Gender Disparity and Stereotypes in Popular Children’s Animated Films

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Abstract:

This content analysis examines the parity and stereotyping of male and female characters from the 150 top-grossing (North American) children’s animated films from 1980 to 2018. Results showed that the balance of characters was not equal with males filling more of the lead roles (83.3%), title roles (85.5%), speaking roles (73.3%), and membership in the main gang (72.0%). More than half (55.3%) of the films failed the Bechdel Test, although female-led films were more likely to pass than male-led films. Males were more likely to fill the public roles, with significantly more male characters having jobs/occupations than females. In the parenting role, fathers of the lead characters were more likely to be involved than mothers. The findings from the stereotyping questions were mixed with females more likely to be shown with a sexy body. However, males were not more likely to be brave and heroic (in this case by performing rescues) when the ratio of characters was included in the calculations. These results are upsetting because of the extensive amount of time children spend with media and the worldwide impact of Western-produced films. This disproportionate portrayal of society negatively influences a child’s learning and socialization processes.

Keywords: Content Analysis, Gender Roles, Children’s Media, Stereotypes

1. Introduction

The stories told to us as children are some of the most memorable and enjoyable parts of childhood. Children become attached to the characters and love them as they do their own families and friends. With the proliferation of electronic devices in the home, children have many opportunities to hear and watch these stories. Due to the advancements in technology, children are spending more time engaged with media than in the past. Now, 8-18-year-olds in the U.S. are spending an average of 7.5 hours daily with entertainment media (Kaiser Family Foundation, 2010) with almost all of them having a television in their home, and 79% having three or more (Kaiser Family Foundation, 2010).

This content analysis uses animated films, which are popular with children, to assess the balance of male and female characters as well as the stereotyped behavior. In animated film, there is no limit to the creativity of the plotlines and characters. Animals speak, robots fall in love, and insects save the day. Without the traditional limitations of actors’ abilities and the pull of gravity, animated films are able to push the boundaries of our imagination. Thus, it is disappointing to find that these films conform so closely to traditional gender roles in their stories for children.

Shortly after birth, children begin to learn behaviors, values, and beliefs through socialization. One of the most important times of growth is during early childhood (Moskalenko, 2008). Social cognitive theorists, such as Bandura (2001), state that during socialization, children learn from what is going on around them by observing others and by imitating what they see. Media plays a major role in children’s development and understanding of the social world. “Children’s media influence a child’s socialization process and the gendered information children view may have a direct effect on their cognitive understanding of gender and their behavior” (England and Descartes, 2011, p. 557).

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Movies produced in the U.S. are widely broadcast across a global market. Hollywood dominates in box offices all over the world and according to Galloway (2012), the world’s top 100 grossing films are all Hollywood productions. As a result, children are being exposed to a greater sphere of influence outside of the people around them. As Bandura (2001) notes, “Social practices are not only being widely diffused within societies, but ideas, values, and styles of conduct are being modeled worldwide” (p. 287). Media are not only affecting how children across the world perceive their own society but is teaching them about other societies and cultures as well. Children are learning about masculinity and femininity on a worldwide scale but are also being shown the movie studios’ biases of a gendered society.

Children absorb stereotypes about males and females early in life. A study of U.S. children aged five to seven found that by age six, girls were beginning to avoid activities said to be for children who are “really, really smart” (Bian, Leslie, and Cimpian, 2017). Boys, however, did not avoid the activities. Similarly, in a longitudinal study of approximately 400 U.S. children, researchers found that increased television viewing lowered the self-esteem of girls and African-American boys while increasing the self-esteem of white boys (Martins and Harrison, 2011).

This study looks at the 150 top-grossing animated films from 1980-2018 based on U.S. and Canadian box office receipts. For each film, the character’s sex in the central roles as well as auxiliary roles is counted to calculate the balance of male and female characters. The social and public roles assigned to the characters, such as the parenting and occupational roles, are coded by sex. Finally, stereotyped behavior and appearances are assessed. For behavior, we calculated the number of times male and female characters performed a rescue and for appearances, we noted the percentage of characters drawn with sexy bodies. This study adds to the existing literature about the gender imbalances and stereotypes in popular children’s media. Raising this awareness can encourage film studios to re-evaluate the characters and the stories they are producing.

