Chinese children's picture books, including authorship, plots, and narratives?

2. How does gender representation in picture books differ between the UK and China?

In doing so, it may provide data-based evidence for the lack of gender diversity in the UK and/or Chinese picture books, raise the awareness of the need to improve gender equality in both mainstream children's picture book markets, and indicate how translation studies can help understand differing picture book markets.

**LITERATURE REVIEW**

**Gender in picture book studies**

Gender equality in picture books has slowly developed over the years (Gooden & Gooden, 2001; Malcom & Sheahan, 2019; Peterson & Lach, 1990; Wolff, 1972). However, an overall underrepresentation of female and LGBTQIA+ characters still exists in modern children's books (Casey et al., 2021). The study of gender in children's picture books is mainly concerned with two approaches: the lack of representation of gender minority groups, including female characters, LGBTQIA+ and Queer groups (Capuzza, 2020; Young, 2006); and stereotypes towards specific gender (Adams et al., 2011; Allen et al., 1993).

Biological sex difference is routinely viewed by picture book researchers as synonymous with gender and used to determine gender in book analyses (Blaise, 2005, p. VII). Most studies examined both text and illustrations. Language firstly is an important tool that indicates gender messages, and researchers can code gender information with matching gender descriptions with any of their study objects (Blaise, 2005, p. 4). For example, ‘masculine’ and ‘gentleman’ are descriptions indicating male, while ‘feminine’, and ‘princess’ usually refer to female (Ehrlich et al., 2014, p. 204). Another common way to conceptualise gender is confirming how people act and behave, for example, in a study of children's perceptions of feminist books, participating children used ‘boys' stuff’ and ‘girls' stuff’ to categorise toys and activities, and they barely identified characters which challenged gender stereotypes (Bartholomaeus, 2016; Davies, 2002). A further study found children ‘rely heavily on social constructions of what gender is’, by checking use of colours, physical features, clothing or activities the book used with characters (Hill & Katrina, 2020, p. 100).

**Gender representation in children’s picture books**

The lack of gender equality in children's books has been a concerning issue for Western researchers; an overwhelming number of male characters in children's picture books has been emphasised since the 1970s (Gooden & Gooden, 2001; Heintz, 1987; Wolff, 1972). Existing studies mainly present unequal binary gender with content analysis by selecting a reliable corpus and comparing the gender of central characters within both text and illustrations (Allen et al., 1993; Axell & Boström, 2021; Connor & Serbin, 1978; Gooden & Gooden, 2001; Heintz, 1987). Subsequently, more studies examined the lack of female roles and other gender minority groups in a range of corpora. For example, a study of 3280 children's books published between 1960 and 2020 showed male dominance in book characters and male adventures in books (Casey et al., 2021). Interestingly, the number of male animal characters also surpassed female animal characters within the 2017 most popular UK picture books (Ferguson, 2018). It is noticeable that LGBTQIA+ picture book titles
are limited, furthermore characters with LGBTQIA+ backgrounds or diverse sex orientations are invisible in children’s books (Crisp et al., 2018; Wolf, 1989). Text mining techniques have also been previously applied to examine gender information in picture book texts. A report tracked gender representations from GLARE and the Oxford Online Dictionary—two online databases providing a search functionality for words in both 19th century and contemporary children’s books—finding the overwhelming use of male-related words (Mahlberg & Cermakova, 2019).

Gender stereotypes in children’s picture books

Since the second Feminist movement in the 1970s, gender stereotypes in children’s books have been continuously examined (Bartholomaeus, 2016), covering a series of social identities of personalities, behaviours and occupations. Repetitive gender stereotypes of parents, including the father being outdoors and the caring role of mum are commonly represented in picture books (Adams et al., 2011; Joosen, 2015, p. 146). It is routinely noted that boys and girls in the books play distinctive roles, for example, girls may appear as a passive follower, while boys are normally the leading characters and portrayed to experience adventurous and exciting activities (Cermakova & Mahlberg, n.d.; Hamilton et al., 2006; Weitzman et al., 1972).

Occupations vary between genders in children’s books as well; doctors, professors, judges and pilots are more likely to be male, but female characters in picture books were depicted in traditionally feminine roles, such as nurses, teachers and secretaries (Garrett et al., 1977; Gettys & Cann, 1981; Heintz, 1987; Terras, 2018). The judgemental correlations between gender and certain occupations in picture books may become cognitive schemas in children’s behaviours (Axell & Boström, 2021; Endendijk et al., 2014; Terras, 2018). Non-human depictions, a popular anthropomorphic approach in children’s picture books, also includes gender stereotypes, with most animals being referred to or presenting as masculine (Welsh, 2020). For example, an essay on studying the gender of top 10 animal-themed children’s picture books found female animal characters were portrayed as less important roles in the books (Elk., 2015). Biased gender narratives have never disappeared in children’s picture books and may still influence children’s perception on gender roles (Casey et al., 2021; Clark et al., 2007).

