

Children's television Worldwide II: Gender Representation

in



United Kingdom

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1. General information about Children's Television in the United Kingdom

In respect of children's television provision, the UK media system continues to evolve from its strong heritage in public service broadcasting with the BBC as its centerpiece. The BBC's two dedicated children's TV channels – CBeebies (preschool) and CBBC (aimed at 6-12 year olds) along with the traditional rival of CiTV (Children's independent television) – remain market leaders in a now highly competitive and crowded media landscape in which digital switchover has brought greater variety of free-to-air channels into households that previously had access to just five channels. Note this growth in free to air channels goes hand in hand with an explosion of commercial provision, with paid for satellite and cable services (notably Sky and Virgin media respectively) now widely available; and with the rapid growth of on-demand and streaming services, notably from global players such as YouTube, Netflix and Amazon. Never before has the children's television audience been so fragmented.

With this seeming proliferation of platforms and services how does one 'find' and research UK children's television, both in its contemporary context and in longitudinal comparison to ten years ago? Firstly, it should be noted that this study looks only at traditional broadcast content watched on television as it is not yet possible to reliably track other forms of viewing. That said, and despite growth in other forms of viewing in the children's audience, watching TV remains an important and valued activity anyway, with children aged 4-15 watching almost 12 hours of broadcast television on a TV set in an average week. Much of this time is spent watching dedicated children's programming, especially among younger children.¹ So what children's TV provision should we specifically consider for the UK study? It is here that the UK telecommunications regulator, Ofcom, is instructive, as their 2017 statistics confirm that this seemingly increased choice is far from universal, particularly in the lower socio-economic groups. Approximately 20% of UK households with children ONLY have access to free to view (Freeview) services and this rises to 33% of households with children in the lowest socio-economic groups. Additionally, 10% of these lower socio-economic households with only Freeview do not have internet access. This study has therefore used the free to view broadcasting space of universal access as its basis and consequently

¹ Statistical information taken from Ofcom's 2017 Children and Parents: Media Use and Attitudes Report <https://www.ofcom.org.uk/research-and-data/media-literacy-research/childrens/children-parents-2017>

considers content from a line-up of traditional broadcast providers largely similar to ten years ago but with some notable changes explained below.

2. Sample Selection

The sample consists of time-proportionate programming taken from the main four free to air digital channels currently broadcasting children's content. Three of these are dedicated children's channels - two public service and one commercial (CBeebies, CBBC and CiTV respectively²) and the fourth is a morning children's slot called 'Milkshake' scheduled within the general commercial PSB provision of Channel 5. This last provider was not included in the 2007 sample but Channel 4 was. This does not mean that Channel 5 has replaced Channel 4 in the current sample however. Channel 4 retains obligations for children's PSB (and so one might expect it to be included in the 2018 sample) but the provision does not have a regular scheduled slot or format and is not displayed on the electronic program guide as 'kids' content. A note should also be made that both BBC and ITV provision is almost entirely delivered through the dedicated digital children's channels (from which it was taken for this study) whereas the previous report would have also included children's programming within the general BBC and ITV channels. In constructing a sample of a week's worth of Freeview UK children's content then proportional broadcast hours was used as the guiding principle - two PSB channels and one commercial broadcasting morning until night making up the bulk of the week's sample (just under two thirds and one third respectively) supplemented by some 12-15 hours of commercial PSB provision. As there is very little use of strip or block scheduling within the week's content this meant that the UK sample has a high proportion of unique programs available for coding compared to many other territories and has a high number of non-repeated broadcast hours within the week's sample.

Period of recording: 21.09.2017 - 24.09.2017 (without 22.09).

The sample analyzed in UK consists of 301 hours of explicit children's television, 146 hours of fictional shows, 993 programs (695 fictional shows), 2,959 characters (fiction) and 1,625 human characters.

² Note that CiTV channel, as part of the ITV portfolio structure, can count as fulfilment of commercial PSB obligation.

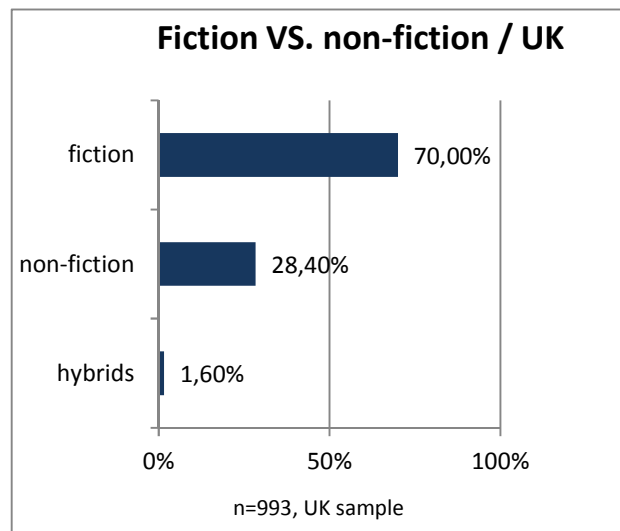
Broadcasters	CBBC, CBeebies, Channel 5, CiTV
Hours of recording	301:33 (146 fiction)
Programs	993 (695 fiction)
Characters in fiction	2,959 (1,625 human characters)

3. Results of the show level - Format type & Gender representation behind the scenes

3.1 Fictional or non-fictional?

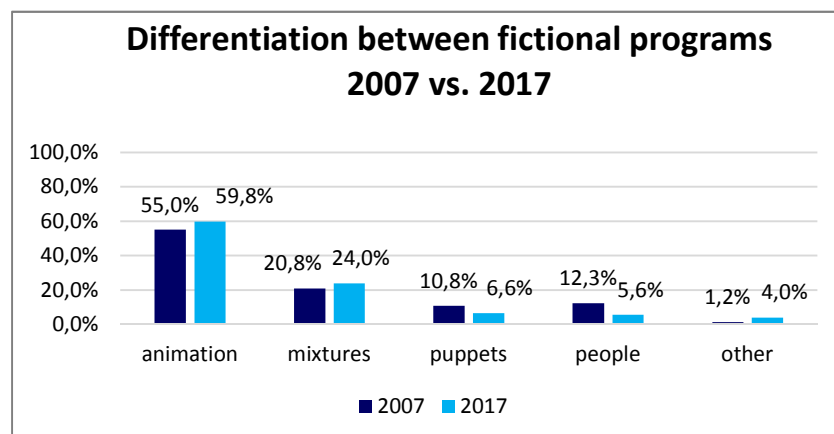
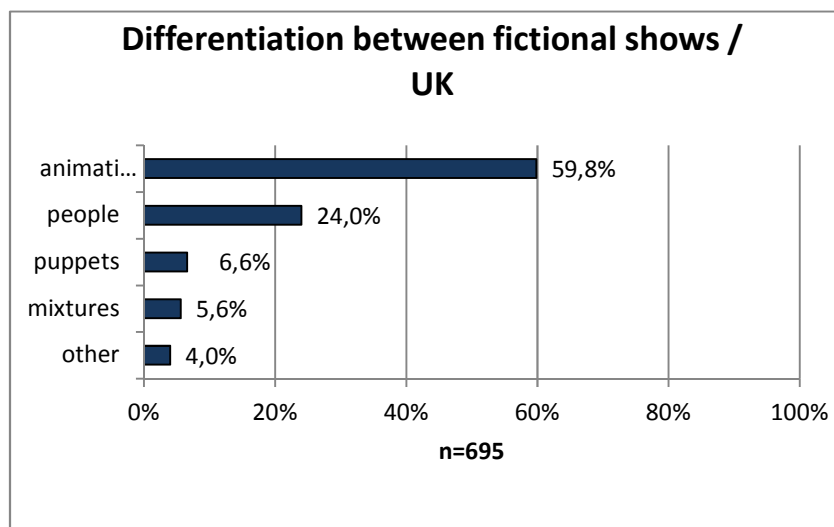
Each show of our sample has been coded. Advertisements and trailers are coded in blocks (i.e. there are 6 different commercials between two shows, they are coded as one block). A show begins with the opening and normally ends with the credits (Sometimes one show consists of 2 episodes, like in Sponge Bob, but they are still one show.)

The sample in 2017 altogether comprises 993 shows, which can be categorized into different program types. 695 shows or 70% can be referred to as fiction, 282 shows (28.4%) were non-fictional entertainment and 16 were children's television hybrids (1.6%). Of interest for the further analysis of the children's programs are only the 695 fictional shows that were coded. Those are in 59.8% of the cases animation shows and in 24% of the cases shows with real people (n=167). Then there is a puppet show with 6.6% and 39 mixed formats with 5.6%.



3.2 What type of fictional program?

Regarding all coded fictional programs, different types can be made out. The question here is: Is it an animation or a puppet show or are there real people in it? Among the 695 recorded fictional shows there are 415 (59.8%) animation shows. This year it was also coded if these shows were 2D, 3D or clay animation. 33.4% of the fictional shows are 2D animation. 25.8% are 3D animation shows. Just 0.6% of the British animation shows can be categorized as Clay animation. In 167 shows (24%) real people are the actors/actresses and this year it was coded as "live action". 46 are a puppet shows (6.6%) and 39 are mixed formats (5.6%).

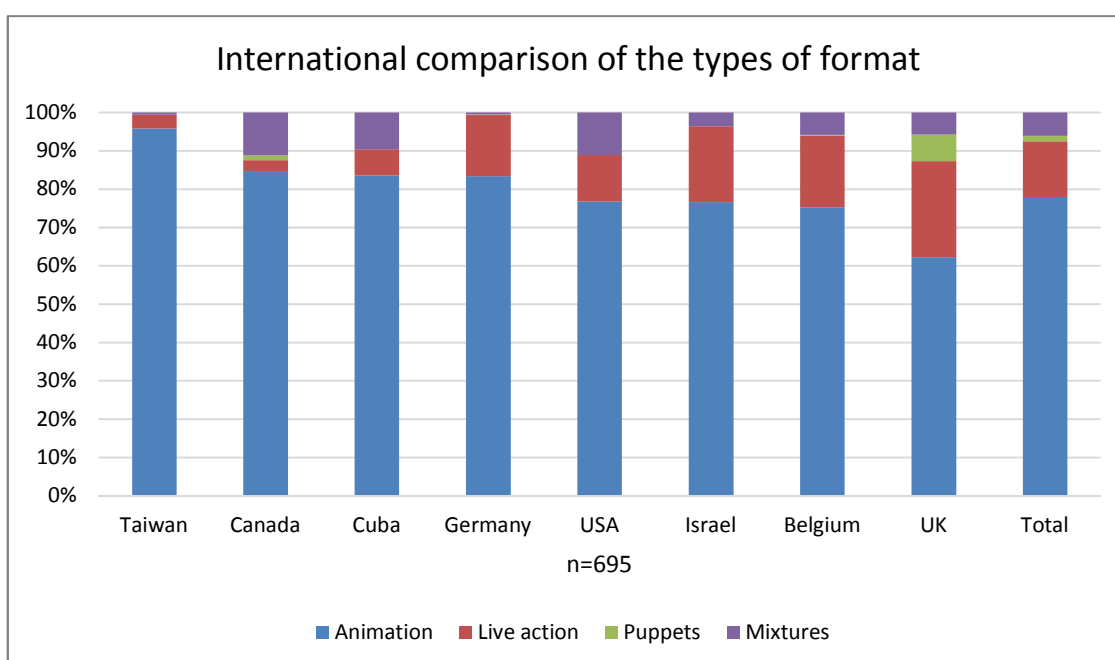


In comparison to the study in 2007 there are slightly more animation programs 55.0% in 2007 and 59.8% in 2017. Also in 2007 there was much more live action with real people (2007: 12.3%/ 2017: 5.6%). Only the percentage of mixture programs increased from 20.8% to 24% in 2017.

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International comparison

	Animation	Live action	Puppets	Mixtures
Taiwan	94.3%	3.5%	0.0%	0.6%
Canada	83.8%	2.8%	1.3%	11.0%
Cuba	79.2%	6.5%	0.0%	9.1%
Germany	83.2%	15.9%	0.2%	0.5%
USA	76.8%	12.1%	0.0%	11.1%
Israel	76.3%	19.6%	0.0%	3.6%
Belgium	75.3%	18.6%	0.2%	5.9%
UK	59.8%	24.0%	6.6%	5.6%
Average	76.8%	14.3%	1.4%	6.0%

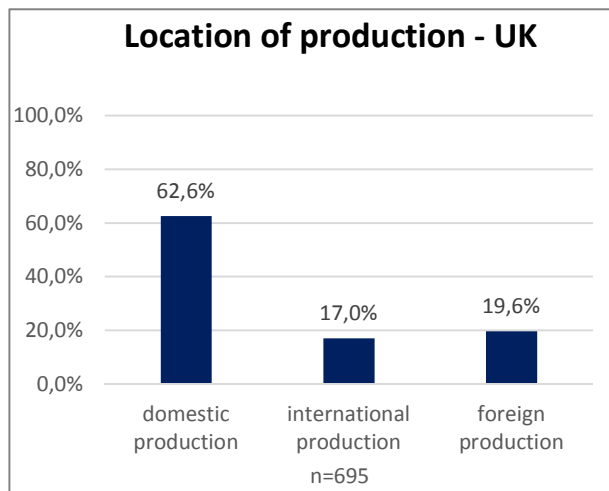


With a percentage of 59.8%, animation shows on UK's children's television are less represented than in a third of the international comparison and so are under the average. In contrast, live action shows are more represented and the format stands out. With 6.6%, this format is well over

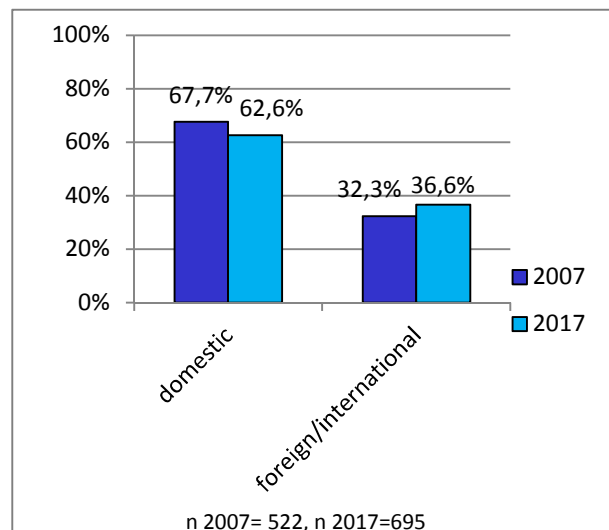
the international average of 1.4%. Puppet shows are highly represented in the UK children television. The UK Mixture format lies on average (UK: 5.6%/international average: 6.0%). The international comparison in the ten-year gap shows less animation (2007: 83.9% / 2017: 76.8%) and more live action (2007: 8.9% / 2017: 14.3%). In 2007 the UK was also under the average, concerning animation (UK: 55.0%; total: 83.9% in 2007).

