

# Geena Davis Institute on Gender in Media



## GENDER BIAS WITHOUT BORDERS

AN INVESTIGATION OF FEMALE CHARACTERS IN  
POPULAR FILMS ACROSS 11 COUNTRIES

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U.S.



CHINA



JAPAN



U.K.



AUSTRALIA



INDIA



FRANCE



GERMANY



S. KOREA



RUSSIA



BRAZIL

Women the world over face stark disparities in health, finance, education, politics, and other arenas. Persistent gender inequality may threaten economic growth and/or social progress.<sup>1</sup> At the most micro level, discrimination impedes girls and women from achieving their individual hopes and dreams. Through its Millennium Development Goals, the United Nations has championed an increase in equality for women and girls across different sectors by 2015.<sup>2</sup> Despite a push to promote females worldwide, one example of where progress remains stagnant is the U.S. film industry.

Research reveals that the percentage of female speaking characters in top-grossing movies has not meaningfully changed in roughly a half of a century.<sup>3</sup> Further, women are often stereotyped and sexualized when they are depicted in popular content. Occupationally, our previous research shows that few women hold positions of power and importance on screen. While Hollywood is quick to capitalize on new audiences and opportunities abroad, the industry is slow to progress in creating compelling and complex roles for females. Is this tendency to under- and misrepresent women an American phenomenon, or does gender imbalance occur on a worldwide scale?

The purpose of this study is to explore the visibility and nature of female depictions in films worldwide. To address this goal, we content analyzed gender roles in popular films across the 10 most profitable territories internationally (Australia, Brazil, China, France, Germany, India, Japan, Russia, South Korea, and the United Kingdom) as reported by the Motion Picture Association of America (MPAA) in 2012.<sup>4</sup> Films had to be theatrically-released between January 1<sup>st</sup> 2010 and May 1<sup>st</sup> 2013 and “roughly equivalent” to an MPAA rating of G, PG, or PG-13.<sup>5</sup> Studies show, however, that ratings are not universal and can vary widely from country to country.<sup>6</sup> As such, we devised a scheme using other country rating systems and selected films they indicated were appropriate for audiences 12-16 years of age or younger. Yet, one set of scholars has argued “that there is no universal consensus about what types [*sic*] of material is appropriate for children” (p. 10).<sup>7</sup> While the films in the sample have rough equivalency in terms of age-based ratings, the content within varies considerably based on the values held by each country.

Given our desire to see how other territories compare to current U.S. films, we also selected 10 domestically popular movies during the same time frame. Because many successful films were collaborations between the U.S. and U.K. (i.e., *Harry Potter*), we created an additional sample of the 10 top hybrid films from these countries. Only one film was allowed per franchise worldwide. In total, 120 global films were examined.

Every speaking (i.e., utters one or more words discernibly on screen) or named character<sup>8</sup> was evaluated in this investigation for demographics, domesticity, sexualization, occupation and STEM careers.<sup>9</sup> The study represents an expansion of our previous work on film content from the U.S. It is also the first step toward determining whether this content coding scheme can be applied to a set of films from around the world. We relied on research assistants who hailed primarily from the set of countries examined, which provided unique linguistic and cultural sensitivity but retained systematic and stable application of our measures. The results illustrate that a standardized coding scheme is possible when examining manifest content and particular attributes.

The report is organized by focusing first on gender prevalence worldwide and then looking at how males and females differ on key indicators. Two types of comparisons are made in the report. First, we are interested in how *countries* perform relative to the overall norm sample wide. To this end, we compare and make noise about 5% or greater differences from the global norm as “significant.” Second, we are interested in how *males* and *females* differ on certain measures. We only report global and gender differences that are statistically ( $p < .05$ ) *and* practically significant (5% between groups being compared). Comparisons are contingent on the type of analyses conducted, however. Because of the qualitative nature of the occupation portrayals, we will not be reporting statistical tests on jobs by industry sector and clout. Given the small sample of films for each country, the results should be interpreted with caution.