The review of previous studies suggests that there is an overall gender inequality in picture books, which is established by examining the gender of either central characters, texts, illustrations or authorship within the same dataset. However, we have not found studies which combine the analysis of book metadata, texts and illustrations together and apply both content analysis and text mining methods to bestselling picture book titles. A comparison between two markets would also bring a more comprehensive perspective to gender representation and gender narration.

METHODOLOGY

We collected the 10 bestselling UK and Chinese picture books published in each year from 2011 to 2020. Titles were identified respectively from The Bookseller and The Publisher, the publishing trade magazines in the UK and China. First, book titles, ISBN, publication date and sale copies were recorded from The Bookseller, which are available from Gale digital resources (‘Children’s’ [N.A., 2022]; Openbook Top 10 Bestselling list [N.A., n.d.]). All sales for a title in each year were calculated and filtered to get a top 10 list for every year, producing a top-100 list spanning a decade. Duplicated titles which had been listed in previous years were substituted by including the next popular title in the year list. Second, title, publication date and sales rankings for Chinese titles were collected from
The Publisher (Chu Ban Ren) and OpenBook. Given that there are no sale figures available regarding the Chinese lists, the rank and frequency of a single title showing up on the weekly or monthly lists are the references for yearly top 10 titles, with duplicated titles likewise being substituted by the next popular title. The Publisher only provides top 20 children’s book lists, and there were less than 10 titles in earlier years between 2011 and 2013. As a result, only 76 titles were available from the database, using this method. To supplement the missing elements of the Chinese top-100 list, the top 500 bestselling children’s titles on Dangdang were consulted (the largest retailing bookstore in China (Li et al., 2020)). We combined titles resulting in a book list of 200 picture books (100 Chinese and 100 English), and obtained their physical copies. We then digitised and transcribed full texts for all 200 picture books, including 79 352 English words (8917 unique words) and 316 458 Chinese characters (10 902 unique words). All data and texts in this process were only used for analysis and research, complying with the UK’s text and data copyright mining exceptions (Kelly, 2016).

By adapting previous studies, we coded all picture books from three perspectives—(1) gender of book authors/illustrators, (2) gender of protagonist, (3) gendered words in the texts. (Gooden & Gooden, 2001; McCabe et al., 2011).

Gender of authors and illustrators

The gender of authors and illustrators of 200 books has been coded into male/female, by matching the pronouns they used in the authors’ introductions from the book covers/, online sources such as Wikipedia and Baidu Baike, as well as online cataloguing databases (VIAF, Virtual International Authority File). We then confirmed authors’ stated gender by cross-referencing these sources. However, there are still titles made and produced by large corporations such as Lego Star Wars Heroes (2011b) and Peppa Pig (N.A., 2013b), where authors or illustrators were not named on books. When information cannot be traced it is therefore coded ‘Unknown’ in the analysis.

Gender of protagonists

We determined the gender of protagonists from text and illustrations, cross-referencing book title, plot and storyline. First, we checked every title that contained a gendered name, pronoun or noun (e.g. Peppa’s Halloween [N/A, 2014]); Second, we checked the ‘narrator’ (e.g. Diary of a Worm [Doreen Cronin, 2013]), the featured character or the character associated with the topic of the book (e.g. The Scarecrow’s Wedding [Donaldson, 2014]). Third, we distinguished the gender characteristics of protagonists in the illustrations, in accordance with previous studies, by checking the physical features, clothing or colours the book used with characters (Hill & Katrina, 2020, p. 100). Characters were finally categorised into eight specific items—Animals or other fictional characters without gender features (neutral); female human; male human; Female animal/creature/vegetable; Male Animal/creature/vegetable; Female-dominated group; Male-dominated group and couple (where male character and female character are equally important. There were no single sex couples represented).

Gendered words in the texts

We defined gendered words as word which contains gender features and classified them to four groups, including pronouns, nouns, family identities and the name of characters (see in Table 1).
We acknowledge, with the development of queer studies, some words are allocated to extra meanings, for example, ‘queen’ also indicates a particular type of gay man (Ehrlich et al., 2014, p. 206). However, we did not find such wordplay within our texts, so we only take the initial meaning and normative understanding of words in this study.

After coding gender information in all titles, we first presented the descriptive statistics about the gender of authors, illustrators and protagonists, then took Pearson Chi-square test, with Bonferroni correction to examine the statistical difference between these gender variables separately between the Chinese titles and UK ones, by using the software SPSS 24.