2. Literature Review

Since media are one of the primary socializers of children, it is important to know how males and females are portrayed in media, and in what ways (Bandura, 2001). Many studies have examined the gender gap in children’s media. McCabe, Fairchild, Grauerholz, Pescosolido, and Tope (2011) found that males were represented in children’s book titles almost twice as often as females. Davis and McDaniel (1999) analyzed children’s books printed from 1972-1997 and saw that 61% of the characters represented or mentioned in the books were male. Smith, Pieper, Granados, and Choueiti (2010) found that 72% of the characters in the top-grossing G-rated films from 1990 to 2005 were male as were 83% of the unseen narrators. In a similar study by Smith and Cook (2008) of 1,034 U.S. children’s television shows, only 28% of the speaking roles went to female characters.

The Geena Davis Institute (2016), working with universities and Google, used new software tools to analyze audio and visual media content. Called GD-IQ (Geena Davis Inclusion Quotient), this program measures screen and speaking time. Using the 100 top grossing non-animated films from 2015, the study found that only 17% of the films had a female lead. Overall, male characters received two times the amount of screen and speaking time as female characters, and three times the amount when the lead character was male. When the lead was female, the two sexes had approximately the same amount of screen and speaking time. However, when the lead was a male/female pair, the male characters spoke far more often, had more screen time, and were far more prominent in the story. This leads to the following hypotheses:

H1: There are more male lead characters than female.
H2: The film titles refer to male characters more often than female characters.
H3: The main gang is composed of more male than female characters.
H4: Male characters have more speaking roles than females.
H5: Male characters fill most of the speaking roles in male-led films but are equal in number to females in female-led films

To examine the conversations between females, scholars have developed what is known as the Bechdel Test. The Bechdel Test, originating from Alison Bechdel’s comic “Dykes to Watch Out For,” asks if there are at least two females in the film who have a conversation with each other about things other than males. A film passes the Bechdel Test if it completes these requirements (Bechdel, 1986). Apoorv, Zheng, Kamath, Balasubramanian and Dey (2015) studied the movie screenplays from 457 movies and found that 41.7% passed the test. Movies that passed the test had
female characters that were more central to the plot and storyline than those that failed the test. This information leads to the following two hypotheses:

**H6:** Animated films are more likely to fail than pass the Bechdel Test.

**H7:** Films with a female lead are more likely to pass the Bechdel Test than films with male leads.

In addition to the balance of male and female characters in children’s media, we looked at the behavior and roles that characters were assigned. Anderson and Hamilton (2005) found, in their study of 200 children’s picture books, that fathers are less involved with the family and less likely to be nurturers or disciplinarians. Lauzen, Dozier and Horan (2008) noted similar trends in their study of 124 prime-time U.S. television programs from the 2005-06 season. They found that female characters are focused on romance, family, and friends while male characters are focused on work-related roles. Smith, Pieper, Granados, and Choueiti (2010) found similar trends in their study of 101 popular G-rated films from 1990 to 2005. Females were more likely to be depicted as parents or in a relationship than were males. Tanner, Haddock, Zimmerman, and Lund (2003) studied 26 Disney animated classics and found that when both parents are present, fathers are less involved and mothers are central to the family unit. However, when the film has a single parent present, it is more likely to be fathers (60% of the time) than mothers, and those showing single mothers were the older films. They gave examples of single fathers from several Disney classics, such as The Little Mermaid, Beauty and the Beast, Aladdin, and Pocahontas. With these mixed findings, we propose the next hypothesis:

**H8:** Lead characters are more likely to have an engaged mother than father.

We assessed the stereotyped behavior of characters in two additional ways. We asked if male characters were more likely to hold occupations or roles outside the home than females as Lauzen, Dozier and Horan (2008) found in their study of U.S. television shows. This differed from the findings of Smith et al. (2010) who noted that the presence of occupational roles did not vary significantly by gender, with 55.2% of males and 48.2% of females employed. However, they did find that males were substantially more likely to fill traditionally masculine occupations and females filled feminine ones. Only a small fraction of the working men (2.3%) had traditionally female occupations. Secondly, we asked if male characters were more likely than female characters to be shown as brave and heroic by rescuing others. Baker and Raney (2004) in their study of 268 characters from Saturday morning U.S. children’s animated cartoons found that males were portrayed as more athletic, hardy and brave. This leads to our next set of hypotheses:

**H9:** Male characters fill more roles/jobs in society than female characters.

**H10:** Male characters are more likely to rescue others than female characters.

Young girls and women in the U.S. are encouraged by media and society to have unrealistic body shapes. Animated cartoons have also contributed to children’s beliefs and attitudes towards how women should look and dress. In a study by Klein, Hugh, and Shiffman (2009), females were twice as likely as males to be shown as physically attractive or in good shape. They noted that cartoons provided positive messages about being attractive and negative messages about being unattractive, furthering the idea that women and young girls need to meet the standard of beauty defined by society. Baker and Raney (2004) also found that Saturday morning cartoons showed females as attractive, slim, and more likely to wear revealing clothing than male characters. Since females are underrepresented in animated films, when they do appear, the impact of their portrayal may be stronger, and they may be more likely to be shown in a thin and sexy light (Smith and Cook, 2008). As a result, young girls and women may be dissatisfied with how they look or who they are. This information leads to the final hypothesis:

**H11:** Female characters will be shown with attractive/sexy bodies more than male characters.

### 3. Methods

The data for this study consists of the 150 top-grossing animated films released from 1980-2018. The ranking is based on the lifetime North American theater grosses, after adjusting for inflation using 2018-adjusted dollars. The film titles were downloaded from boxofficemojo.com in September, 2018. The films on this list consist of various types of animation (computer animation, stop-action, Claymation, and traditional animation) and are the work of 15 studios. Hollywood studios, such as DreamWorks, Disney, and Pixar developed most of the films but British and Japanese films are also represented. Movies that received an R rating were removed from the list as they are not appropriate for children, and those, such as Fantasia and Fantasia 2000, without a cohesive plotline were also excluded. The coding for the study was done in various ways. Research assistants watched the films independently, coded for the variables, and then met to assess their levels of reliability.
The operationalization of the variables in the codebook was refined until coders consistently produced similar findings. Films were then re-coded using the modified definitions. Inter-coder reliability was sufficiently high on all the variables. Research assistants identified the main characters following the rules in the codebook. The protagonist or lead character was the one whose journey and backstory was most thoroughly presented. Occasionally two males were considered co-leads such as the adventurous Tulio and Miguel in *The Road to El Dorado* (2000). The title of each film was coded as male (*Finding Nemo*, 2003), female (*Mulan*, 1998), both male and female (*The Incredibles*, 2004), or no gender (*Madagascar*, 2005). The sex of the main gang members was recorded. The main gang, or posse/entourage members, are those characters who accompany the protagonist on his/her journey. They are the sidekicks who spend most of the movie with the lead character, as the meerkat and warthog duo Timon and Pumbaa do with the lead character, Simba, in *The Lion King* (1994).

We coded the sex of all the characters who spoke in the film. We defined this variable as a character that spoke on-screen or was called by name. While characters speaking in foreign languages were counted, those who only sang or uttered interjections such as hissing or laughing were not counted as speaking. Additionally, characters had to speak by themselves rather than as part of a chorus to be counted and had to be seen on-screen. Thus, a voice on the phone did not count as a speaking role. If we could not determine the gender of the character, we excluded them from the count, but that was rarely the case.

We used the Bechdel Test to assess the number and content of conversations between females. This test determines whether a work of art such as a film has a minimal inclusion of females by asking if it has two female characters in conversation about a non-male topic. We defined a conversation as having at least 1.5 turns. That is, one female addresses another who responds. Then the first female speaks to her again. If the conversation mentions a male, we coded it as a conversation but not one that would pass the Bechdel Test.

Another theme that was examined was the social and public roles held by characters. Parent roles were coded for the protagonist and main gang. We coded whether or not the characters were parents and if they had parents shown in the movie. They could be adoptive or biological parents. We also coded for the occupations of all speaking characters. If they had a job or role outside of the home, then they were coded as having an occupation. An occupational uniform could be an indication of a job, as well as seeing them at work or hearing them talk about their ventures with others. Of course, with animated film characters, the jobs consisted of such things as con artists or dragon-slayers but, nonetheless, they were engaged with the outside world.