**Table 1**  
**Character Gender Prevalence by Country**

Country	% of Female Characters	% of Female Leads/Co Leads	% with Balanced Casts	Total # of Characters
Australia	29.8%	40%	0	386
Brazil	37.1%	20%	20%	423
China	35%	40%	30%	514
France	28.7%	0	0	526
Germany	35.2%	20%	20%	443
India	24.9%	0	0	493
Japan	26.6%	40%	0	575
Korea	35.9%	50%	20%	409
Russia	30.3%	10%	10%	522
U.K.	37.9%	30%	20%	454
U.S./U.K.	23.6%	0	0	552
U.S.	29.3%	30%	0	502

*Note:* All the U.S./U.K. films presented in this table were co-productions or collaborations between the two countries as defined by the British Film Institute (BFI). U.K. films in this sample are national productions that are *not* financed by major U.S. studios.

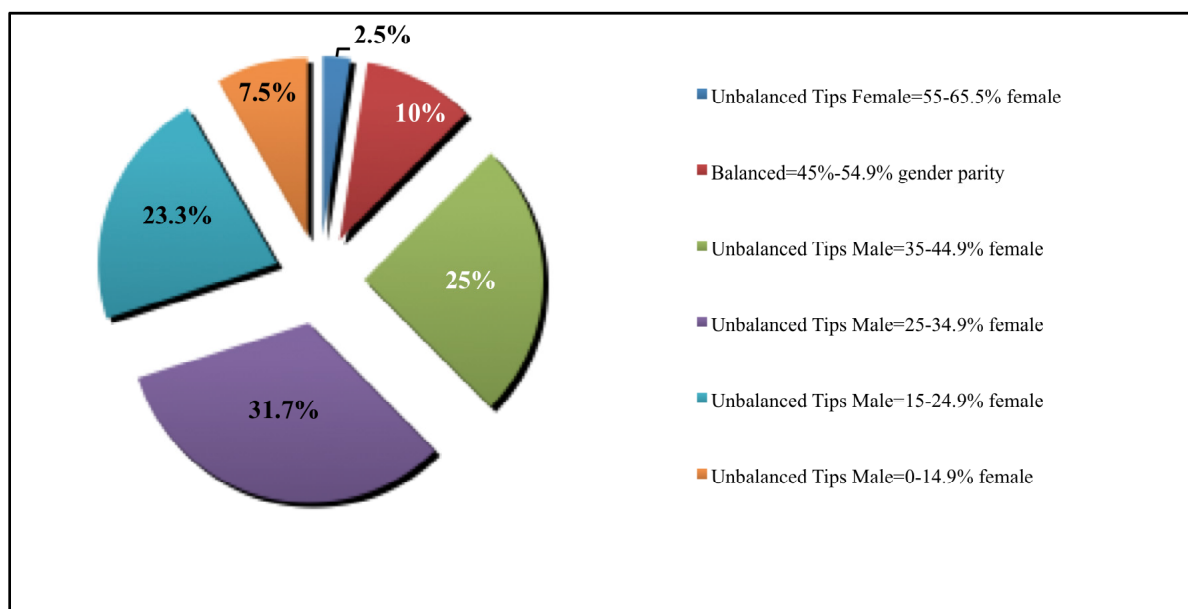
### ***Prevalence***

A total of 5,799 speaking or named characters were evaluated, with 30.9% female and 69.1% male. This calculates into a gender ratio of 2.24 males to every one female. This finding is somewhat surprising, given that females represent 49.6% of the population worldwide.<sup>10</sup> Table 1 illuminates gender prevalence on screen across the territories in our sample.

In comparison to the overall percentage of females sample wide (30.9%),<sup>11</sup> a significantly higher proportion of girls and women were found in films from the U.K. (37.9%), Brazil (37.1%), and Korea (35.9%). Germany (35.2%) and China (35%) were shy of our 5% criterion. The lowest percentages of girls and women on screen were found in movies from India (24.9%) and U.S./U.K. (23.6%).