3.3 Where are the shows produced?

We coded in which country the show is produced. Basis for the evaluation as far as this can be seen in the credits, the TV Guide or other sources. The main question that we ask is whether it is a company, originating from one's own country or from a foreign country, or is the show a co-production of the domestic broadcast with other countries. 62.6% are produced in UK (n=435) and 17% are an international co-production (n=118).



In comparison with the sample from 2007 the share of domestic has declined in the ten-year gap between the two studies (67.7% in 2007; 62.6% in 2017). Logically, the share of the non-domestic productions has increased significantly (32.3% in 2007 in comparison to 36.6% in 2017). The “other/not recognizable” category is excluded.



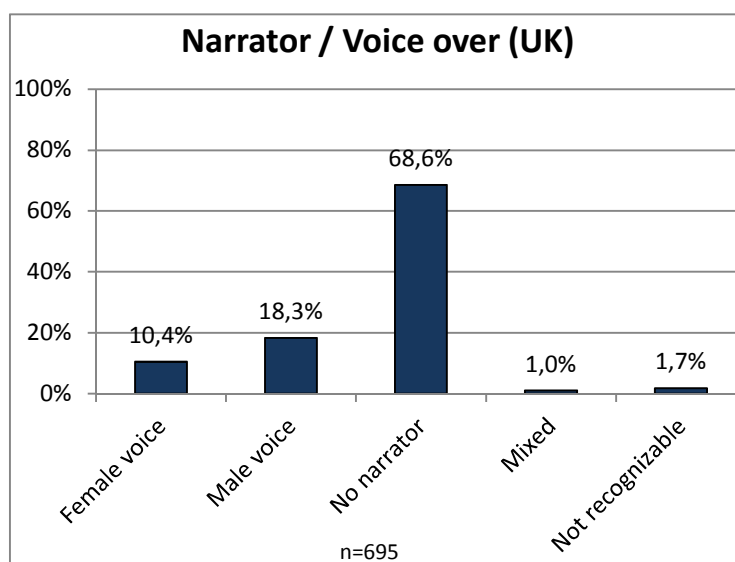
The UK takes the first place in the international comparison of our sample. UK therefore is considerably over the international average.

International comparison

domestic prod.	
UK	63.1%
USA	58.7%
Cuba	25.4%
Israel	21.4%
Canada	20.7%
Belgium	8.5%
Germany	6.9%
Taiwan	3.6%
total	27.9%

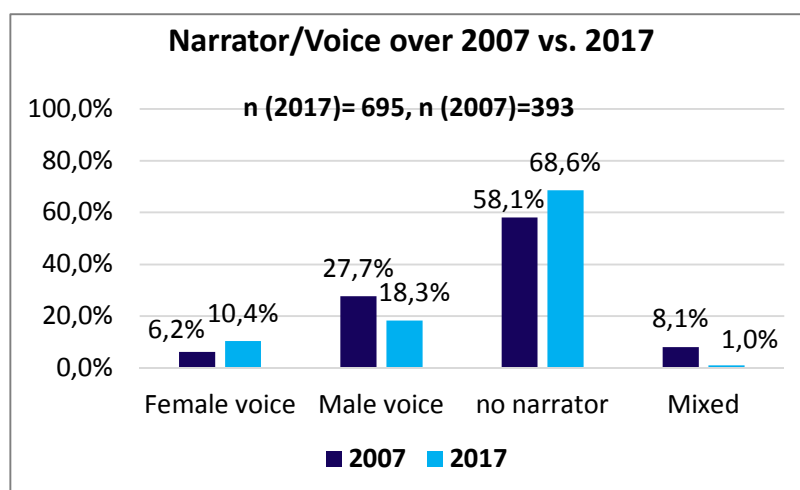
3.4 Who speaks?

Further we coded the gender of the narrator respectively the voice-over. In 127 of the UK fictional programs (18.3%) the voice of the narrator is male, whereas the number of the programs with female narrators is 72 (10.4%). Most of the programs in our sample have no narrator, 477 of 695 programs (68.6%). Both genders are found in 7 programs (1%) and in 12%



of all cases it is not recognizable whether the narrator is female or male. Although most fictional shows have no dominant voice-over or narrator (68.8%), if there is a narrator, it is more often a male voice (18.3%) than a female voice (10.4%).

Moreover, we can compare these results with the ones from 2007. Ten years ago the percentage of female narrators/voice overs in fictional shows was 6.2%, in 2017 it is 10.4%. Regarding the male narrators, the percentage was 27.7% in 2007. In 2017 it decreased and is 18.3%. The data shows that some development concerning this subject has been done.



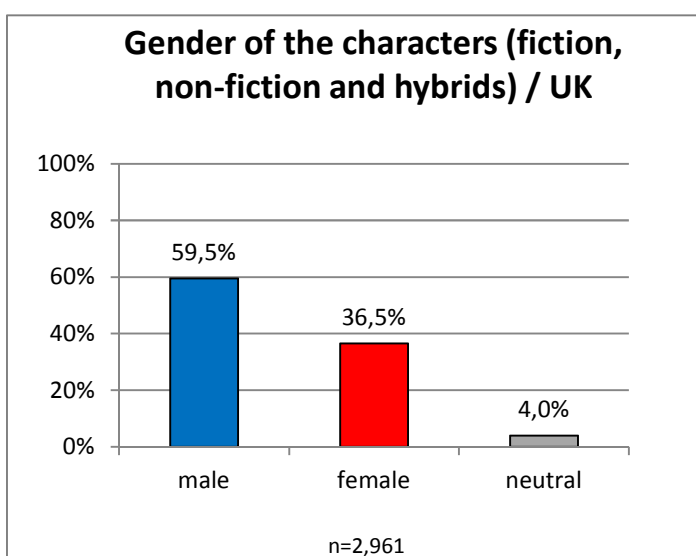
4. Who are the main characters – Results of the character level

A character that stands out due to constant presence and the explicit naming in the title or theme melody, or, in the context of an individual episode, that stands out due to constant presence and significant role in moving the plot forward, even if not named in the title or theme melody. In the first step we analyze which gender the main character has, based on grammatical terms, name of character, voice, easily identifiable sexual characteristics.

In the 695 fiction shows, 2,961 are identified as main characters, which is 38% more than the number of the main characters in the study from 2007. The reason for this increase is the sample, because in the evaluation of 2017 more shows were analyzed.

4.1 What gender does a main character have?

In terms of characters, in all shows (fiction, non-fiction and hybrids) 36.5% are female and 59.5% are male, which contradicts the idea of equal representation of both genders. Another 4.0% has no identifiable gender or were neutral. Regarding the fictional segment, the share of the female characters is small (36.5%) and in comparison to 2007 it slightly decreased (37.3% in



2007). In 2007 the male characters in fiction shows were 62.7% and the female 37.3%. There is no significant change between 2007 and 2017 (Male: 59.2% / Female: 36.4% in 2017). Also in 2007 the category “neutral” was not coded.

International comparison

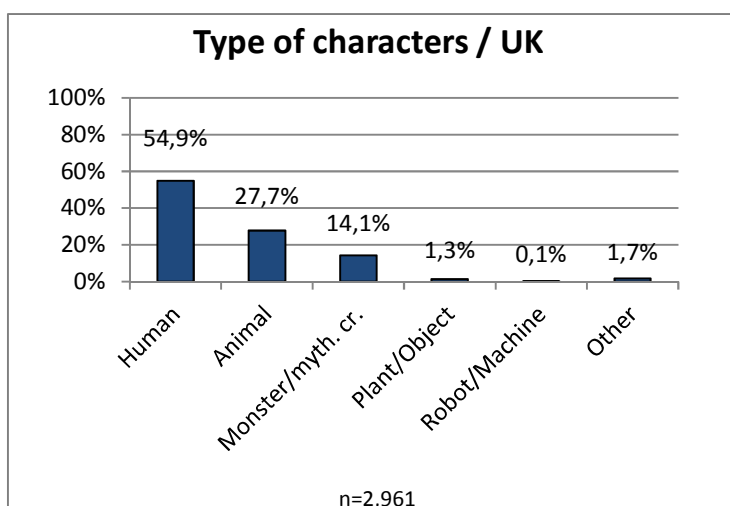
female		male		neutral	
Cuba	38.7%	Israel	68.5%	Taiwan	12.1%
USA	38.2%	Germany	65.3%	UK	4.0%
UK	36.4%	Canada	64.2%	Belgium	2.4%
Canada	35.3%	Belgium	63.6%	Germany	1.3%
Taiwan	34.7%	USA	61.8%	Cuba	1.0%
Belgium	33.7%	UK	59.2%	Canada	0.4%
Germany	33.3%	Cuba	54.5%	Israel	0.0%
Israel	31%	Taiwan	53.2%	USA	0.0%
Average	34.7%	Average	62.4%	Average	2.3%

The characters of the fictional shows in UKs' children's television are in 36.5% of the cases female, in 59.5% male and 4% neutral. Among the examined countries UK obtains the third place in terms

of female characters and reciprocally, the sixth place in terms of male characters. The UK is therefore considerably above the international average, when it comes to female characters.

4.2 Is the main character a human, animal, object or a monster or a machine?

We coded generally what the nature of the character is. Is it a human, an animal, an object, a machine, etc.? The following refers to the fictional format type. Looking at UK, 2,961 characters of the recorded are humans, which corresponds to a percentage of 55.1%. 817 characters (27.7%) are animals. The monsters



or mythical creatures appear as the third largest group. 416 characters (14.1%) can be assigned to this group. Furthermore, plants and objects consist of 38 characters (1.3%), robot or machine were 4 characters (0.1%) and 49 characters are coded as “others” (1.7%).

International comparison

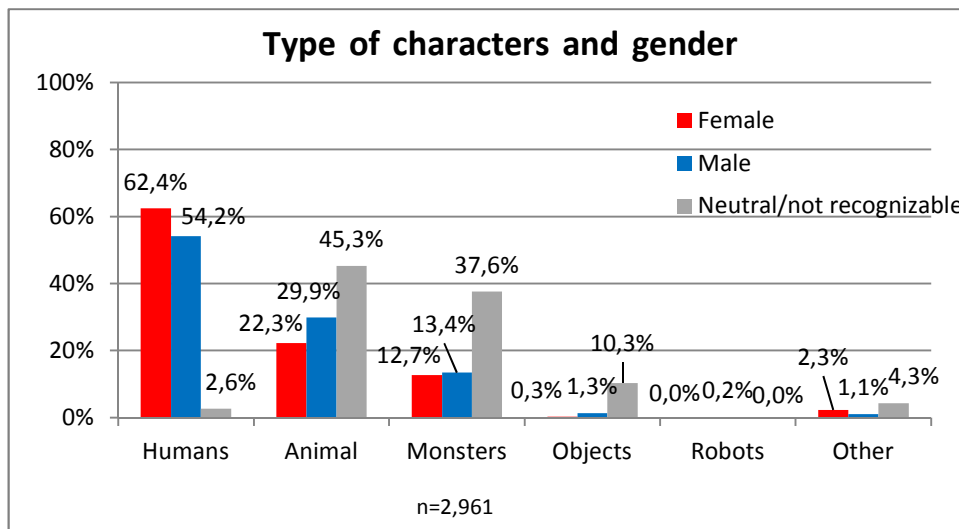
	Human	Animal	Monster/etc.	Plant/Object	Robot/ etc.	Other
Cuba	60.3%	26.1%	8.1%	0.3%	0.3%	0%
Belgium	61.0%	23.2%	9.3%	2.9%	3.3%	0%
Germany	59.4%	23.8%	7.5%	6.5%	2.6%	0.1%
Taiwan	54.9%	20.8%	15.5%	0.4%	7%	1.4%
Israel	55.3%	24.9%	15.3%	0.4%	3.8%	0.1%
UK	54.9%	27.7%	14.3%	1.3%	0.1%	1.7%
Canada	46.9%	34.0%	9.1%	1.5%	5.8%	2.7%
USA	41.4%	34.8%	18.3%	0.8%	4.7%	0%
Average	54.1%	27.1%	12.6%	1.8%	3.3%	0.8%

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In the international comparison UK takes 6th place concerning the representation of human characters. These can be the result of the wide variety of animation shows that are shown in British children's television.