Second, we examined the popularity of gendered words by using basic text mining techniques (Alam & Yao, 2019)—word segmentation and term frequency—in the transcribed texts of 200 picture books. We did not use a stop-word list as they normally exclude pronouns that indicate gender (Rao & Taboada, 2021). The first step was to split two corpora into two wordlists using word segmentation. Different from English which words can be separated by spaces, Chinese is more complicated in morphology, and it is therefore important to use NLP techniques to segment Chinese texts (Breeze, 2018; Clay, 2021). Chinese keywords were translated after applying word segmentation with the precise mode in Jieba package, which is the most used NLP tool for Chinese word segmentation.

Next, we calculated each word by frequency, which ranks the words’ popularity. All prepositions and articles were removed as they are not content words; the plural and singular format, uppercase and lowercase of the same word were counted as one word. This generated a list of all independent words with frequencies and another top 1000 keyword-list. All gendered words then were manually defined and classified into different groups. We finally calculated the number and frequencies of all masculine and feminine words and present the ratio of different gender words with histograms, to compare how linguistic narratives indicate gender in our two languages.

**RESULTS**

**Male dominance in gender representation**

Gender of authors and illustrators

In the UK list, 48 titles were written by female authors, 39 by male authors and for 13 titles (which were organised by publishers) the gender cannot be recognised. There are a total of 44

<table>
<thead>
<tr>
<th>TABLE 1 Gendered words classification for text mining.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Female</strong></td>
</tr>
<tr>
<td>Pronouns</td>
</tr>
<tr>
<td>She/她 (Ta)</td>
</tr>
<tr>
<td>Nouns</td>
</tr>
<tr>
<td>Mrs/女士 (Nvshi), witch/女巫 (Witch)</td>
</tr>
<tr>
<td>Family identities</td>
</tr>
<tr>
<td>Mum/妈妈 (mama), grandma/奶奶 (Nainai)/姥姥 (Laolao)</td>
</tr>
<tr>
<td>Names (of characters)</td>
</tr>
<tr>
<td>Peppa,歪歪兔 (Waiwaitu)</td>
</tr>
<tr>
<td><strong>Male</strong></td>
</tr>
<tr>
<td>Pronouns</td>
</tr>
<tr>
<td>He/他 (Ta)</td>
</tr>
<tr>
<td>Nouns</td>
</tr>
<tr>
<td>Mr/先生 (Xiansheng), Captain/队长 (Duizhangu)</td>
</tr>
<tr>
<td>Family identities</td>
</tr>
<tr>
<td>Dad/爸爸 (Baba), uncle/叔叔 (Shushu), etc.</td>
</tr>
<tr>
<td>Names (of characters)</td>
</tr>
<tr>
<td>Wally, Alfie, 嘟嘟 (Gaga)</td>
</tr>
</tbody>
</table>

Note: The table classifies all gendered words in two corpora into five groups and lists some examples in each box, it is a reference in the result section (see in Table 5).
independent authors, including 28 male authors and 16 female authors. It is notable that the famous female children’s writer Julia Donaldson dominates the UK list, with 29 of her books being within the top 100 booklist. The Chinese list presents five female authors with 34% titles, 51% titles by nine male authors and 16% titles with unrecognisable author’s gender (see Figure 1). Although there are more female authors in the UK titles and more male authors in Chinese titles. In comparison, the prevalence of male authors is noticeable in Chinese titles; there are 16 male authors out of 20 independent authors, engaging with 51 titles.

With the preference of female illustrators in China and the dominance of male illustrators in the UK, the gender distribution of illustrators varies between China and the UK ($\chi^2 = 14.849$, $df=2$, $p < .001$, see in Table 2). Specifically, there are 60 titles from male illustrators and 27 from female illustrators for the UK titles (13 unknown titles); while Chinese female illustrators entitled more than male illustrators (37:34, with 29 unknown titles).

![Figure 1](https://example.com/figure1.png)

**FIGURE 1** Gender coded for authors and illustrators top 200 picture books.

<table>
<thead>
<tr>
<th>Country</th>
<th>Male</th>
<th>Female</th>
<th>Unknown</th>
<th>Total</th>
<th>Chi-square value</th>
<th>Df</th>
<th>$p$ value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Author</td>
<td>China</td>
<td>51$^a$</td>
<td>33$^a$</td>
<td>16$^a$</td>
<td>100</td>
<td>4.688</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>The UK</td>
<td>39$^a$</td>
<td>48$^b$</td>
<td>13$^b$</td>
<td>100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Illustrator</td>
<td>China</td>
<td>34$^a$</td>
<td>37$^b$</td>
<td>29$^b$</td>
<td>100</td>
<td>14.849</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>The UK</td>
<td>60$^a$</td>
<td>27$^b$</td>
<td>13$^b$</td>
<td>100</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*After $p$-value represents a significant difference between two compared groups. The italic letter denotes a subset category whose column proportions do not differ significantly from the other subset with the same letter at the .05 level. Different letters indicate significant difference between the groups.