We also looked at the percentage of films with a female lead or co lead. Here, a total of 28 films (23.3%) depicted a girl or woman in the lead or sharing the story's journey with another main character. Given this norm, films from Korea (50%), Japan (40%), Australia (40%), China (40%), U.K. (30%), and U.S. (30%) are over indexing whereas four of the remaining countries are under indexing. The differences here are only marginally significant,<sup>12</sup> likely owing to a sample size of only 120. The top films from India, France, and the U.S./U.K. did not have any female leads or co leads.

**Figure 1**  
**Gender Balance Across Films Worldwide**



In addition to overall gender prevalence, we looked at the percentage of movies depicting “balanced” casts. A balanced cast refers to stories where roughly half of all speaking characters were male and half were female. Operationally, we stipulated that a “balanced cast” allocated 45% to 54.9% of all speaking roles to girls and women. Balance was lacking worldwide, as only 12 films or 10% of the entire sample of movies showed gender parity (see Figure 1). As depicted in Table 1, China (30%) featured the highest number of balanced films followed by Korea (20%) Brazil (20%), Germany (20%) the U.K. (20%) and Russia (10%). Six countries (U.S., U.S./U.K., Australia, Japan, India, France) did not have one balanced movie in the sample.

We looked at the gender distribution of the remaining sample of films. A quarter of all movies worldwide depict females in 35%-44.9% of all roles. Just under a third of all films (31.7%) show

females in 25%-34.9% of all speaking parts. No movies in the sample failed to show a girl or woman on screen and only three films (1 from Korea, 1 from Brazil, 1 from the U.K.) featured a higher percentage of on-screen females than on-screen males.

It is interesting to note that the U.K. independent sample is very different than the U.S./U.K. collaboration sample across all three prevalence indicators. This may be due to the fact that as U.S. studio money comes in, females are pushed out. Or, it may be the case that genre is driving these findings. Seven of the 10 most popular hybrid U.S./U.K. films are action/adventure stories. As our research shows, genre is related to the portrayal of females on screen.<sup>13</sup>

On screen prevalence can be affected by a series of factors, including genre and gender of content creator. As such, the relationship between gender prevalence on screen and both of these variables was assessed. In terms of genre, all of the films were partitioned into one of five mutually exclusive categories: action/adventure, comedy, drama, animation, or other (horror/thriller). These distinctions were made using IMDbPro and judgments based on each movie's content.

Gender was related to movie genre.<sup>14</sup> When compared to the industry average (30.9%), action/adventure films depicted fewer females (23%). Comedy (32.8%), drama (34.2%), and animated (29.3%) movies were within 5% of the norm. "Other," the remaining genre, only featured one film (41.4% female) and thus does not represent a valid "type" of movie content.

We also assessed whether films were for younger audiences, by the "family" designation on IMDbPro, an animated style of presentation, or a protagonist of a high school age or younger driving the story. These films could not depict mature subject matter (i.e., profanity, sexual content, drugs). Twenty-seven films (22.5%) met this restricted definition. No meaningful difference emerged in the prevalence of girls and women in films for younger audiences (29.2%) than those not meeting this definition (31.3%).

Who is creating, green lighting, and distributing cinematic content may also affect gender prevalence on screen. So, it was important to examine the gender of who was working behind the camera as directors, writers, and producers (d/w/p's) across the sample of films.<sup>15</sup> Out of a total of 1,452 filmmakers with an identifiable gender, 20.5% were female and 79.5% were male. This translates into a gender ratio behind the camera of 3.9 males to every 1 female.

Unpacking the overall percentage, females comprised 7% of directors, 19.7% of writers, and 22.7% of producers across the sample. We present the country-by-country employment patterns in Table 2. In terms of female directors, the U.K. (27.3%) and China (16.7%) are significantly higher than the industry norm (7%) whereas France, Japan, Korea, Russia, and U.S. are significantly lower. Matter of fact, each of these countries fails to include one female director across their sample of films.