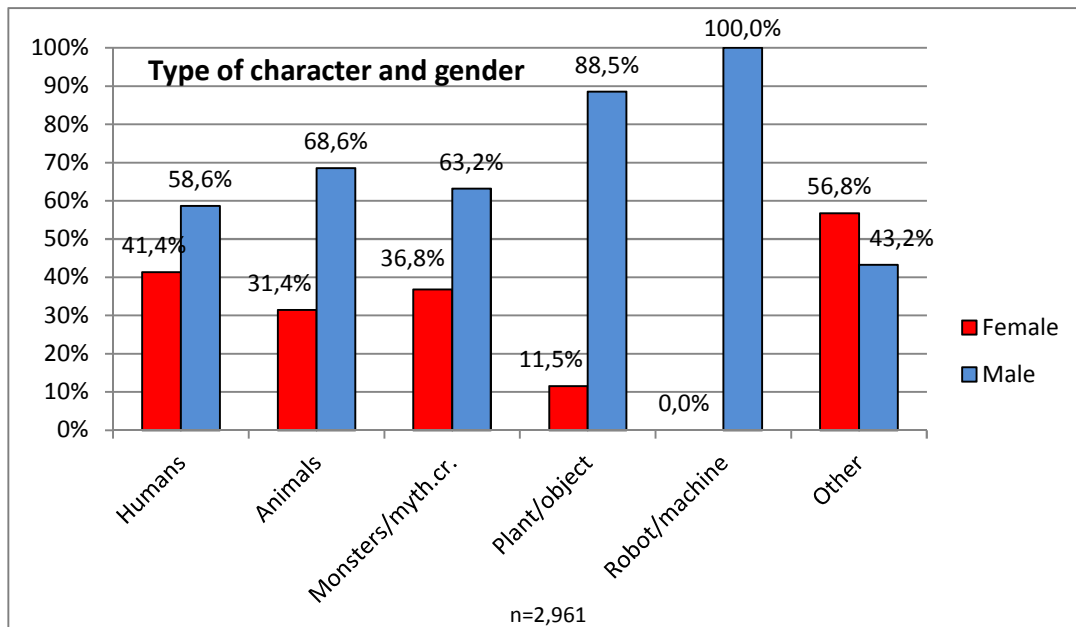
Gender Perspective: Females and males according to the nature of the character

Of the female characters in fictional programs 62.4% are humans, 22.3% are animals, 12.7% are monsters or mythical creatures, 0.3% are plants or objects and none are robots or machines. The male characters are represented in the majority of cases (54.2%) as humans and with a percentage of 29.9% as animals. Monsters and mythical creature with male gender are represented with a percentage of 13.4%, just 1.3% are plants or objects and 0.2% are robots or machines.



By comparing the results in the ten-year gap, we can see that the share of human characters (54.9%) and of animals (27.7%) has remained constant between 2017 and 2007 (2007: Humans: 54.3% / Animals: 27.8%). Of the female characters 62.4% and 54.2% of the males are humans in 2017, whereas in 2007 250 (60.4%) of the female characters were humans and 377 (54%) of the males were human characters. A positive change in the ratio between the genders can be noticed.

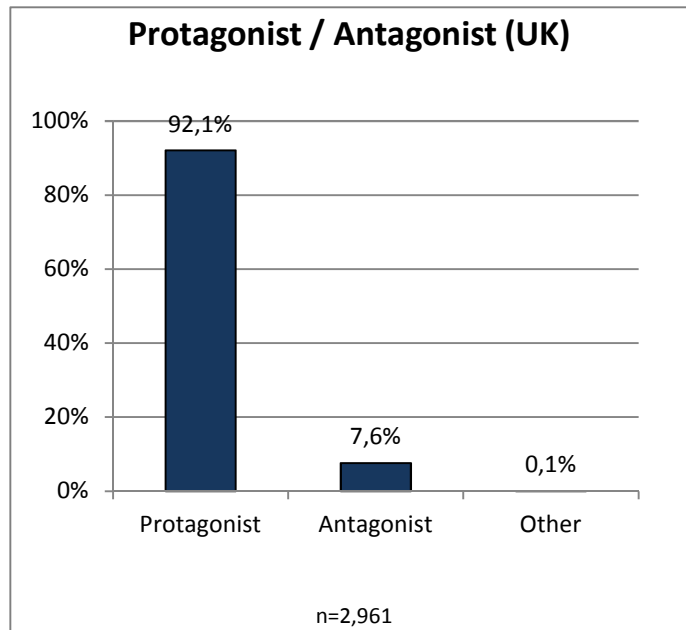
Children's Television Worldwide:
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Of the human characters: 672 (41.4%) are female and 950 (58.6%) are male. Among the animals, 240 (31.4%) are female and 524 (68.6%) are male. Among the monsters or mythical creatures 137 (36.8%) are female and 235 (63.2%) are male. Of the plants and objects 3 (11.5%) are female and 23 (88.5%) are male. Among the robots or machines there are no female characters and 3 male characters (100%).

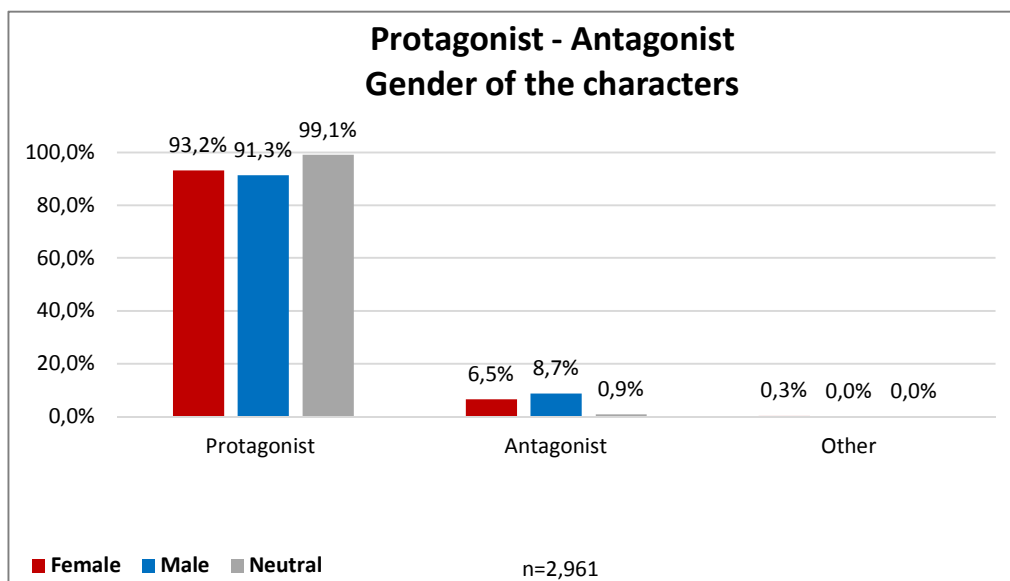
4.3 What is the general role in the story? Protagonist or antagonist

We coded the “general part” of the character in the narration of the story – is the main character good or bad? 2,727 of the characters in UK's fictional children's programs are identified as protagonists. This corresponds to a relative part of 92.1%. On the other hand, there are 225 antagonists that constitute 7.6% of the characters. 3 characters could not be grouped either as a protagonist or as an antagonist (0.1%).



Gender perspective

Regarding the gender perspective we can see that there are no clear differences between the gender of the protagonists. Looking at the antagonist 8.7% of the male characters and 6.5% of the female are coded as such. Only female characters were coded as “others” (0.3%). Interesting is also that 99.1% of the neutral characters are protagonists.

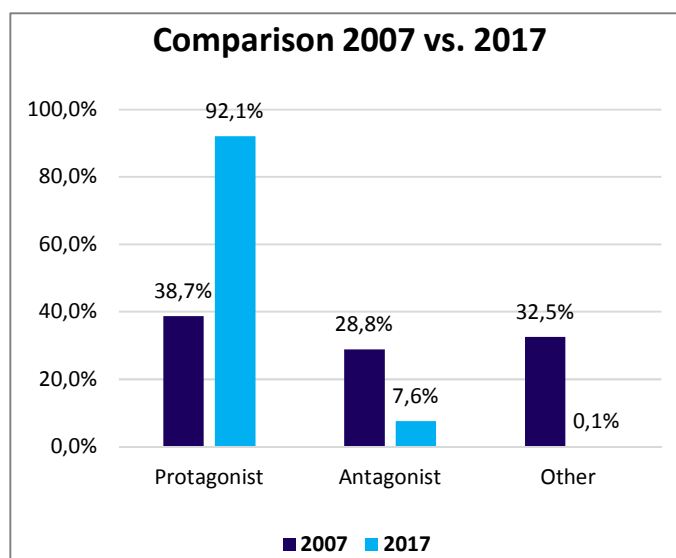


International comparison

	Protagonist	Antagonist
Taiwan	77.1%	18.3%
Belgium	88.1%	10.6%
Germany	33.5%	9.9%
Cuba	85.9%	9.1%
Israel	90.2%	9.5%
UK	92.1%	7.6%
USA	93.3%	6.6%
Canada	95.0%	4.8%
Average	84.1%	9.1%

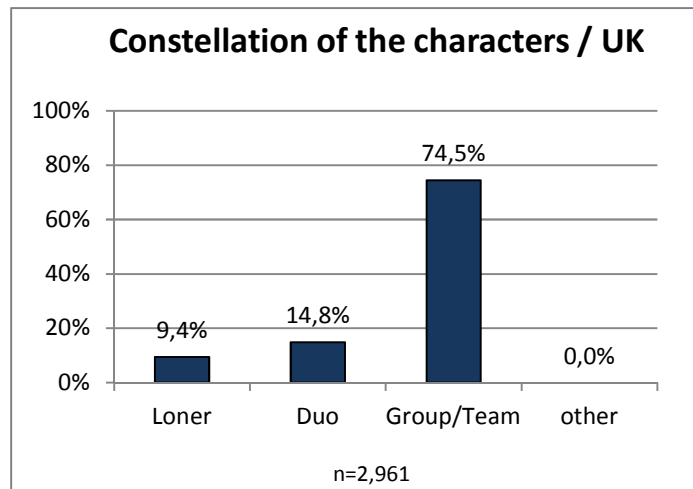
With a percentage of 7.6% of antagonists presented in children's TV, UK ranks in the sixth place in the international comparison and is significantly below the average.

In comparison to 2007 UK's percent rate of antagonists has remarkably decreased with 21.2% (2007: 28.8% / 2017: 7.6%). Vice versa, the percentage of protagonists increased drastically from 38.7% to 92.1%. One reason can be that in comparison to 2007 the percentage of characters who are "other" or not recognizable has decreased. From 32.5% to 0.1% in 2017.



4.4 In what kind of constellation is the character portrayed?

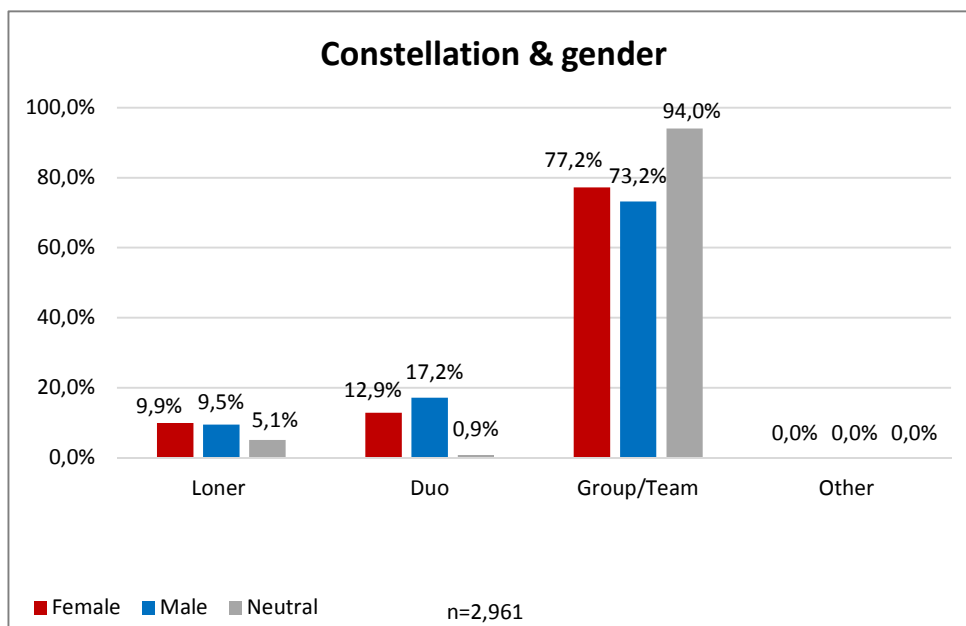
We coded in what kind of constellation the main character is acting. Does he/she work or appear, in a group or a duo? 279 of the characters (9.4%) are integrated into the plot as loners. 439 of the coded characters are part of a duo (14.8%). 2,206 of the characters (74.5%) and thus the majority is part of a group or a team.



Gender perspective

94% of the characters with neutral gender and 77.2% of the female characters interact in a team. The smallest amount is within the male characters. 1,278 (73.2%) of them interact in a team. 5.1% of the neutral characters in fictional children's television were coded as loners. Furthermore, twice as many of the female characters act as loners (9.9%). However, males have a quite high percentage regarding the duo category (17.2%) and the loner category (9.5%).

In comparison to 2007 we can observe a considerable increase in the groups and teams (2007: 56.4% / 2017: 74.5%) and decrease in the "duo" category (2007: 22.7% / 2017: 14.8%). Regarding the loner category, the percentage declined from 17.9% in 2007 to 9.4% in 2017.