We coded for rescues as an example of stereotyped behavior. We recorded the sex of the person doing the rescuing as well as the person being rescued. A rescue was defined as a life-or-death situation or breaking someone out of confinement, such as jail. We limited the scope of rescue to those performing a conscious physical act. The character had to intend to rescue the character and not do it accidentally. They also had to perform a physical act rather than using their brains or speaking ability to convince a jailer to release their friend.

Lastly, we coded for body types. Sexy bodies for females included an hour-glass figure with large breasts and small waists. Male’s sexy bodies focused on the triangle shape of large shoulders with narrow hips and obvious muscle development.

4. Results

This study assessed animated films released in the U.S. from 1980 to 2018, although few movies from the 1980s made the list. Movies with an R-rating were removed as being inappropriate for children, leaving only movies ranked G, PG, and PG-13.

Of these films, 65% were rated PG (*A Christmas Carol*, 2009 and *Ice Age*, 2002) and 33% were rated G (*A Bug’s Life*, 1998 and *The Lion King*, 1994), meaning that almost every film was appropriate for young children. Only two percent of the films were rated PG-13 (*Beowulf*, 2007 and *The Simpson’s Movie*, 2007).

In addition to looking at the ratings for each film, we also looked at the adjusted gross income after inflation. *The Lion King* (1994) was the top-grossing movie with an adjusted gross of $719 million. Movies at the top of the list included *Incredibles* 2 (2018), *Shrek* 2 (2004), and *Finding Nemo* (2003). The movie at the bottom of the list was *Planes: Fire and Rescue* (2014) at $63 million. Movies that were lower on the list also included *The Jungle Book* 2 (2003) and *Hoodwinked* (2005).
While the studios released these films from 1981 to 2018, the majority of the films are more recent. Only 25 films produced prior to 2000 remain on the list. The oldest film is *The Fox and the Hound* (1981) compared to 11 films from 2017-2018. While almost a dozen studios produced these movies, Disney/Buena Vista claimed the most with about one-third (37.3%) of the films. Fox produced another 14.7%.

Hypothesis 1 predicted that there would be more male lead characters than female. We found that an overwhelming majority of lead characters (83.3%) were filled by males, compared to females’ mere 14.0%. That is, for every female lead character, there were about six male leads. The chi-square results were highly significant ($\chi^2=74.082$, $df=1$, $p<0.001$). The remaining 2.7% were filled by male/female co-leads, in films such as *Gnomeo and Juliet* (2011). These films were not included in the chi-square test as there were only four movies in that category.

Hypothesis 2 stated that the title of the film would refer to male characters more often than females and was confirmed. A chi-square test was highly significant. We found that, of the 62 films named after either male or female characters, 85.5% of these films referred to males, ($\chi^2=31.226$, $df=1$, $p<0.001$) with the *Shrek* and *Kung Fu Panda* series as examples. Only 14.5% named the film after a female with examples such as *Moana* (2016) and *Pocahontas* (1995). It is notable that several of the female-led films did not mention a female in the title, as shown with *Frozen* (2013), *Brave* (2012) and *Tangled* (2018) as examples. Titles that did not refer to a character (for example, the *Ice Age* series) or referred to both male and female characters (such as *The Croods*, 2013) were excluded in the test.

The main gang consisted of male characters primarily, as Hypothesis 3 predicted, with an average of 3.2 male characters and 1.3 female characters in the entourage. Overall, 72% of the buddies were male. A paired-samples t-test found that for every female in the main gang, there were about two and a half males ($t=13.1$, $df=149$, $p<0.001$). While all films had at least one male in the main gang, 26 films had no female characters (*The Adventures of Tintin*, 2011). The main gang averaged 4.5 characters with a range from one male (the lonely Ebenezer Scrooge in *A Christmas Carol*, 2009) to a high of ten males in *Toy Story 3* (2010). The highest number of females in a main gang was four and was present in a few movies such as the British *Chicken Run* (2000).