**Table 2**  
**Gender Prevalence Behind the Camera by Country**

Country	Directors	Writers	Producers	Gender Ratio
Australia	8.3%	33.3%	29.4%	2.5 to 1
Brazil	9.1%	30.8%	47.2%	1.7 to 1
China	16.7%	21.4%	25.3%	3.1 to 1
France	0	6.7%	13.6%	9.6 to 1
Germany	7.1%	22.2%	23.8%	3.7 to 1
India	9.1%	12.1%	15.2%	6.2 to 1
Japan	0	22.7%	7.5%	9.5 to 1
Korea	0	15.4%	20%	5.2 to 1
Russia	0	13.6%	17.7%	6.3 to 1
U.K.	27.3%	58.8%	21.8%	2.7 to 1
U.S./U.K.	9.1%	9.1%	21.6%	4.7 to 1
U.S.	0	11.8%	30.2%	3.4 to 1
Total	7%	19.7%	22.7%	3.9 to 1

The percentage of female writers varied globally, with a high of 59% of storytellers in the U.K. Two other countries are significantly above the industry average: Australia (33.3%) and Brazil (30.8%). Five countries under perform by 5% or greater including the U.S. (11.8%), Russia (13.6%), U.S./U.K. (9.1%), India (12.1%), and France (6.7%). Turning to producers, three countries are significantly (Brazil=47.2%, U.S.=30.2%, Australia=29.4%) above the norm. A few territories also under perform: India (15.2%), France (13.6%), Russia (17.7%), and Japan (7.5%). Overall, Brazil has the lowest male to female ratio across all the countries and France has the most incongruent.

From the results presented above, one conclusion is clear. Gender inequality is rampant in global films. This was demonstrated by the percentage of female characters on screen, the lack of girls and women as leads or co leads in movies, and the few females behind the camera. Not one country is anywhere near representing reality; girls and women comprise fully half of humanity. Not a third. Not a quarter. Half.

### ***Demographics & Domesticity***

The prior section focused on the prevalence of gender on screen and behind the camera. Here, we turn to portrayals or the way girls and women are framed in film. We concentrate on two specific areas germane to stereotyping: age and domesticity. Several studies on primarily U.S. movies have shown that females are more likely than males to be depicted younger and in a traditional light (i.e., parents, relational partners).<sup>16</sup> Here, we examine whether this pattern holds worldwide.

**Table 3**  
**Character Age by Gender Worldwide**

Apparent Age	Males	Females
Children (0-12 years)	7% (n=266)	10.5% (n=182)
Teens (13-20)	5.9% (n=225)	8% (n=139)
Adults (21-39)	48.1% (n=1,832)	57.6% (n=998)
Middle Aged (40-64)	34% (n=1,297)	19.1% (n=331)
Elderly (65+)	5% (n=192)	4.8% (n=83)

*Note:* The cells indicate the percentage of characters by gender falling into a particular age bracket. For instance, 7% of all male characters are children between the ages 0 and 12 years. Columns total to 100%.

In terms of age, characters were coded as children (0-12 years), teens (13-20 years), adults (21-39 years), middle aged (40-64 years), or elderly (65 years or older). Age varied by gender of characters, but only in two of these levels.<sup>17</sup> A higher percentage of females (57.6%) in the sample were adult in age than were males (48.1%). The reverse was true for middle-aged characters. Males (34%) were more likely to be 40-64 years of age than were females (19.1%). These age-related findings are important, particularly as we examine sexualization and occupation portrayals by gender later in the report. The lack of women over 40 restricts the range of powerful female characters shown across occupations with clout. The abundance of adult women (21-39) provides ample opportunities for sexualizing female characters.

Three other caveats are important to mention about age. First, all 12 samples stereotyped males and females consistent with the results in Table 3.<sup>18</sup> Second, the other age levels (child, teen, elderly) did not vary by 5% with gender. Under 10% of all males and females were 0-12 years (8.1%), teens (6.6%), or elderly (5%). Third, the distribution of younger characters is a bit more egalitarian. Focusing on row rather than column percentages, 59.4% of the child characters were male and 40.6% were female. Similar percentages were obtained among teen characters, with 61.8% male and 38.2% female. These findings suggest that filmmakers worldwide show slightly less gender bias when telling stories involving children and young adults.