International comparison

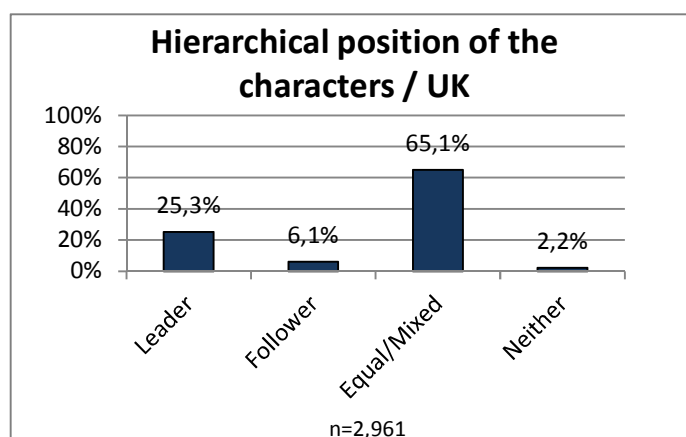
	Loner	Duo	Group / Team
USA	2.2%	5.9%	92.0%
UK	9.4%	14.8%	74.5%
Canada	11.4%	16.4%	71.3%
Belgium	9.1%	24.7%	65.9%
Germany	16.2%	17.4%	63.3%
Cuba	18.5%	20.5%	52.2%
Israel	15.1%	31%	53.3%
Taiwan	17.3%	25.7%	53.1%
Average	11.5%	19.8%	67.1%

74.5% of the main characters in UK's children's TV are presented as part of a group or a team. On an international scale UK is in the second place and highly above the average.

4.5 Which hierarchical position does the character assume in the show?

Who is dominant in the relationship and solution of the problem? How many are leaders and how many are followers? Who takes the leadership? These are the central questions of the following paragraph.

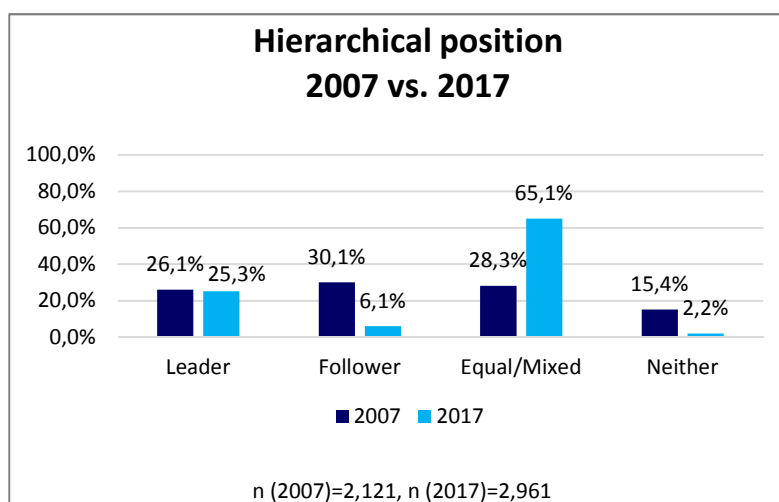
Regarding the hierarchical positions, 1,929 (65.1%) of the characters appear as equals, 749 (2.3%) are leaders, 182 (6.1%) are part of a following and for 64 (2.2%) characters the position is not clearly identifiable.



International comparison

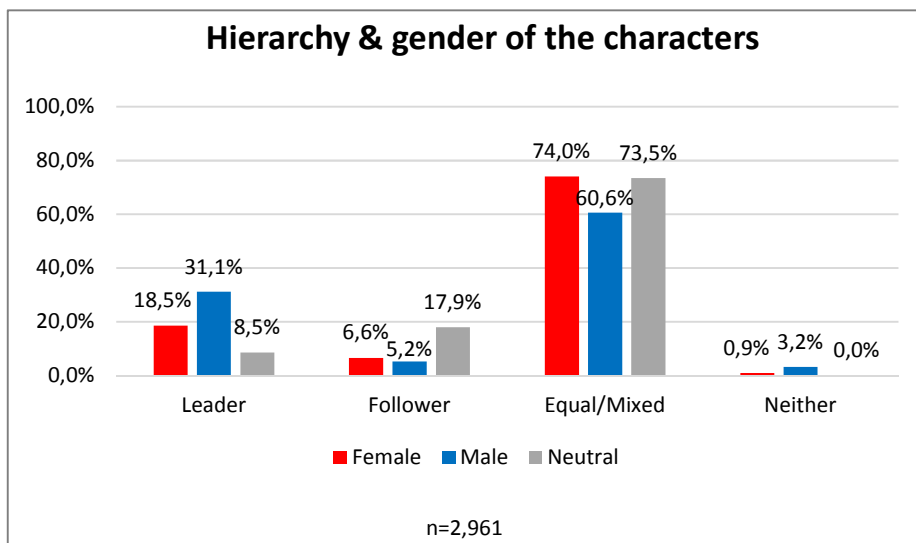
	Leader		Follower		Equal
Cuba	49.9%	Cuba	30.1%	USA	81.1%
Israel	38.8%	Israel	25.8%	Canada	76.7%
Taiwan	27.1%	Taiwan	23.8%	Germany	67%
UK	25.3%	Belgium	19.4%	UK	65.1%
Belgium	22.5%	Germany	6.5%	Belgium	57.8%
Canada	13.9%	UK	6.1%	Israel	31.2%
USA	13.1%	Canada	6.1%	Taiwan	28.9%
Germany	8.0%	USA	5.7%	Cuba	9.8%
Average	23.9%	Average	14.2%	Average	56.1%

The comparison between the two evaluations of 2017 and 2007 shows a constancy regarding the leaders. Then again, the equals had a huge increase (2007: Leaders = 26.1%; Equals = 28.3% / 2017: Leaders = 25.3%; Equals = 65.1%). In 2017 twice as many characters are equals. However, the percentage of followers decreased (2007: 30.1%; 2017: 6.1%). In comparison to the results in 2007 we can point out that equality among the characters has greatly increased (2007: 28.3% / 2017: 65.1%) and reciprocally, the leaders and the followers have decreased (2007: Leaders = 26.1%; Followers = 30.1% / 2017: Leaders = 25.3%; Followers = 6.1%).



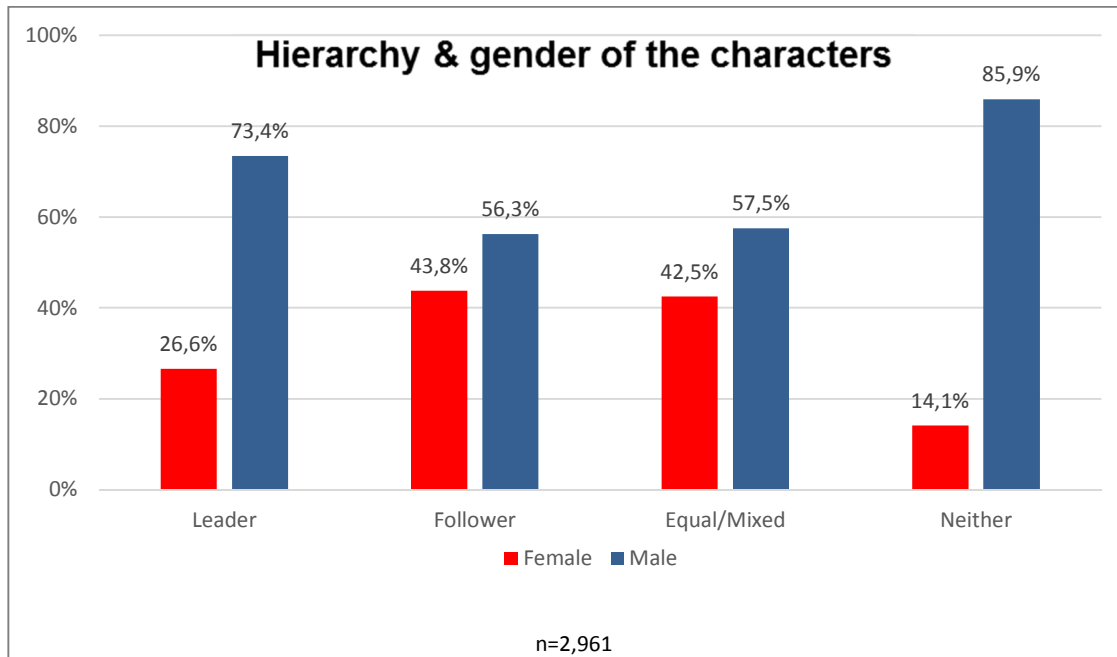
Gender perspective

Most of the male characters are portrayed as leaders 31.1%, whereas only 18.5% of the female characters are leaders. In the case of the neutral characters the amount is even smaller. Only 10 characters (8.5%) are leaders. Neutral and female characters appear mainly in equal constellations. Within the females the percentage is 74% and for the neutrals is almost the same (73.5%). It is striking that more than twice as many neutral characters appear as followers (17.9%) compared to the other genders. Male characters have a much smaller percentage with 5.2%.



Of the leaders 196 (26.6%) are female and 542 (73.4%) are male. Among the followers the females are 43.8% (n=70) and the male characters make up 56.3% (n=90). 783 females are equals (42.5%), whereas 57.5% of the category consists of male characters (n=1,058). 14.1% of the not recognizable leadership group are females and 85.9% are males.

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Gender Representation in UK Children's Television



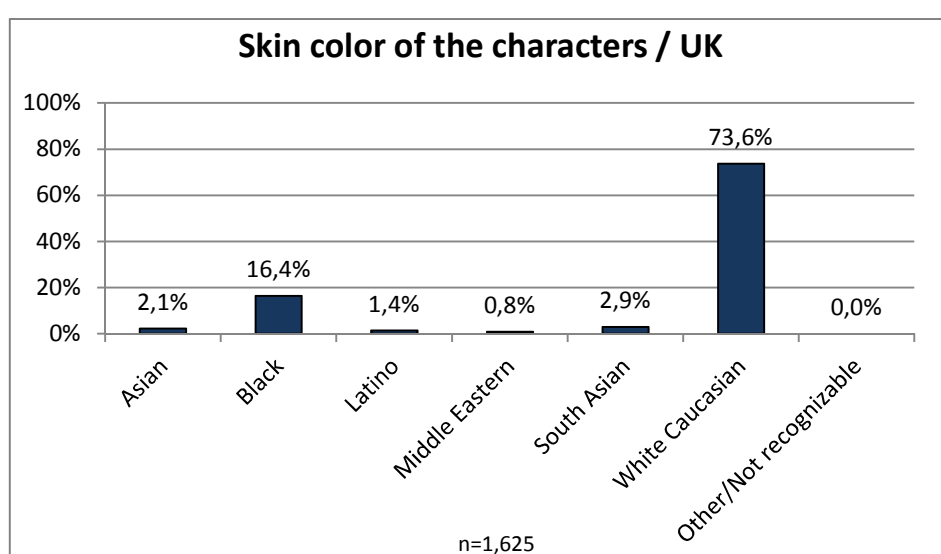
5. The analysis of the human characters

This includes the representation of different ethnicity, inclusion of disabled people, an equal representation of the genders as well as an adequate representation of different backgrounds and ages.

The characters, which were coded as humans, were furthermore coded according to their skin color, hair color, age as well as to possibly existing disabilities. The main focus of the following analysis is the diversity aspect.

5.1 What skin color or ethnic affiliation can we see?

By coding the skin color and ethnicity of the main human characters, we distinguish the shape of the characters' eyes, their dark or tanned skin, etc. 34 (2.1%) of the human characters showed Asian physical traits. Black characters are found in 267 (16.4%) characters of the sample. 23 (1.4%) are classified as Latin American, 13 (0.8%) as Middle-Eastern and 47 (2.9%) as South Asian. The majority, with 1,196 characters (73.6%), is Caucasian. 20 characters (1.2%) are classified as "Other" or are not identifiable.



International comparison

Asian		Black		Latin American		White		Middle Eastern		South Asian	
Taiwan	47.1%	UK	16.7%	Cuba	15.4%	Germany	83.0%	Israel	11.8%	UK	2.9%
Cuba	15.4%	USA	12.2%	Taiwan	9.3%	Belgium	77.9%	Taiwan	2.1%	Taiwan	2.7%
USA	6.9%	Israel	9.9%	USA	8.9%	UK	74.8%	UK	0.8%	Germany	2.3%
Israel	4.0%	Belgium	8.6%	Belgium	6.9%	Canada	74.4%	Germany	0.6%	Belgium	1.7%
Canada	2.1%	Germany	7.8%	Israel	6.1%	Israel	66.4%	Belgium	0.3%	USA	1.5%
UK	2.1%	Cuba	7.4%	Germany	2.1%	USA	65.2%	Canada	0.1%	Israel	0.5%
Belgium	2.0%	Canada	5.4%	Canada	1.5%	Cuba	61.2%	USA	0%	Canada	0.4%
Germany	1.9%	Taiwan	2.7%	UK	1.4%	Taiwan	28.7%	Cuba	0%	Cuba	0.2%
Average	6.5%	Average	9.7%	Average	5.2%	Average	69%	Average	2.6%	Average	1.6%

Children's Television Worldwide:
Gender Representation in UK Children's Television

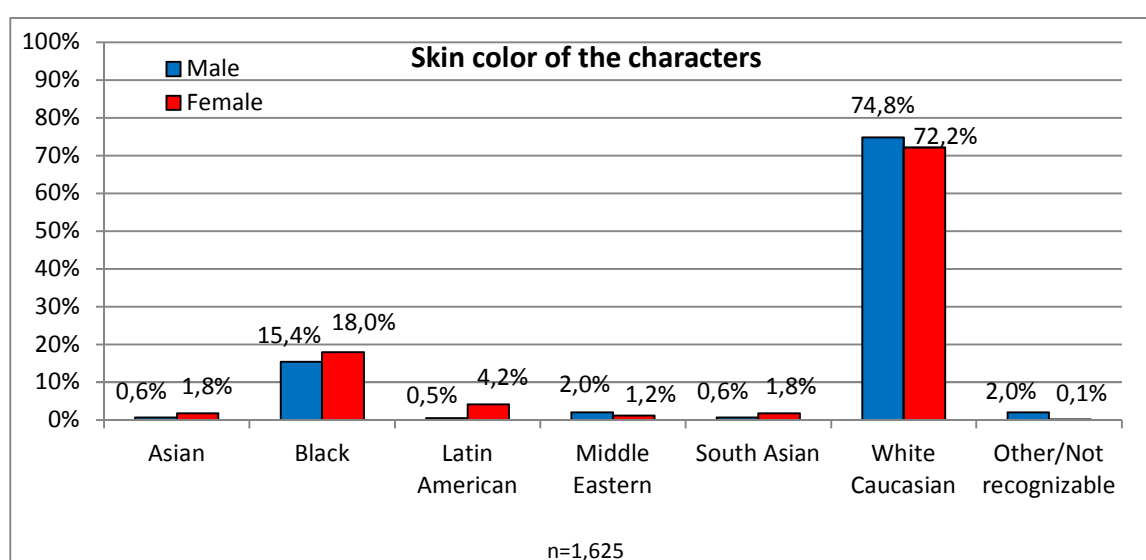
On an international scale, the representation of white Caucasians is above the average, which places UK in third position in terms of representing white main characters. Therefore, UK is below the international average, concerning the representation of other skin colors, except for South Asian and Black categories, which are significantly above the average.