**TABLE 2** Gender of authors, illustrators by countries: Cross tabulation.
Gender of protagonists

The male dominance of central characters exists in both the UK and Chinese bestselling picture books, without seeing any pattern of specific gender of characters over the last 10 years (see Table 3). However, there are statistically significant differences between male and female protagonists within the Chinese and UK titles ($\chi^2 = 6.497$, $df = 2$, $p < .05$, see in Tables 3 and 4). Specifically, there are 53 Male/male dominant protagonists, which outnumbered 36 female/female ones in the English texts; in the Chinese list, 70 male/male dominant protagonists outweighed 21 female ones.

Within the books in the corpus, there are 49 anthropomorphic characters (animals, plants and other creatures) with establishable gender in the UK and 46 in the Chinese titles.

There are seven UK titles and nine Chinese titles that include characters without a defined gender. The gender-neutral characters does not differentiate from the male group or female groups, nor between the UK and Chinese titles (see in Figure 2; Table 4). Within this group, seven out nine of Chinese gender-neutral titles were published in a book series which targets toddlers (Sasaki, 2007), but the seven UK neutral titles are listed sparsely in six different years. Compared to book texts, illustrations are less gender featured, as there are more neutral gender/non-identifiable characters in illustrations than defined in texts (usually via pronouns).

Male preferences in anthropomorphic characters

With the long tradition of anthropomorphic characters appearing in children’s literature (Sotirovska & Kelley, 2020), animals, vegetables and even other non-human creatures are still very popular images in our corpus. Most of these characters are allocated to a specific gender; mammals are generally defined into a binary sex dynamic. However, male animals appear more

<table>
<thead>
<tr>
<th>Year</th>
<th>The UK</th>
<th></th>
<th></th>
<th>China</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Female</td>
<td>Male</td>
<td>Neutral</td>
<td>Female</td>
<td>Male</td>
<td>Neutral</td>
</tr>
<tr>
<td>2011</td>
<td>2</td>
<td>8</td>
<td>/</td>
<td>2</td>
<td>8</td>
<td>/</td>
</tr>
<tr>
<td>2012</td>
<td>5</td>
<td>5</td>
<td>/</td>
<td>6</td>
<td>4</td>
<td>/</td>
</tr>
<tr>
<td>2013</td>
<td>6</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>8</td>
<td>/</td>
</tr>
<tr>
<td>2014</td>
<td>4</td>
<td>4</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>2015</td>
<td>4</td>
<td>4</td>
<td>2</td>
<td>3</td>
<td>7</td>
<td>/</td>
</tr>
<tr>
<td>2016</td>
<td>2</td>
<td>6</td>
<td>/</td>
<td>1</td>
<td>9</td>
<td>/</td>
</tr>
<tr>
<td>2017</td>
<td>5</td>
<td>4</td>
<td>1</td>
<td>3</td>
<td>7</td>
<td>/</td>
</tr>
<tr>
<td>2018</td>
<td>3</td>
<td>5</td>
<td>1</td>
<td>2</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>2019</td>
<td>3</td>
<td>5</td>
<td>/</td>
<td>1</td>
<td>9</td>
<td>/</td>
</tr>
<tr>
<td>2020</td>
<td>2</td>
<td>7</td>
<td>1</td>
<td>0</td>
<td>9</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>36</td>
<td>53</td>
<td>11</td>
<td>21</td>
<td>70</td>
<td>9</td>
</tr>
</tbody>
</table>

Note: Number in each cell represents the dominant gender of protagonists in each book (There are more than one central character in some titles, for example, in the Carrot Fantasy: Flying Fruits (Bai Bing, 2015), there are quite a few central characters but only one female, so the protagonists for this title were coded as a male dominant group, and we counted this as one protagonist in this table.).
frequently in the listed titles, such as a male dragon (Donaldson & Scheffler, 2011), a male mouse (Yoshio & Noriko, 2018) and a male goat (Gray, 2018) (N.A., 2012).

Moreover, there are even preferences for males, in general, for visibly gender-neutral non-human characters, such as plants and other creatures in both the UK and Chinese titles. A typical case is the *The Winning Story of Plants* (Gao, 2012); all plants were allocated a male gender in the adaptive Plants V.S. Zombies stories. A similar trend can be seen in the *Carrot Fantasy* series (Bai & Liu, 2015), where there is only one female figure out of 12 characters in the book. In the title of *Supertato* (Sue Hendra, 2020), both the heroic figure and the bad guy in the supermarket are male. The lack of female non-human characters in our study is consistent with previous research, which also suggested the predominance of male anthrophonic characters (Terras, 2018).

**Term frequency of gendered words**

The transcribed text of the books was analysed. There are a total of 8917 unique words appearing in the English corpus, with 281 gender related words, including 148 male-oriented words and 133 female female-oriented words. In the Chinese corpus, we found 10902 unique Chinese words.
TABLE 5  Categories and total frequency of gendered words.