Besides age, we also evaluated the apparent race/ethnicity of characters. We used a modified measure based on U.S. Census, which was developed and expanded to account for racial/ethnic distinctions worldwide.<sup>19</sup> Our race/ethnicity measure was independent of gender. Just over half of the characters were White (57.2%) and 33.1% were Asian. Only 3.2% of the sample featured Black characters and 1.6% Hispanic/Latino/Spanish origin. Five percent of the speaking characters were from other or mixed racial/ethnic backgrounds.

Turning to domestic roles, some (but not all)<sup>20</sup> studies show that exposure to television content in

the U.S. and Canada has been associated with increases in stereotypical attitudes and behaviors along gender lines.<sup>21</sup> Given this empirical base, we examined two attributes of domesticity on screen: parental status (no, yes) and committed romantic relationship (no, yes). These variables were only captured when enough information was present in the plot (e.g., multiple facets of a character's life were depicted). Parental status varied with gender.<sup>22</sup> Sample wide, females (48.7%) were more likely than males (41%) to be depicted as single or co-parents. Romantic involvement was also measured and varied with gender.<sup>23</sup> Females (57.7%) were more likely to be shown in a romantic relationship than males (51.6%).

Though we were interested in domestic (parental, relational status) roles by country, no statistically significant relationships were observed across all 24 tests save one (i.e., Brazil). This may be due to the small size of characters per country. However, the majority of tests revealed that a higher percentage of females than males were portrayed in nurturing or domestic roles. Given these trends, it is clear that there is a fair amount of gender stereotyping by age and domestic roles across the sample of global films.

### *Sexualization*

The objectification of individuals is a growing concern worldwide.<sup>24</sup> Much of the attention has focused on girls and women and the degree to which the media shows them in a sexy and potentially demeaning light. Research reveals that exposure to sexualized and thin content can contribute to or reinforce body shame, appearance anxiety, or internalization of the thin ideal among some females.<sup>25</sup> Somewhat related media and body image findings have been documented in the U.S., U.K., Australia, China, Germany, and Japan.<sup>26</sup> In light of this research, we measured four key attributes: sexually revealing clothing (i.e., tight, alluring, revealing apparel), nudity (i.e., part or full exposure from mid chest to high upper thigh region), thinness (i.e., minimal amount of body fat and/or muscle), and attractiveness (i.e., verbal/nonverbal utterances that communicate the physical desirousness of another character).

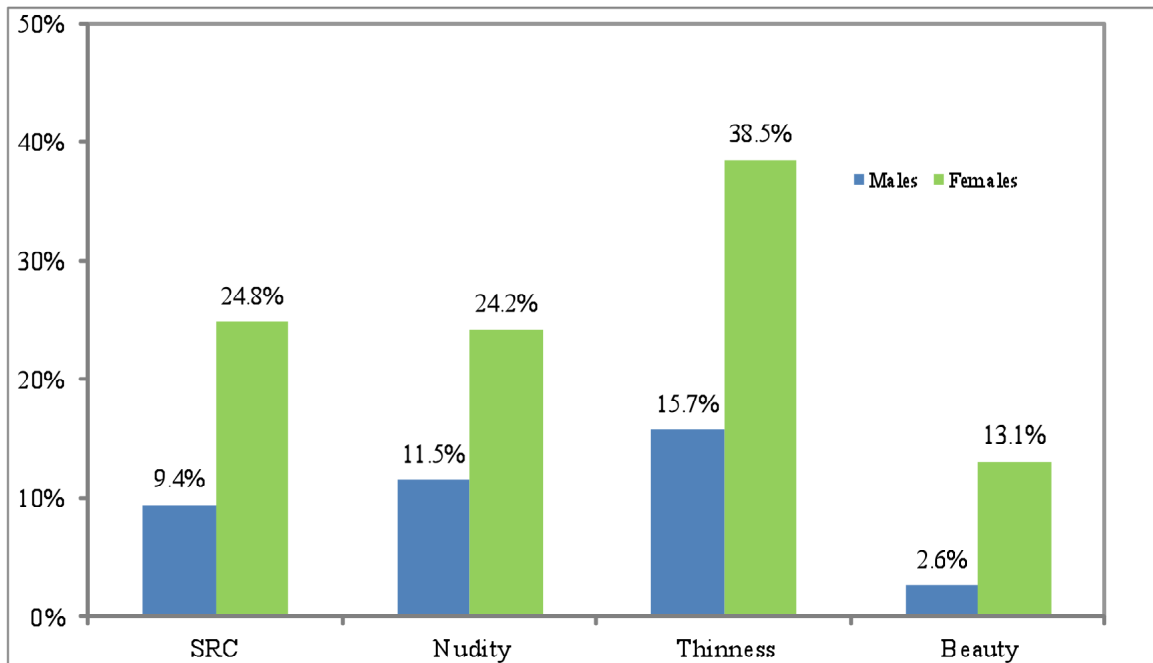
Each of these sexualization indicators varied by gender.<sup>27</sup> Females were over two times as likely as males to be shown in sexually revealing attire (24.8% vs. 9.4%), thin (38.5% vs. 15.7%), and partially or fully naked (24.2% vs. 11.5%). Appearance comments were directed at females (13.1%) five times as frequently as males (2.6%). Given these pronounced differences, we looked at female and male sexualization separately across these four indicators by country.