In comparison to the results in 2007, there is a 2% rise in terms of the white characters (2007: 72.8%) and a small increase in terms of the Asians (2007: 1.9%). The amount of black and Latin American characters has changed but not immensely (2007: 15.1 % Black; 1.4% Latin American). The amount of white characters has risen, although the international average has declined (int. average of Whites – 2007: 72.2%; 2017: 69%). (It is important to keep in mind that the sample of 2007 is smaller than the sample of 2017). In 2007 UK was in the middle concerning the Caucasian characters, now the UK is on a higher position.

Gender perspective: Black characters are twice as often females

Out of the female characters 485 (72.2%) are white Caucasians, 121 (18%) are Black, 4 (0.6%) are Latin American , 28 (4.2%) are Asian, 12 (1.8%) are South Asian, 8 (1.2%) are Middle-Eastern and 1 (0.1%) is not recognizable.

The male characters are with 711 (74.8%) white Caucasians, 146 (15.4%) Blacks, 33 (3.5%) South Asian, 6 (0.6%) Asians, 19 (2.0%) Latin American , 5 (0.5%) Middle-Eastern and 19 (2%) other or the gender is not recognizable.

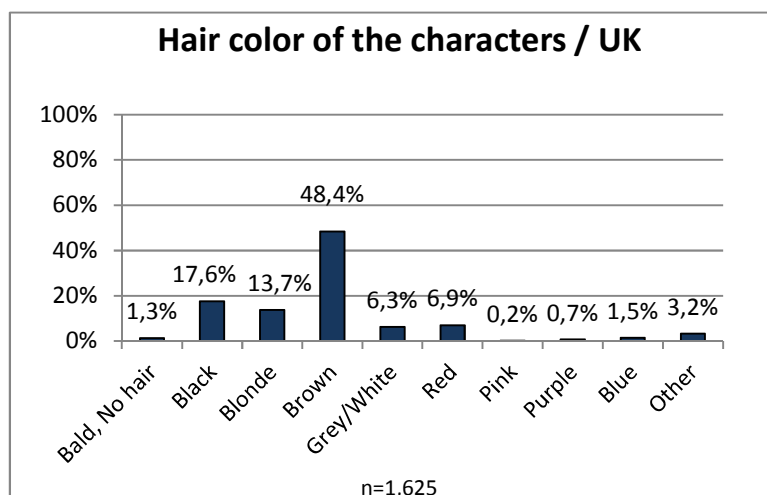


Children's Television Worldwide:
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In comparison to the results of 2007 there are two conspicuous differences. In comparison to the former sample, there are South Asian characters represented in the British children's television: 0.6% male and 1.8% female characters. Black characters are still the most represented ethnicity in British TV, especially black females (18%). Examples are the TV shows "Bob the builder" or "Rusty rivets". In both shows two new main characters are introduced. "Bob the builder" has a new apprentice and in the series "Rusty rivets" the main characters are a duo consisting of a white boy and a black girl. The representation of Latin American females has changed during the past ten years. In 2007 1.2% were female Latin American characters, whereas their percentage in 2017 is 0.5%. The share of male Caucasian characters has slightly risen (2007: 72%/ 2017: 74.8%). In contrast, white Caucasian female characters have decreased (2007: 73.9%/ 2017: 72.2%).

5.2 What hair color do the characters have?

We coded what hair characters had. 22 (1.3%) characters do not have any hair, 288 (17.6%) characters have black hair, 224 (13.7%) are blonde-haired and 791 (48.4%) have brown hair. 103 (6.3%) have grey or white hair, 112 (6.9%) have red hair, 4 (0.2%) are pink-haired, 12 (0.7%) have



purple hair and 25 (1.5%) are blue-haired. 52 (3.2%) could not be categorized in any of the categories.

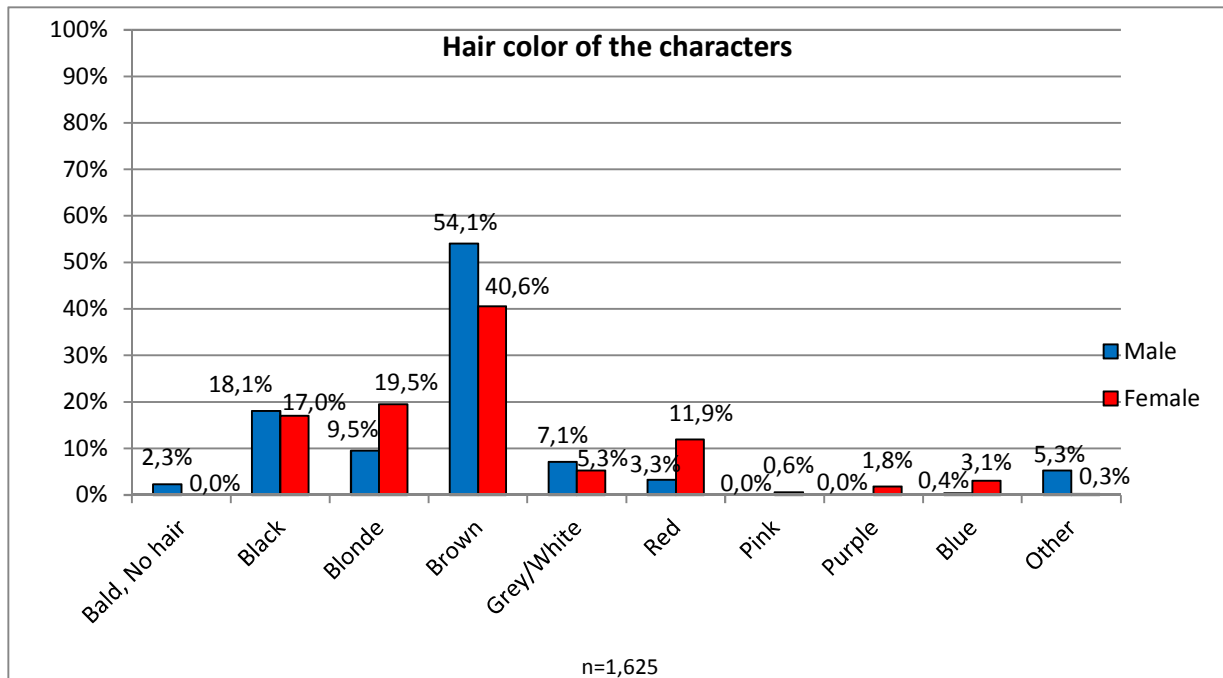
During the 10 years, there is a considerable rise, regarding the brown-haired characters (Brown: 40.8% in 2007). Bald, black-haired and blonde-haired characters have declined (Bald: 2.1% / Black: 24.7% / Blonde 20.4% in 2007). Red-haired characters in 2017 were represented almost twice as much as in 2007 (2007: 3.8%/2017: 6.9%). Pink, purple and blue hair colors were not present in the 2007 study, which could partly explain the smaller percentage of the “other” category in 2017 (Other: 4.2% in 2007).

Gender perspective: Four times as many grey-haired males

Out of the female characters every character has hair (bald – 0.0%), 116 (17%) have black hair, 133 (19.5%) have blonde hair and 277 (40.6%) have brown hair. Grey- or white-haired are 36 female characters (5.3%), red-haired are 81 female characters (11.9%), 4 (0.6%) have pink hair, 12 (1.8%) have purple hair and 21 (3.1%) have blue hair.

The male characters are with 22 (2.3%) with no hair, 172 (18.1%) have black hair, 90 (9.5%) have blonde hair and 513 (54.1%) have brown hair. 67 male characters are grey- or white-haired (7.1%), 31 are red-haired (3.3%), 0 are pink-haired (0%), 0 are purple-haired (0%) and 4 have blue hair (0.4%).

Children's Television Worldwide:
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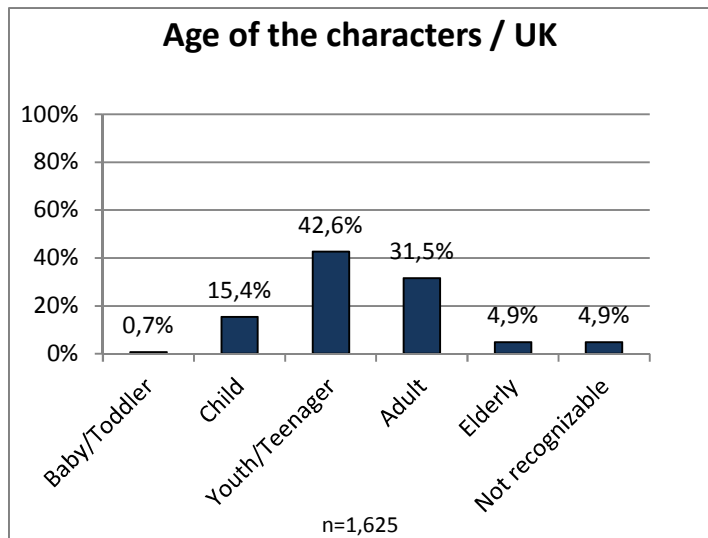
The results of two of the categories could be referred to as conspicuous. In general, the hair color of females has a broader variety. Pink, purple, blue or other colors are not represented or, in the case of the color “blue”, in an unremarkable percentage (0.4%) for males.

The most popular hair color for both genders is still brown. Especially for boys with a difference between the male and female percentages of 13.5%.

Quite interesting is also that, particularly in the category “red hair”, there is a huge difference between the genders. There are three times more female red haired characters than male. In comparison to 2007 there was a remarkable growth (M: 3.3% / F: 4.3% in 2007/ M: 3.3/ F: 11.9 in 2017).

5.3 What age are the protagonists?

We coded the age as far as visible or clear from the content. Adult, if they have recognizable activities such as working, driving or have the role of a mother or a father. Elderly, if they have recognizable traits such as the role of a grandma or a grandpa or they walk with a cane, for example. In terms of age the following has been found: 249 (15.4%) are children and 689 (42.6%)



are teens. Only 11 (0.7%) are babies, 509 (31.5%) are adults and only 79 (4.9%) are elderly. For 80 characters (4.9%) the age could not be determined. It can be said that teens and adults are dominating in the British children's television program. With regard to elderly people there is a huge underrepresentation.

International comparison

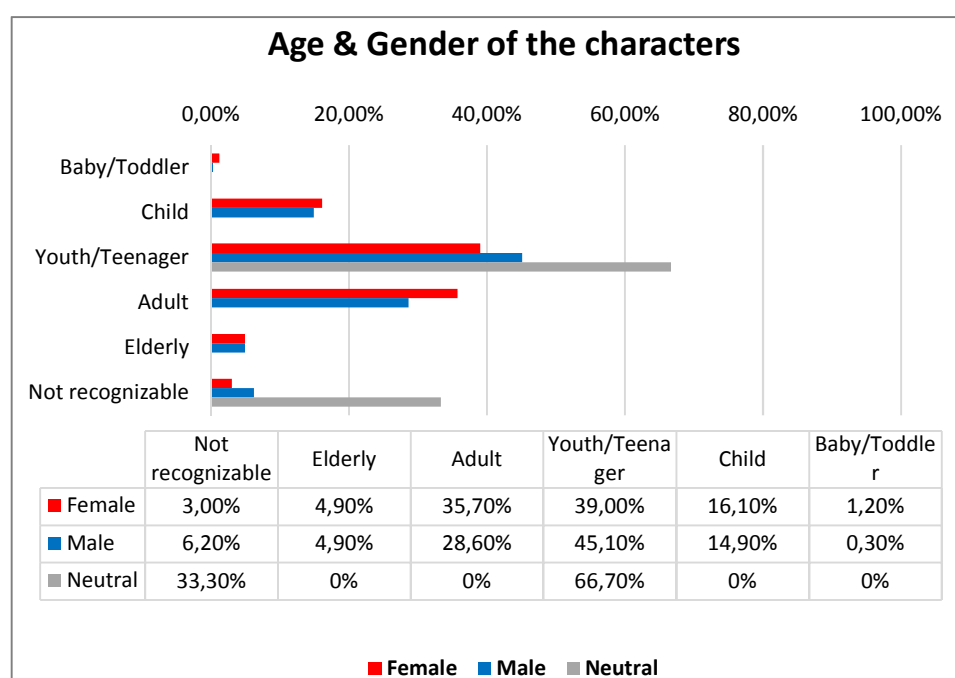
15.4% of the characters presented in British children's TV are children, which is the lowest share in comparison to the international average. Regarding the 2007 sample, the amount of children decreased during the past ten years (29.5%). Babies and teens are close to the average. Adult characters constitute 31.5%, which is 5 percent above the average. The amount of adult characters has declined since 2007 (2007: 46.7%). Concerning the elderly characters, the UK takes the first place with 4.9%, which is twice as high as in 2007.