Because there were more males with lead roles in animated films, we expected that males were also more likely to dominate the speaking roles, as Hypothesis 4 predicted. Male characters held 73.3% of the speaking roles. A paired-sample t-test found that for every female in the main gang, there were about two and a half males ($t=17.64$, $df=149$, $p<0.001$). Males had an average of 30.9 speaking roles in each film, compared to females’ 10.9. Female speaking roles ranged from a low of 7.3% (*The Adventures of Tintin*, 2011), to a high of 59.3% (*Coraline*, 2009).

Hypothesis 5 predicted that males would fill most of the speaking roles in male-led films but would be approximately equal to females in the female-led films. In the male-led films, males held an average of 74.0% of the speaking roles, that is, 31.8 speaking roles compared to females’ 10.9. The paired-sample t-test found this to be a significant difference ($t=16.321$, $df=124$, $p<0.001$). Surprisingly, in the female-led films, the balance of speaking roles was not approximately equal. Males still held more of the speaking roles (69.4%), or 25.5 speaking roles compared to females’ 11.2. This was significantly different at the $p<0.001$ level ($t=6.752$, $df=20$, $p<0.001$). (However, with only 21 female-led films, caution should be taken in the tests of significance findings.) Nonetheless, even in films with female lead characters, male characters held most of the speaking roles. The most egregious example is *Tangled* (2010), a retelling of the Rapunzel story in which 88.5% of the speaking roles went to males.

Hypothesis 6 predicted that the films in this dataset would fail the Bechdel Test. The chi-square test was not significant ($X^2=1.707$, $df=1$, $p>.05$), however, 55.3% of the films failed the test while 44.7% passed it. Female characters had, on average, 3.47 conversations per film. Overall, 40.7% of the films had no females conversing about any topic at all (*Finding Nemo*, 2003 and *Megamind*, 2010), and when females did converse, 48.0% of the conversations were about males. On the other end of the spectrum, *Inside Out* (2015) had the highest number of female conversations, with 40 and only 10.0% were about males.

Hypothesis 7 predicted that films with a female lead would be more likely to pass the Bechdel Test than male-led films. This hypothesis was confirmed by performing a chi-square test which showed that 95.2% of films with a female lead passed the Bechdel Test ($X^2=26.523$, $df=1$, $p<0.001$). The only exception was *Return to Never Land* (2002). The majority (64.8%) of male-led films did not pass. This included the top-grossing *The Lion King* (1994) and four of the five *Ice Age* films on the list.
Hypothesis 8 predicted that mothers of the lead characters would play a larger role than fathers. This hypothesis was not supported at all. For those films in which the protagonist’s parents appeared, co-parenting was the most common relationship (41.8%). After that, it was more common to have the father highlighted (38.8%) than the mother (19.4%). Excluding the co-parenting films, a chi-square test showed that males are significantly more likely to be depicted as the more involved parent than females ($\chi^2=4.333, df=1, p<0.05$).

Hypothesis 9, which stated that males would be more likely to have a role (or job) in society than females, was confirmed by a paired-samples t-test. On average, 37.5% of the female characters had roles/jobs compared to 50.9% of the male characters ($t=7.038, df=149, p<0.001$). That means that males were four times more likely to have a role/job than females, with 16.5 male characters per film having a job compared to 4.2 female characters. Granted, an animated-film job might be as a thief (most of the mice in Ratatouille, 2007) but it also illustrates which characters are driving the plot.

Hypothesis 10 predicted that male characters would perform rescues more than female characters. The findings support this hypothesis with males performing 76.4% of the rescues. Males made 7.5 rescues per film compared to females’ 2.5. This is a significant difference ($t=11.271, df=149, p<0.001$) but considering that there are three times as many male characters as female, this is not surprising. When we calculated a rescue rate (the number of male rescues divided by the number of male characters), we found that there was not a significant difference between male and female characters in performing rescues. Each female character had .29 rescues per film and each male character had .32 ($t=.847, df=149, p=.398$).

Finally, Hypothesis 11 asked whether female characters would be shown with sexy bodies more than male characters. This hypothesis was confirmed. While there were many fewer female characters, 6.8% of them were drawn with sexy bodies compared to 4.2% of the male characters. A paired-samples t-test found this to be significant ($t=2.753, df=149, p<.01$).