<table>
<thead>
<tr>
<th>Category</th>
<th>China Male</th>
<th>China Female</th>
<th>UK Male</th>
<th>UK Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pronoun</td>
<td>1/903</td>
<td>2/241</td>
<td>4/1388</td>
<td>4/963</td>
</tr>
<tr>
<td>Identity</td>
<td>28/444</td>
<td>22/562*</td>
<td>8/172</td>
<td>8/211*</td>
</tr>
<tr>
<td>Nouns</td>
<td>56/253</td>
<td>31/93</td>
<td>28/286</td>
<td>23/448*</td>
</tr>
<tr>
<td>Names</td>
<td>61/1048</td>
<td>31/309</td>
<td>107/957</td>
<td>97/761</td>
</tr>
<tr>
<td>Animal related terms</td>
<td>5/53</td>
<td>4/29</td>
<td>1/1</td>
<td>1/24*</td>
</tr>
<tr>
<td>Chinese idioms</td>
<td>12/19</td>
<td>7/15</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: This table provides statistics with (1) the number of gendered words in that category (left) and (2) the frequency of all words in that category (right); the asterisk represents the female dominance in that category.

FIGURE 3  Histogram of gender words in English corpus (Comparison of male and female words). Word frequency distribution in English corpus follows an approximate power law. X-axis represents the word frequencies in the corpus; the y-axis represents how many words occur of this frequency. For example, the top right diagram is zoomed in to show there are 45 unique female words (y-axis) which only occur once across the whole English corpus (x-axis). The label represents the exact number of words for either female or male words. For comparison, words that occurred more than 100 times are listed on the top of the actual number. Additionally, the top right figure zooms in and provide more details for the distribution of English gender words which appears less than 50 times in the corpus.

with 270 words less indicating a special gender feature, with 165 male words and 105 female words. Overall, male words outnumber female words in the top 200 picture book texts in both the UK and Chinese titles (see in Table 5). Figures 3 and 4 have shown the word frequency distributions of gender words in two corpora, presenting the differences between male and female words. Both datasets, although in different languages, align with the power law, that a few leading words outweigh the occurrences of the rest words in a standard corpus. Specifically, most gender words (both male and female) in our corpora appear less than five times in the corpus, while the top 5 words in both corpora have taken up 80% of the occurring frequencies of all gender words. It is also noticeable that male words are more dominant in the Chinese corpus than in the English corpus in the Figures 3 and 4. First, the distance between the most common Chinese male word (‘he’) and Chinese female word (‘mum’) is further than the distance between the most common English male word (‘he’) and female word (‘she’); Second, there are more unique female words than male ones (45:39) in the English corpus, while Chinese female words are less variable than male words (51:68) in the Chinese corpus.
In five categories of gendered words, the number and frequency of male ‘pronoun’ and ‘name’ are more than those used to denote females, and these two categories are related to each other. As the large number of male characters result in more male pronouns in both corpora. For instance, the occurrences of male and female pronouns in Chinese (i.e. ‘he’ [他] and ‘she’ [她]) wildly differ, with the male pronoun used four times more than the female (see in Table 5). This is similar in the English texts, but the gap between male and female pronouns is not as distinct as in the Chinese corpus.

Compared to the Chinese corpus, there are many more female words in the UK corpus in three categories (i.e. identity, noun and animal related words). The gender of animals in the two lists are completely opposite to each other, these animals specifically refer to chickens, with roosters being more popular than hens in China, while hens are more popular in the UK titles.

The only aspect that female words surpass male ones in both lists occurs in the gender identity with both corpora, which presents more female family members in the texts. Specifically, there are more than twice as many mothers (447 in Chinese and 107 in English) as fathers (197 in Chinese and 51 in English) that appear in both the UK and Chinese bestselling titles. This result corresponds to the ‘Invisible Father’ study (Adams et al., 2011), which found that fathers are less likely to be represented in a caring role in picture books. The family identities also differ between two corpora; family identities are more frequently seen in the Chinese titles. Chinese family identities are more specific than in the UK picture books. For example, there are terms like ‘my dear son’ and ‘the real close brothers,’ older or younger brothers are pointed out. Another interesting finding is uncles from different sides of parents even vary from each other—uncles from father’s side (Shushu/bobo, 42) are more popular than uncle from mother’s side (Jiujiu, 2) in Chinese titles. This might be affected by the well-known, traditional family structure—the power of fathers in the families of China, which result in the biases that relatives from the father’s side are normally conceived as more important than those from the mother’s side (Santos & Harrell, 2017).

Both Chinese and English titles in the corpus have some common gendered words like queen, king, prince and princess as the protagonists in the picture books. In the UK titles, the use of queen (73) dominates over king (22), but there are more king (14) than the queen (1) in the
Chinese titles. Princesses are more popular than princes in both countries (69:22 in the UK, 11:1 in China). Generally, gendered words that are related to social class are more popular in the UK texts than the Chinese.