Children's Television Worldwide:
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Baby/ Toddler		Child		Youth/ Teenager		Adult		Elderly	
Germany	1.8%	Canada	49.5%	Israel	47.9%	UK	31.5%	UK	4.9%
Cuba	1.6%	USA	44.7%	UK	42.6%	Taiwan	31.9%	Taiwan	3%
Canada	0.8%	Cuba	42.2%	Belgium	42.1%	Israel	29.0%	Belgium	3.2%
UK	0.7%	Germany	39.4%	Germany	36.5%	Cuba	28.2%	Israel	2.5%
Taiwan	0.6%	Taiwan	36.2%	USA	33.7%	Germany	20.7%	USA	1.9%
USA	0.4%	Belgium	32.2%	Canada	27.3%	Belgium	20.1%	Germany	1.6%
Israel	0.1%	Israel	20.2%	Taiwan	25.4%	Canada	19.6%	Canada	0.9%
Belgium	0.1%	UK	15.4%	Cuba	27.2%	USA	19.3%	Cuba	0.8%
Average	0.6%	Average	31.2%	Average	38.2%	Average	25.3%	Average	2.7%

In comparison to the study in 2007 the teenager characters have increased (2007: 24.7%). Therefore, the percentages of other categories have declined – child characters are with 5% less (2007: 44.5%), adult characters with 4% less (2007: 24.1%) and the elder characters are in 2017 three times less (2007: 4.9%). Also slightly more baby characters could be observed in 2017 (2007: 1.1%).

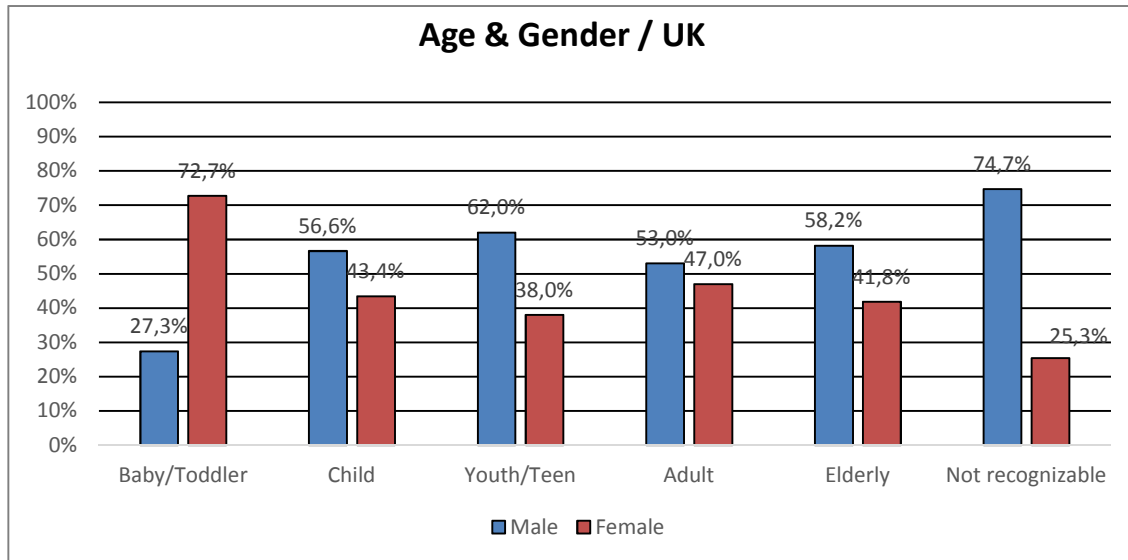
Gender
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Children's Television Worldwide:
Gender Representation in UK Children's Television

are portrayed as youths/teenagers 66.7%. Also for the female and male characters teenagers constitute the main group, with 45.1% (males) and 39% (females).

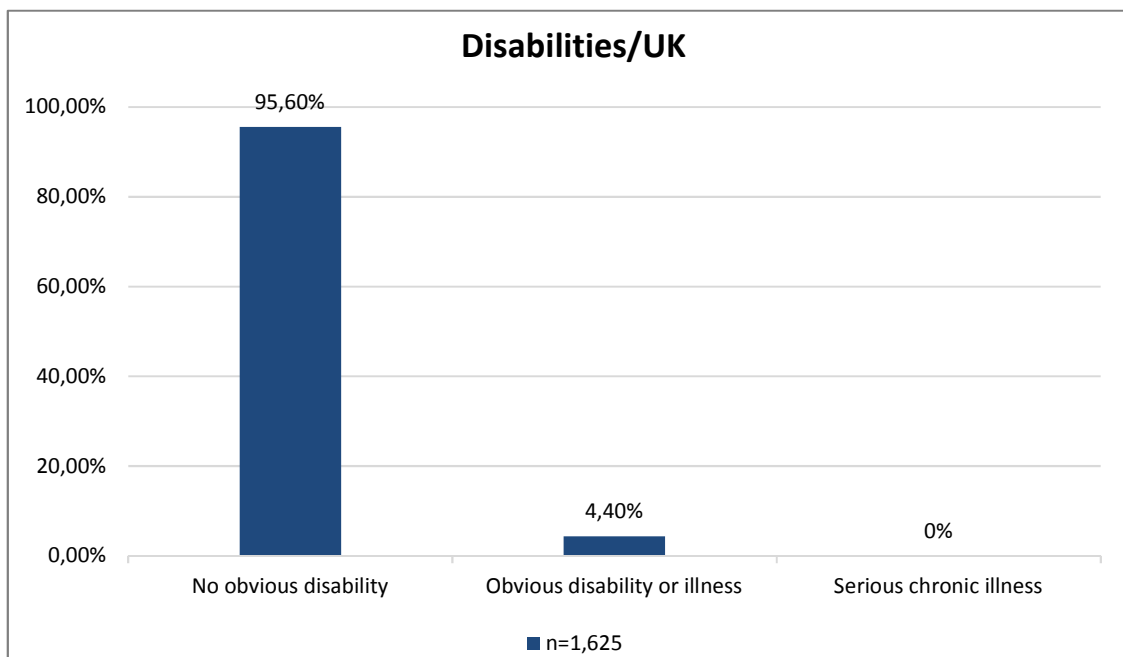


8 of the baby characters are female (72.7%) and 3 are male (27.3%). Out of the children, 141 (56.6%) are male and 108 (43.4%) are female. Among the teenagers 62.0% are male characters (n=426) and 38.0% are females (n=261). 239 female characters are coded as adults (47.0%), whereas the adult male characters are 270 (53.0%). There are also 46 senior male (58.2%) and 33 female (41.8%) characters. Another 79 characters' age could not be recognized: 20 females (25.3%) and 59 males (74.7%).

5.4 Which disabilities do the characters have?

We coded if the character has a clearly identifiable disability (e.g. wheelchair, blindness) or a serious chronic illness (e.g. HIV/AIDS, cancer, diabetes), which can be seen obviously or is an important part of the character development.

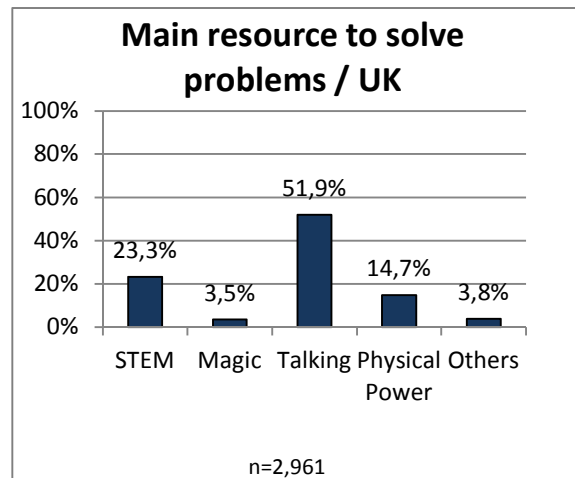
No character with a serious chronic disease is found among the UK characters. 95.6% of the characters have no recognizable disability. In 2007 there were 98.8% characters with no disabilities whatsoever. Therefore, a small but important development has occurred, to improve the representation of disabled people in the British television. A good example is the TV show about the fireman Sam, where a disabled character was introduced: Hannah Sparks. She is a blond little girl in a wheel chair.



5.5 What is their main resource to solve problems?

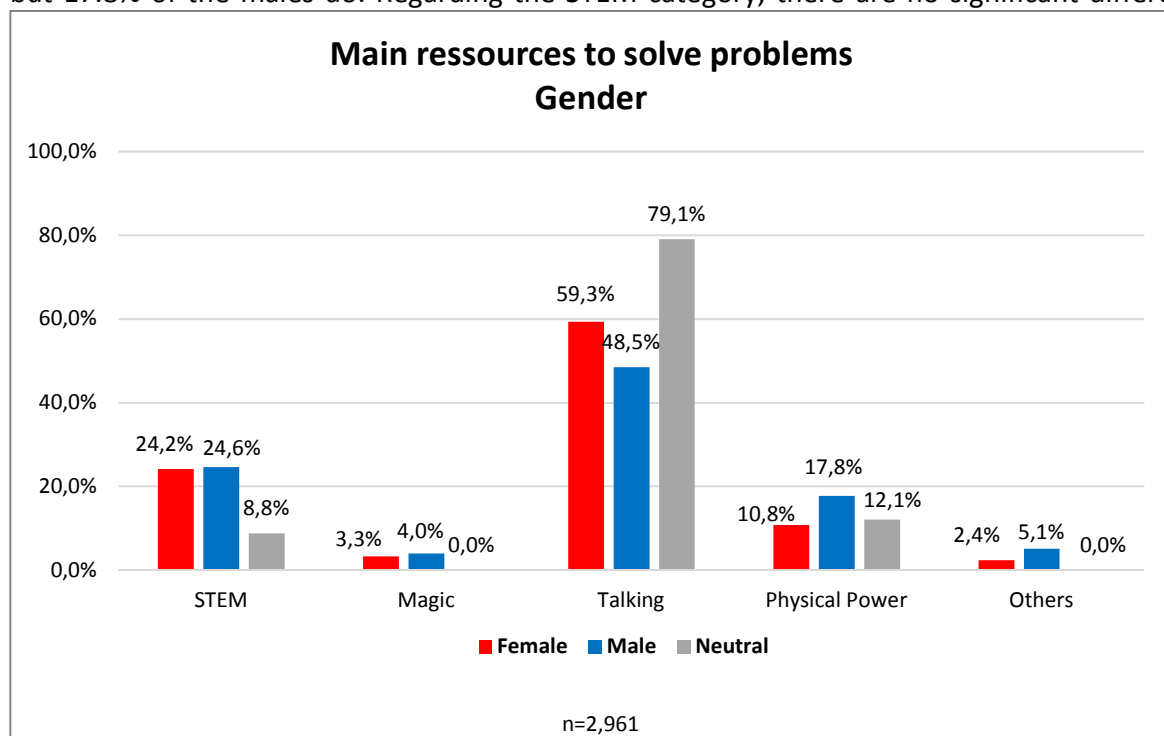
Children's Television Worldwide:
Gender Representation in UK Children's Television

61 characters (23.3%) solve problems by using science, technology, engineering and/or mathematics (STEM). 105 characters (3.5%) are solving issues with magic, which is the use of supernatural powers to make things happen that would usually be impossible, such as making people disappear and/or the use of means such as charms or spells believed to have supernatural power over natural forces. 1,538 (51.9%) are using talking, mediation, organizing and/or understanding. 435 (14.7%) use (natural or enhanced) physical power as their main resource to solve problems. 113 (3.8%) could not be categorized to any of the categories.



Gender perspective

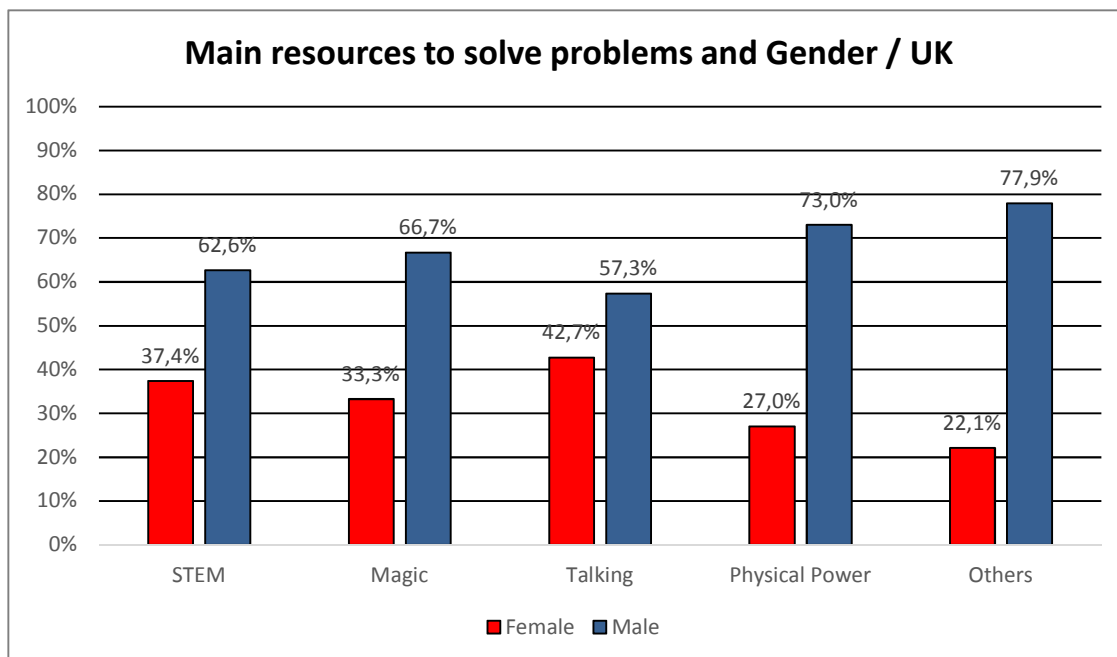
More than a half of the females (59.3%) use talking as resources to solve problems. In contrast, just 48.5% of the males use this strategy. Only 10.8% of the female characters use physical power, but 17.8% of the males do. Regarding the STEM category, there are no significant differences



between males and females (24.6% vs. 24.2%).