5. Discussion and Conclusion

After analyzing the top 150-grossing animated films based on North American theater sales, we found that sex disparities are still being portrayed, despite the fact that half of the world’s population is female. Because almost all of the films were directed towards young audiences, the socialization of children is affected by viewing films that have such a lopsided view of society. Animated film continues to show traditional gender stereotypes that can shape children’s views of how their worlds operate.

Firstly, this study supports the findings that males are more prevalent in the media in both central and auxiliary roles. As children’s books, television shows, G-rated films as well as the most popular films for U.S. adults have shown, male characters are much more likely than female to be the focus of the work. Previous research done by Smith et al. (2010) showed that 72% of the characters in the top-grossing G-rated films were male. This is similar to our finding that 85.5% of the titled films, 83.3% of the lead characters, 72.0% of the main gang, and 73.3% of the speaking roles went to male characters in these films. Even in female-led films, males had more of the speaking roles than females did, by a 69.4% to 30.6% difference.

Since female characters are not as prevalent as males, perhaps it is not surprising that so many of the films failed the Bechdel Test. In total, 55.3% of the films did not have two females who spoke to each other in the course of the entire movie about any topic in the world except a male. The differences between the pass and fail rate was not statistically significant. The 44.7% of the films that passed were similar to the 41.7% that Apoorv et al. (2015) found in their study of 457 movie screenplays. When we split the data into the groups of female led films versus male-led films, we had a significant finding. Almost all (95.2%) of the films with a female lead character passed the Bechdel Test but only 35.2% of the male-led films passed it.

Secondly, when we looked at the roles that male and female characters portrayed in these films, we found that most of them followed traditional gender roles. We found that significantly more male characters had jobs in the greater world than female characters. In sum, 50.9% of male characters and 37.5% of female characters in this study had jobs outside the home. These findings support the work by Lauzen, Dozier and Horan (2008) in their study of television shows but it differed from the study by Smith et al. (2010) that found no significant difference in the balance of male and female characters with occupations in popular G-rated films. Similarly, we found that female characters were drawn with sexy bodies more frequently than male characters were.
In all, 6.8% of the female characters (such as the sexy Jessica Rabbit in *Who Framed Roger Rabbit* from 1988) and 4.2% of the male characters were shown with sexually-alluring bodies. Baker and Raney (2004) and Smith and Cook (2008) also found that female characters are more likely to be shown in a sexy light than male characters.

However, while males are more likely to have occupations in these films, they are also more likely to be an involved parent. This does not follow the stereotyped gender roles. In our study, fathers of the lead character, either as a single father (the *Hotel Transylvania* series of movies) or as the more involved parent (*The Lion King*), were more common than mothers. Tanner et al. (2003) in their study of Disney classics also found that single fathers were more common than single mothers. However, they noted that when both parents are present, fathers were less involved. Our findings did not support that. We found the most common pattern for both parents of the protagonist was co-parenting (41.8%) followed by a more involved father (38.8%) then a more involved mother (19.4%).

Finally, we looked at the stereotypes of whether males were shown as more brave and heroic than females. We found that males performed 76.4% of the rescues of other characters. They completed 7.5 rescues per film compared to females who completed 2.5. These findings support Baker and Raney (2004) study of Saturday morning children’s cartoons that found that males are portrayed as more athletic, hardy, and brave. While there was no significant difference in rescuing once we calculated the number of rescues divided by the number of characters for each sex, the bottom line is that children are seeing male characters rescue others much more often than female characters.

In summary, we find that females continue to be under-represented in animated film, although they consist of half of the population. When females do appear, they are shown in stereotypical ways. The inaccurate portrayal in media can socialize the next generation of children into the same tired and traditional gender roles that we have all grown up with. With the influx of more electronic devices that give us more access to media, the impact of these messages will continue.

Fortunately, organizations such as the Geena Davis Institute on Gender in Media are publicizing the types of research questions posed in this paper and they are working within the media and entertainment industry to influence the content creators. More information on their work can be found at www.seejane.org.

6. References