To sum up, the frequency of gendered words in the texts reflects similar problems as in the previous section regarding the gender of authors and the gender of protagonists. It indicates the same gender inequality while providing some further and deeper textual descriptions; the male dominance is even worse in Chinese bestselling titles than in the UK titles. There are not only more female words in more word categories of English picture books, but the overall gap between two genders is smaller than in the Chinese texts.

**Gender essentialism and gender stereotypes in picture books**

**Gender specific titles to strengthen gender essentialism**

Gender stereotypes were found directly or indicated indirectly in 108 out of the 200 bestselling titles; reflecting daily life from different aspects, either in text or illustrations. Texts and illustrations with strong gender information within titles can be seen in both the UK and Chinese lists. This conforms with Flynn and Schweickart’s early research, which found the children’s book industry prefer publishing books that target specific genders (Flynn & Schweickart, 1986). As a result, previous studies found that boys have preferences for male characters (Bleakley et al., 1988; Connor & Serbin, 1978); for example, boys do not read books about girls, even if the girl is a duck or a moose (Yabroff, 2016). Reflected in our corpora, titles such as *Hello Kitty: Wipe Clean Activity Book* (N.A., 2013a), *Disney Frozen: Happy Tin* (Mawhinney, 2014) mainly present independent female characters and are well-known for girl readers in the UK titles; same in Chinese list, *Shenqi Gongzhu [Barbie Princess Fairy: Magic Princess]* (Ruby, 2010) even suggests this was a book for girls who dreamed to be princesses in the book blurb,¹⁵ *Balala the Fairies: the Test of Magic* (N.A., 2014a) which claimed itself as ‘Chinese local Disney princess’. By contrast, titles like *Lego Star Wars* (N.A., 2011b) in the UK and *Carrot Fantasy series-Flying Fruits* (Bai, 2015) in China are mainly marketed towards boys. This has been further determined by the online book reviews which suggested more boy readers on Amazon.uk and Dangdang. This implies the popularity of gender specific titles might potentially perpetuate sex segregation among young readers, and ultimately in society.

**Active male versus passive female**

The heroic image of male characters, foregrounded in the Cinderella Complex study (Xu et al., 2019), prevails in contemporary children’s titles in the UK and China. Plots about male characters rescuing female characters can be seen in both the UK and Chinese titles. For example, the male scarecrow rescued the female scarecrow from the fire in the setting and ended by their wedding in the book *The Scarecrows' Wedding* (Donaldson, 2014); the male seagull steals the key and sets the mermaid free in *The Singing Mermaid* (Donaldson & Monks, 2013); the heroic male potato saves all the veggies from the Evil Pea on the book day in *Books Are Rubbish!* (Hendra, 2020); following fairy tale tropes, the princess need a man’s kiss to save her life in *Frozen: My Busy Book* (N.A., 2014b). In the Chinese title *I Love Dad* (Fangfang Gong, 2017), the boy Victor’s mum does all the housework while his dad is a heroic policeman. In the *Carrot
Fantasy series (Bai, 2015), the only girl Beauty Radish (Meiluobu) is the only one being hurt by the baddies, then is rescued by male radishes. By contrast, girls are more likely to be depicted as weak in these titles. The girl fox in Pitikok series is the only female in the whole fox group and is described as the most stupid one, being trapped by some chicken (Jolibois, 2009).

Furthermore, Chinese texts tend to narrate indirectly ideas of the male heroic spirit and masculinity. For instance, there are gendered narratives like ‘gentleman (Shenshi)’, ‘be a man (Nanzihan)’ (Jolibois, 2005), and the complimentary ‘the hero rescue the beauty (Yingxiongjiumei)’ (Ge, 2015).

Popular occupational gender stereotypes

Occupational gender stereotypes, as a large section of gender stereotype (Aros et al., 1998; Garrett et al., 1977), can also be detected in our list. There are only a limited number of titles that are related to occupational topics in the English texts, but it is still easy to be aware of these distinct occupational descriptions. First, more occupational male words are present in the corpus, such as ‘knight, 9’, ‘policeman, 5’, ‘fireman, 2’. For example, the farmer in What the Ladybird Heard (Donaldson & Monks, 2009) is a man, as well as the hiker in Where’s Wally Now? (Handford, 2012). By contrast, the only occupational female word in the English corpus is the witch (60), which is not a standard occupation (Standard Occupational Classification: SOC2010 | HESA, n.d.).