Children's Television Worldwide:
Gender Representation in UK Children's Television

Out of the characters, who use STEM as a problem-solver 37.4% are female (n=255) and 62.6% are male (n=427). The magic category consists of 33.3% female characters (n=35) and 66.7% males (n=70). 625 females are using talking, mediation, organizing etc. as a problem-solver (42.7%), whereas the male share in this category is 57.3% (n=840). 308 males make up 73.0% of the physical power group and the females, who use this method are 114 (27.0%). The "Other" category consists of 22.1% female characters (n=25) and 77.9% male characters (n=88).



International comparison

Children's Television Worldwide:
Gender Representation in UK Children's Television

STEM		Magic		Talking		Power	
Israel	24.3%	Cuba	14.2%	UK	51.9%	Cuba	21.3%
UK	23.3%	Taiwan	10.4%	Taiwan	50.8%	Belgium	19.8%
USA	21.1%	Israel	9.9%	USA	51.8%	USA	17.8%
Canada	18.5%	Belgium	9.8%	Canada	50.1%	Canada	16.3%
Belgium	16.7%	USA	9.1%	Belgium	49.8%	Taiwan	15.1%
Taiwan	11.1%	Canada	8.7%	Israel	48.6%	UK	14.7%
Germany	8.8%	Germany	6.7%	Cuba	22.7%	Israel	13.5%
Cuba	6.6%	UK	3.5%	Germany	24.3%	Germany	6.4%
Average	18.4%	Average	8.3%	Average	46.5%	Average	15.3%

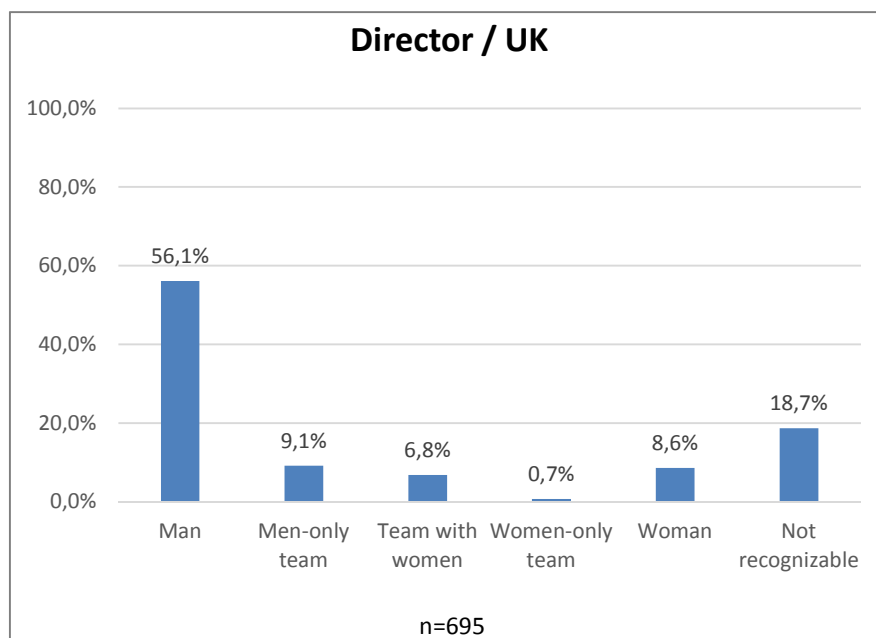
‘Others’ category is excluded here, whereby the UK has a share of 3.8%. Regarding the physical power, the UK takes the sixth place in comparison to the other countries. Talking as a problem-solver is most frequently used in the UK. Characters in the UKs’ children’s TV solve their problems mainly verbally and with STEM (23.3%). Concerning magic, the UK takes the last place.

6. Production: How is the show directed, written, produced and created?

The following focuses on the situation behind the scenes.

6.1 Director

Most of the directors in British children's television are male (56.1%). Only 8.6% are female. Looking at the percentage of the teams with women, the numbers are slightly smaller - 6.8%. Women-only teams have a percentage of 0.7%.



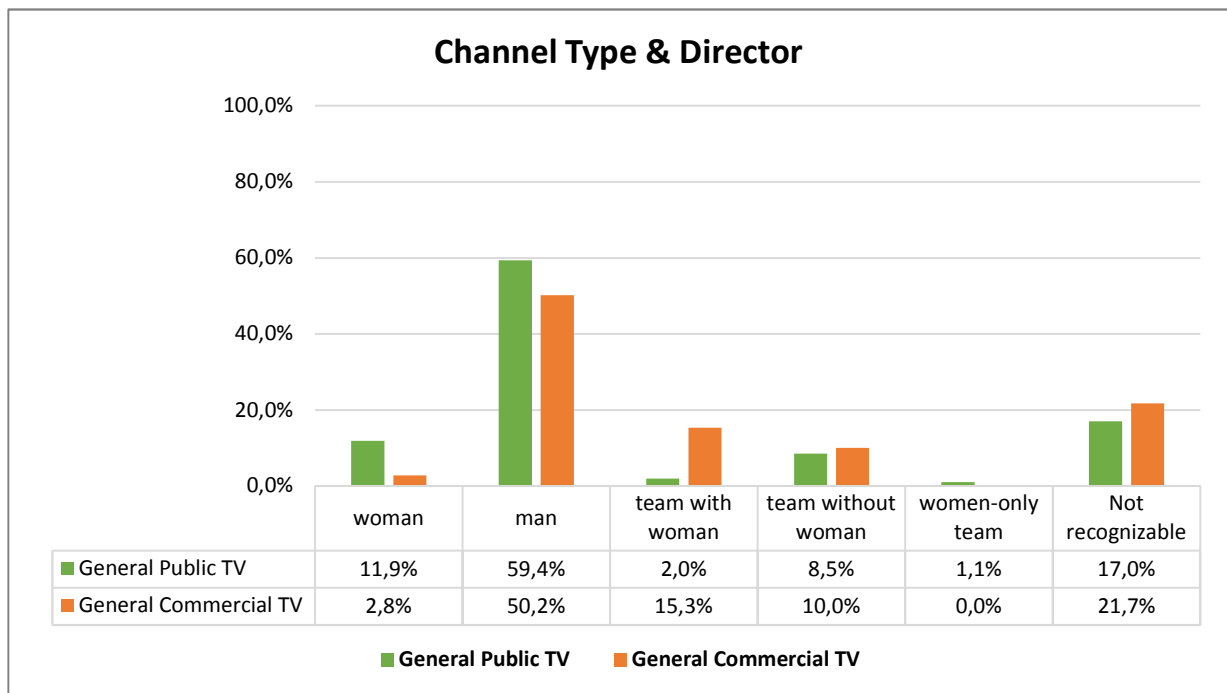
International comparison

Woman		Man		Team with		Men-only		Women-only	
Canada	9.9%	Belgium	70.0%	Taiwan	10.8%	USA	20.9%	USA	1.4%
Cuba	9.8%	Canada	69.6%	Israel	8.9%	Israel	17.5%	UK	0.7%
UK	8.6%	Israel	68.4%	USA	8.6%	Cuba	16.7%	Belgium	0.4%
Germany	5.8%	Taiwan	66.7%	Cuba	8.5%	Germany	16.4%	Canada	0.2%
USA	4.9%	Germany	66.1%	UK	6.8%	Belgium	15.9%	Germany	0.0%
Taiwan	4.4%	Cuba	64.9%	Canada	6.3%	Taiwan	15.0%	Taiwan	0.0%
Israel	4.3%	USA	59.2%	Belgium	4.7%	Canada	12.1%	Cuba	0.0%
Belgium	4.2%	UK	56.1%	Germany	3.2%	UK	9.1%	Israel	0.0%
average	6.5%	average	65.1%	average	7.2%	average	15.5%	average	0.3%

Channel type

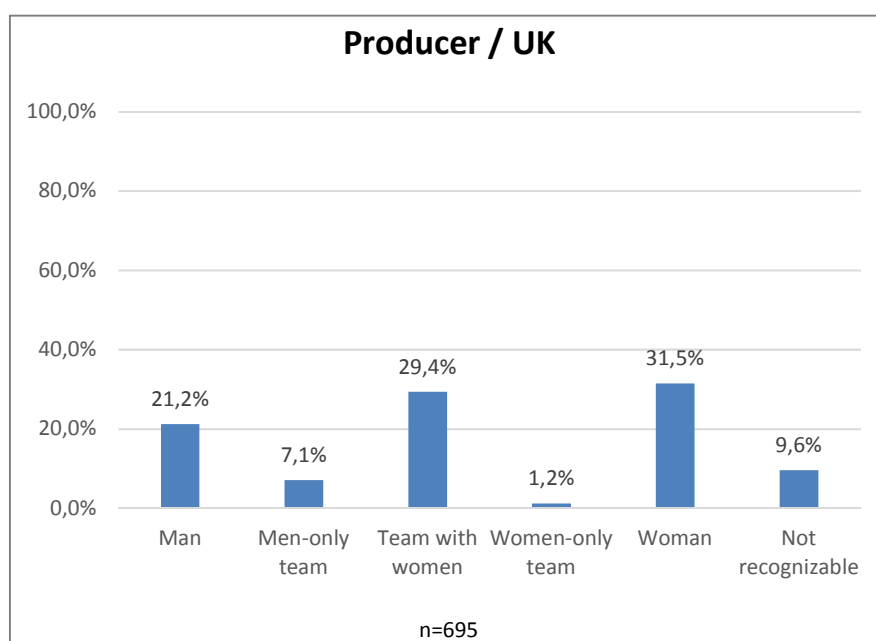
Children's Television Worldwide:
Gender Representation in UK Children's Television

Analyzing the channel type, we can see that the public channels have more autonomous female directors than the commercial broadcasters. 11.9% within the public sector and 2.8% in the commercial one. Regarding the public TV, 59.4% are male, whereas the percentage of male directors on commercial TV is 50.2%. Interesting is also that within the commercial broadcasters 10% of the teams are without women. However, in the public sector only 2% do have a woman in the team.



6.2 Producer

Regarding the aspect of gender equality, the ratio is more balanced for the producers. One third are women and 21.2% are men. In addition, one third of the teams are with women.

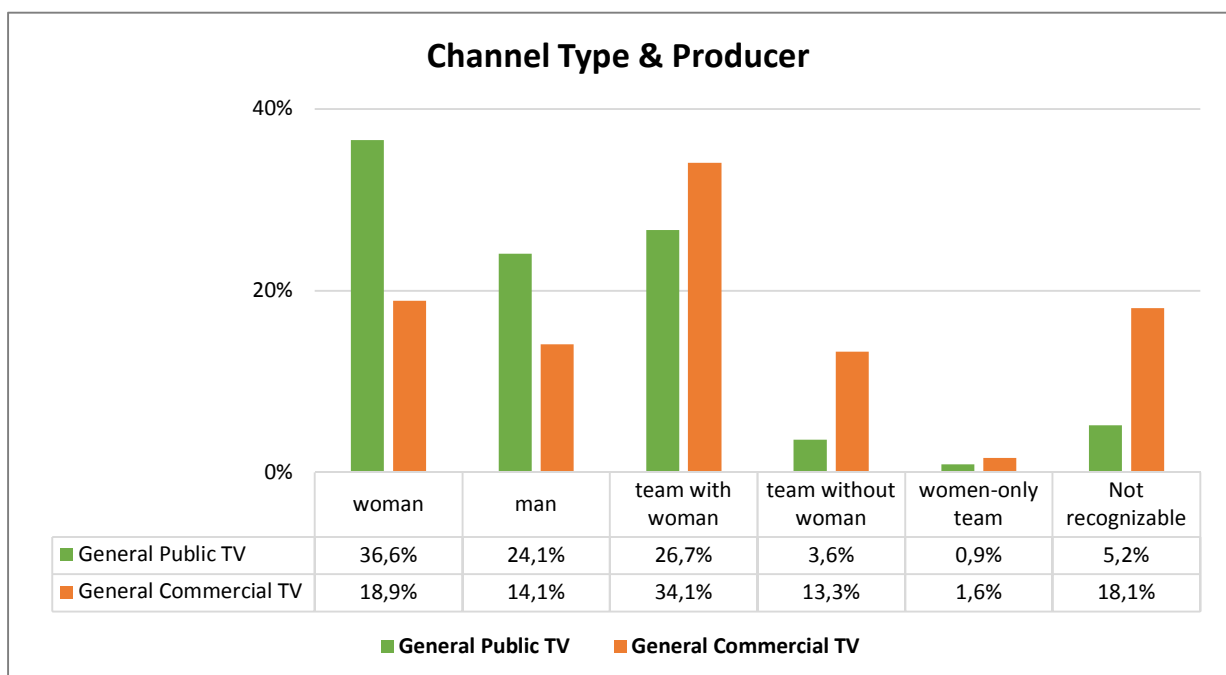


International comparison

Woman		Man		Team with		Men-only		Women-only	
UK	31.5%	Cuba	42.4%	USA	64.3%	Cuba	25.0%	Israel	3.8%
Israel	16.5%	Taiwan	34.2%	Canada	56.8%	Taiwan	23.6%	Belgium	2.9%
Canada	15.8%	Israel	23.3%	Belgium	51.1%	USA	23.0%	Canada	1.7%
Taiwan	11.7%	UK	21.2%	Israel	37.9%	Germany	22.4%	Germany	1.6%
Belgium	7.2%	Canada	11.2%	Germany	34.2%	Belgium	20.9%	USA	1.4%
Cuba	6.3%	Belgium	9.9%	UK	29.4%	Israel	15.1%	UK	1.2%
Germany	5.8%	Germany	7.9%	Taiwan	27.2%	Canada	12.7%	Cuba	0.4%
USA	0.7%	USA	7.4%	Cuba	25.9%	UK	7.1%	Taiwan	0.3%
average	11.9%	average	19.7%	average	40.9%	average	18.7%	average	1.7%

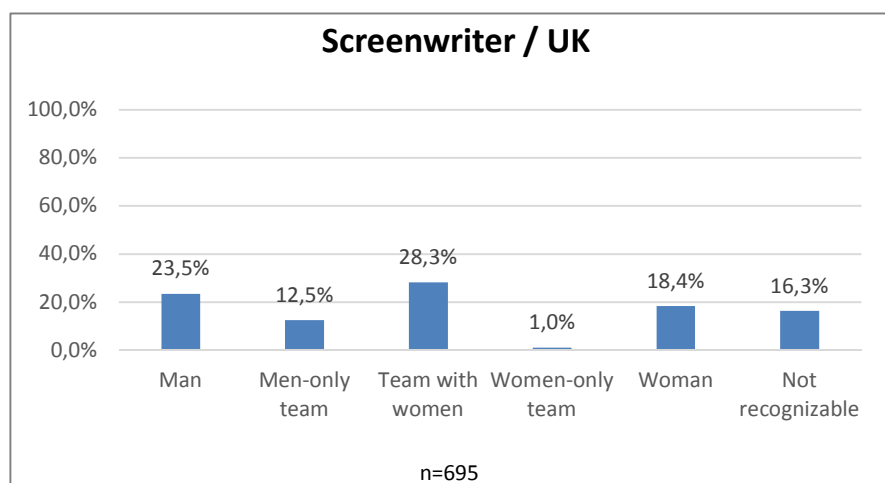
Channel type

For female producers there is a difference between public and commercial TV. In public TV there are 36.6% women, whereas in commercial TV 18.9% of the producers are women. Looking at the teams, there are more women, especially in the commercial sector (34.1%). In contrast, 26.7% of the teams in public TV have at least one woman. In commercial TV there are two times more women-only teams than in the public TV (0.9% vs. 1.6%).