In the Chinese language, there are no occupational words that directly indicate any gender. However, occupational gender differences still exist in our Chinese titles through textual descriptions and illustrations. For example, professors, doctors and writers that appeared in the Chinese titles are described as male characters, and there are a full range of jobs for men in the books: farmer, warrior, policeman, detective, etc. Women are described more as having some impractical occupation like actress or caring occupations such as nurse (Mutouren Editorial, 2015) and teacher (Shannon, 2007). There are also some specific idioms related to gender of business in Chinese picture books and through the translation. For example, there is a ‘Capture the leader (king) to capture his followers (Qin Zei Xian Qin Wang)’ (Jolibois, 2013), which indicates the robbers/pirates are male; ‘yellow hair girl (Huangmao Yatou)’ (Jolibois & Heinrich, 2006) for describing girls who are naive. Another typical phrase of ‘The son inherits his dad’s business (Zichengfuye)’ (N.A., 2011) is also well-known but indicates the idea of women being excluded from family businesses and career. This also aligned with The hoping for a Son where Isabelle Attané (2013, p. 85) suggested the preference to sons over daughters is a typical phenomenon in Asia partly because ‘sons maintain the family line’.

Counter gender stereotypes: What translated titles brought to China

Over the past decade there has been criticism regarding gender inequality in children’s picture books from academic researchers (Crisp et al., 2018; Crisp & Hiller, 2011; Hamilton et al., 2006), coupled with an emphasis on gender equality proposed by the UK Publishing Association (2016) and other industry bodies (de la Mare, 2019; Georgina, 2019). As a result, there are an increasing number of books about challenging gender stereotypes being published, and these titles can also be seen in our corpora. There are 16 titles—nine in the UK and seven in China that convey ideas which tackle traditional gender descriptions; it is also noticeable that all seven Chinese titles were translated from the UK (3), France (3) and Canada (1).
The awareness of gender stereotypes normally starts with family member first. A typical case of *Guess How much I Love You* (Sam McBratney, 1994) tells two male hares talking about love as a daily topic, it is also the only title which appears in both the UK and Chinese lists. Compared to the original book in English, the Chinese edition has been marketed in the book blurb as describing the close relationship between father and son; it was as well tagged as ‘father and son’ in Worldcat. The translated to Chinese titles of *My Mum and My Dad* (Browne, 2010) also concisely challenged gender stereotypes for men and women with a few words and fine illustrations; the two books use similar words to describe diverse identities of mother and father and are therefore especially good examples for children to understand equality.

Gender equality and gender diversity are better presented in the UK titles during the time frame. First, there are more independent and rebellious female characters, for example, Elsa as the queen in *Frozen* (N/A, 2014a) saves her country; the woman is a leader in *Where’s the Unicorn?* (Marx & Schrey, 2017), and the smart female ladybird in the *What the Ladybird Heard* (Donaldson & Monks, 2009). Finally, *Giraffes Can’t Dance* (Andreae, 2013) has been listed in the LGBTQIA+ inclusive title by Stonewell Booklist (*LGBTQIA+ Inclusive Books for Children and Young People*, 2021), it supports ideas of difference and pursuing non-gendered interests, encouraging boys to like ‘girlish’ activities or to act like ‘girl’ (Moya-Guijarro, 2021, p. 45).

**DISCUSSION**

This study has compared the UK and Chinese bestselling picture books from two perspectives—gender representation and gender stereotypes. It has combined methods including content analysis and text mining. The findings indicate that there is entrenched gender inequality in both bestselling UK and Chinese titles from 2011 to 2020. This is the first study to investigate the difference of gender between and across two mainstream picture book markets.

First, even with slight difference of representation, the overall male prevalence in bestselling children’s picture books still exists in both the UK and Chinese market, given the male protagonists are more frequent than the female ones in both lists. This result is also consistent with previous studies (Crisp & Hiller, 2011; Gooden & Gooden, 2001; La Dow, 1976), the constant overrepresentation of male characters would indirectly reflect the idea of ‘men being the protagonist in the world’ and pass that on to our future generations.

Second, the idea of gender essentialism exists around different social aspects including activities, occupations and personalities in the listed picture books. To be specific, the masculinity of male characters and the femininity of female characters were still prevailing in our titles from both the UK and Chinese mainstream picture book markets. For example, men normally rescue women in the stories; male characters present more professions and are more adventurous. These narratives might strengthen traditional gender biases to pre-school children and might undermine future gender diversity in society.

Third, from a comparative perspective, Chinese titles feature more male dominance than English titles, and the gender narratives are more controversial. Traditional gender biases towards the young generation in China can be found in local Chinese titles, for example, characters in Chinese titles directly expressed ‘my precious son’ instead of ‘precious daughter’. From a more subtle aspect, the number of uncles from mother’s side weigh less than uncles from father’s side in Chinese titles, which shows the prevailing idea of ‘family legacy relies more on the father’s side’ (Santos & Harrell, 2017). Besides, the recurring image of mum in taking care of the family in Chinese titles stresses traditional family structures and weakened independence of women.
All cases can indicate the general emphasis on men rather than women in Chinese society and would potentially shape children’s mind in the future.

Fourth, titles mentioning equal gender characteristics in the Chinese list were all translated titles from the UK, France and Canada. Considering the emerging policy of improving production and sales of local, original picture books in China (Du, 2021), it is therefore important to raise the awareness of gender equality and gender diversity for Chinese picture book authors and illustrators, as well as the consciousness of editorial boards and Chinese publishers.

There are limitations to this study. It is not a comprehensive reflection, as a sample of 10 books per year is a small proportion of all titles being published in both countries, and children will receive more information from other books and other media platforms. We also did not find any noticeable patterns or changes of different gender representation in our time frame, while there are increasing number of picture books that feature female characters and other gender minority groups. In addition, we were not able to cover more text mining methods limited the size of this paper, to explore how gender patterns or stereotypes being narrated by both illustrations and texts in the bestselling picture books. Future work may include a larger pipeline of titles, a longer time span and apply more text mining techniques (e.g. sentiment analysis or topic modelling) to embed different gender narratives of picture books from different cultures, and this study could be expanded to include other countries, for further comparison.

CONCLUSION

This study provides a model of examining gender inequality in the UK and Chinese bestselling titles, using both a qualitative and quantitative methodology. We use different perspectives to investigate gender representations in bestselling picture books. The UK corpus shows more diverse and equal gender landscape in authorship, central characters and gender narratives than the Chinese texts. First, there are more female authors in the UK list; second, male central characters dominated the 100 Chinese titles, while the ratio of male and female central characters is more balanced in the UK titles; third, there are more implicit male-centred narratives in Chinese picture book texts which emphasise the traditional Son preference in China. Finally, the translated titles from the UK did bring some diverse gender ideas to the Chinese markets, indicating how translation in picture books can be the source of progressive ideas. Considering the long-term impact of the male narrative prevalence on our young generation, it is worthy for publishers in both countries to publish more diverse gender titles, promote them with more effective channels or platforms, and for schools and parents to be more careful in choosing reading materials for pre-school children, while translation studies can benefit from understanding how our picture-book markets intersect.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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ENDNOTES

1 The renaissance of traditional Chinese culture policy has been issued by the State Council of the People’s Republic of China, it encourages publishers to publish books with content about traditional culture, including children’s picture books. Accessed on: https://new.qq.com/omn/20211028/20211028A0100100.html.

2 GLARE (Exploring Gender in Children’s Literature from a Cognitive Corpus Stylistic Perspective) is a project funded by the European Commission within Marie Skłodowska-Curie Actions.

3 The largest Publishing consultant company in China which provides statistics for publishing market.

4 Most of bestselling titles in early years were children’s fiction.

5 The source of every title (either from The Publisher, OpenBook or Dangdang) was marked in the Appendix, Top 100 Chinese children’s book list.

6 The full booklist of 200 titles is provided as Appendix, made available online.

7 Words are made of characters in Chinese and are not fixed as English words, normally, a Chinese word includes two or three characters.

8 We tried to mark authors with diverse gender, however, no author in our pipeline self-declared other gender beyond male/female.

9 The largest Chinese online search engine.

10 Bonferroni correction is statistical method to counteract the multiple comparison problem. In this study, we have three gender groups (female, male and unknown gender), so we applied this method to our data, to compare the standard deviations between three groups, respectively.

11 SPSS (Statistical Package for Social Sciences) is one of the most popular statistical packages which can perform highly complex data manipulation and analysis. We used IBM SPSS Statistics for Macintosh, Version 24.0.

12 Jieba is the most used Chinese word segmentation module which provides three different modes (i.e. full mode, search-engine mode and precise mode) for Chinese texts. The precise mode would cut sentences based on the context, while the other two modes provide results with all possible ways of word segmentation which will cause errors in term frequencies. After trying all modes, we found the precise mode is the best for our texts and applied it in our further data analysis.

13 The list only includes non-duplicate words.

14 People call cousins ‘brother’ in Chinese, so it is common to use ‘real brothers’ to describe kinship and siblings.

15 The online bookshop of Barbie princess shows the book blurb which suggests the book was for girls who wanted to be princess, see more in https://book.kongfz.com/225395/5405949055/.

16 In the book, the author used ‘he’ to describe both hares.

17 The book description can be found here: https://book.douban.com/subje ct/1433640/; the tag can be found on WorldCat: https://www.worldcat.org/title/1311281521.

18 Son preference in China is a gender preference issue. Preference of sons can be explained by an attitude: a belief that boys have more value than girls; it can be defined as a gender bias as well.

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Yi Li is a PhD candidate in the School of Literatures, Languages and Cultures, University of Edinburgh, UK. Her doctoral research is “Diversity and Inclusion: A Comparative Analysis of Bestselling Picture Books between China and the UK”; her interest is the application of text mining techniques in children’s literature.

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