6.3 Screenplay/Script

Regarding the screenplay writing, the ratios are quite balanced. 18.4% of the screenwriters are women and 23.5% are men. One third are teams with women (28.3%).



Children's Television Worldwide:
Gender Representation in UK Children's Television

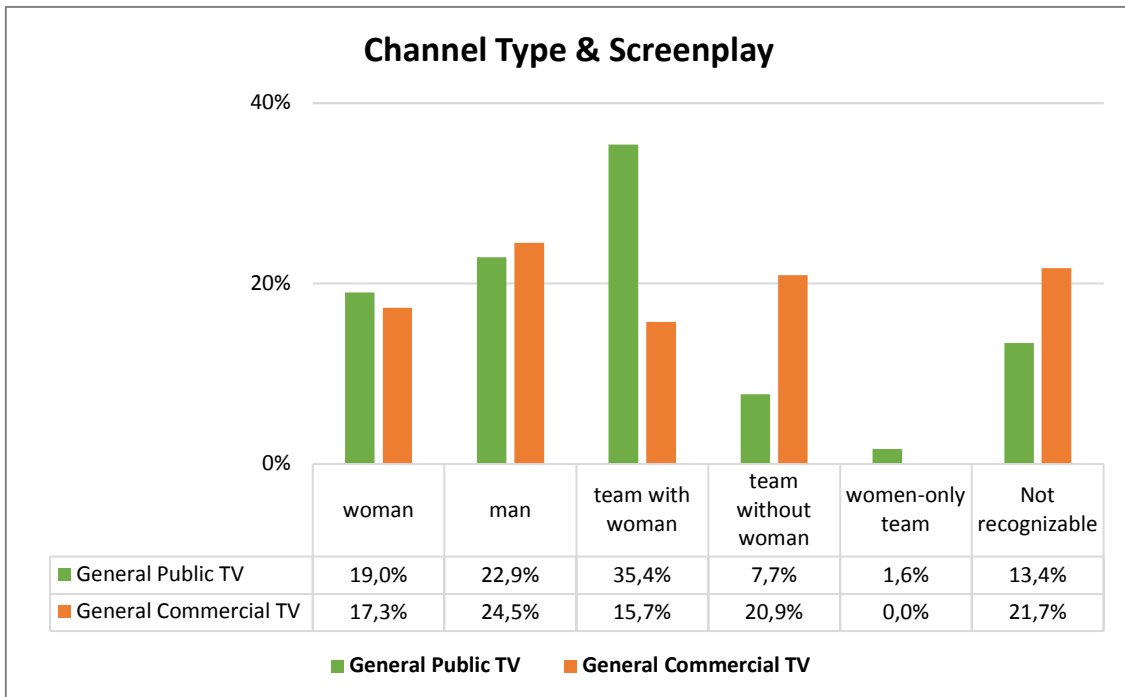
International comparison

Woman		Man		Team with		Men- only		Women- only	
Canada	20.3%	Cuba	58.0%	Israel	54.1%	Germany	25.2%	USA	4.6%
UK	18.4%	Canada	43.8%	Taiwan	42.5%	USA	23.7%	Germany	2.8%
Germany	15.9%	Belgium	38.6%	Cuba	28.7%	Belgium	22.9%	Belgium	2.0%
USA	13.0%	Taiwan	32.2%	UK	28.3%	Israel	22.4%	Canada	1.3%
Belgium	12.6%	Germany	32.1%	USA	25.3%	Canada	19.0%	Taiwan	1.1%
Cuba	12.2%	USA	29.2%	Belgium	17.7%	Taiwan	13.1%	UK	1.0%
Taiwan	8.1%	UK	23.5%	Germany	16.4%	UK	12.5%	Israel	0.3%
Israel	4.9%	Israel	17.0%	Canada	14.2%	Cuba	1.1%	Cuba	0.0%
average	13.2%	average	34.3%	average	28.4%	average	17.5%	average	1.6%

Channel type

Children's Television Worldwide:
Gender Representation in UK Children's Television

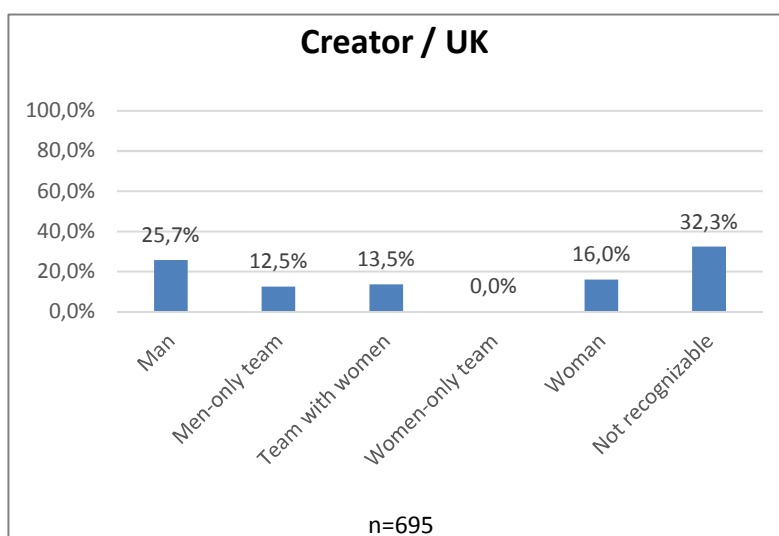
Striking is the difference between public and commercial TV when comparing the screenwriting teams. In public TV 35.4% have at least one woman, whereas in commercial TV the percentage is 15.7. Moreover, the percentage of teams without women is high in the commercial TV. 20.9% of the screenwriting teams have no women. There are no women-only teams in the commercial TV.



6.4 Creator

Children's Television Worldwide:
Gender Representation in UK Children's Television

For one third of the shows it was not recognizable who the creators were but still 25.7% of the recognizable creators are male. In contrast, 16.0% are women. Regarding the teams of creators, there were similar amounts of team creators with at least one woman (13.5%) as well as men-only teams (12.5%). Teams with only women were not present in the UKs' sample.



(12.5%). Teams with only women were not present in the UKs' sample.

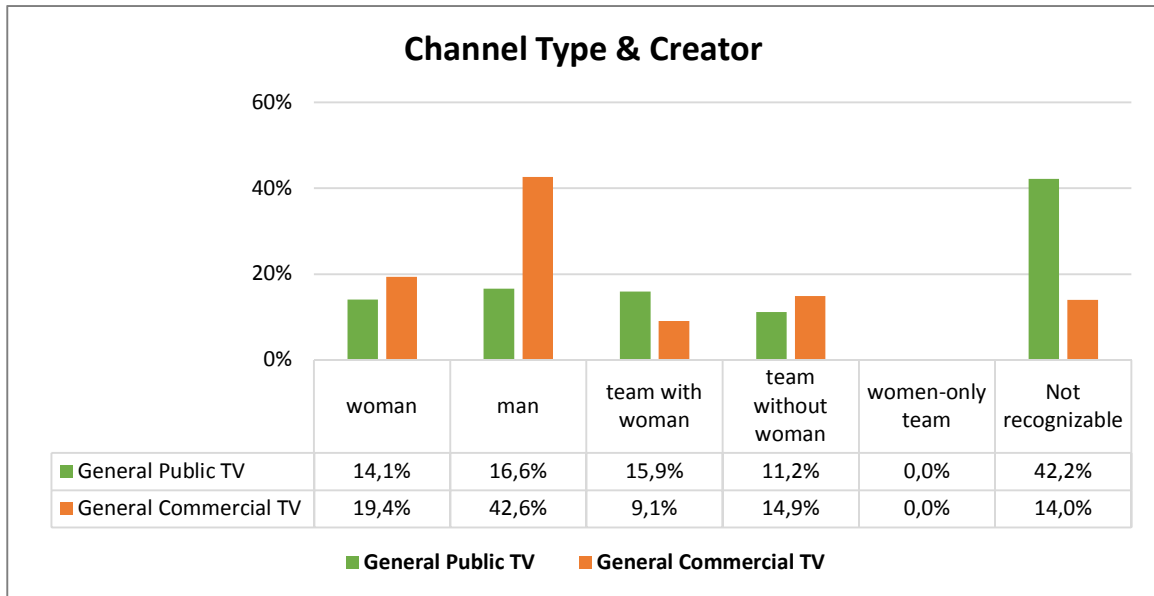
International comparison

Woman		Man		Team with		Men-only		Women-only	
Cuba	17.6%	USA	49.2%	Israel	16.4%	Cuba	27.7%	USA	1.9%
Canada	16.8%	Cuba	45.7%	UK	13.5%	Israel	24.4%	Canada	1.9%
UK	16.0%	Canada	45.1%	Canada	10.7%	USA	22.0%	Germany	1.6%
USA	13.0%	Belgium	37.7%	Taiwan	10.6%	Belgium	20.9%	Belgium	1.1%
Belgium	11.2%	Israel	36.0%	USA	10.2%	Germany	17.3%	Israel	0.3%
Israel	9.8%	Taiwan	26.9%	Cuba	9.0%	Canada	16.8%	Taiwan	0.0%
Taiwan	6.9%	UK	25.7%	Belgium	7.9%	UK	12.5%	Cuba	0.0%
Germany	5.5%	Germany	18.5%	Germany	6.9%	Taiwan	7.8%	UK	0.0%
average	12.1%	average	35.6%	average	10.6%	average	18.7%	average	0.9%

Channel type

Children's Television Worldwide:
Gender Representation in UK Children's Television

Comparing public and commercial TV, it is outstanding that within the commercial broadcasters 42.6% of the creators are male. In public TV the data looks more balanced. 16.6% are men and 14.1% are women. It has to be mentioned, that almost a half of the creators in public TV was not recognizable.



7. Summary of the results

The sample analyzed in the UK consists of 301 hours of explicit children's television, 146 hours of fictional shows, 993 programs (695 fictional shows), 2,959 characters (fiction) and 1,625 human characters. Most of the programs are fictional, one third is non-fiction and a small percentage (1.6%) are hybrids. One quarter (25.8%) of the fictional programs are 3D animation shows. Then again, more traditional formats like puppet shows have a substantial percentage (6.6%) compared to the other countries, whereby UK takes the first place. Most of the children's television programs are domestic productions. UK takes the first place in the international comparison. Still, the children in the UK mainly hear male voices in fictional television programs. However, the percentage of female voices increased over the years from 6.2% in 2007 to 10.4% in 2017.

The analysis of the main characters shows that there are drastically more male characters. Female characters have a percentage of only 36.5%. Even though the number is above the international average (34.7%).

Most of the characters are human. However, the representation of characters' types could be more diverse. For example, female characters could be robots or machines too. None of the female characters in the British sample is illustrated as one. The same applies to the role of the antagonist. Concerning the constellation, more characters interact as groups or teams than in the 2007 sample. This is a good development. Looking at the hierarchies, we can see that there are significant gender differences. Especially when it comes to the leaders and followers. For the neutral gender, the percentage of followers is high (17.9%). In comparison to the other genders, the data clearly stands out. For leaders the percentage of males is the highest. One third of the male characters are leaders, whereas only 18.5% of the females pertain to this category. Characters can be role models for children. We should also promote young girls' confidence and their ability to lead.

Although the following subject should be treated with sensitivity, it is important to analyze it in an international context. Which ethnicity do the characters have? The majority of the characters is Caucasians (73.6%). The second biggest group are black characters with a percentage of 16.4%. South Asians have a percentage of almost 3%. The others do not even reach 2%. The UK population has many different ethnicities and these should also be visible in children's television. For the

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black community there is an improvement. However, especially Asians should be better represented. Regarding the disabilities, 4.4% have a visible disability or severe illness.

On account of the new categories some data is provided about the situation behind the scenes in Children's Television. Equality between the genders is not to be seen. Particularly in the case of directors and creators. The broadcasters should try to create a path that has its end in a 50:50 representation of both genders.