Focusing on females (Table 4), the sample wide sexually revealing attire norm is 24.8%, with Germany (39.9%), Australia (37.1%), India (34.1%), and France (30.6%) higher and the U.K. (19.5%), Russia (17.4%), China (15.6%), and Korea (11.6%) lower. The other countries were within 5% of the global norm. In terms of nudity, the exact same pattern held save two. Russia (19.4%) and the U.K. (19.5%) do not differ by 5% from the industry norm. Attractiveness varied less, with India (25.2%) depicting a higher percentage of attractive females and Japan (7.2%) portraying a lower percentage. Thinness varied quite a bit, with four countries indexing above (Japan, U.S., U.S./U.K., Germany) the industry norm (38.5%) and four below (France, Russia,



Australia, India). No one country consistently performed above or below the global norm across all four indicators. Thus, no matter the territory, female characters cannot escape the emphasis on physical appearance.

**Figure 2**  
**Sexualization Indicators by Character Gender Worldwide**



**Table 4**  
**Sexualization of Female Characters by Country**

Country	% of females in sexy attire	% of females w/some nudity	% of attractive females	% of thin females
<b>Australia</b>	37.1%	37.1%	17.4%	23.2%
<b>Brazil</b>	28.7%	28.7%	10.8%	42%
<b>China</b>	15.6%	13.9%	11.7%	42.7%
<b>France</b>	30.6%	31.3%	16.6%	31.5%
<b>Germany</b>	39.9%	39.2%	15.4%	44.7%
<b>India</b>	34.1%	35%	25.2%	18.6%
<b>Japan</b>	21.1%	19.7%	7.2%	52.5%
<b>Korea</b>	11.6%	10.2%	13.6%	34.9%
<b>Russia</b>	17.4%	19.4%	9.5%	30.4%
<b>U.K.</b>	19.5%	19.5%	8.7%	38%
<b>U.S./U.K.</b>	22.5%	23.3%	10%	49%
<b>U.S.</b>	29%	22.1%	15%	48.7%
<b>Total</b>	24.8%	24.2%	13.1%	38.5%

*Note:* Cells illuminate the percentage of female characters within a particular country possessing the sexualization characteristic. For instance, the percentage of female characters in sexy attire in Australian films is 37.1%. This means that 62.9% of female characters in Australian films are not shown in sexy attire.

Table 5 outlines sexualization of male characters by country, which illuminates the stark difference in how males are portrayed in relation to females. In comparison to the industry norm on sexually revealing clothing (9.4%), only one country showed significantly less: Korea (3.8%). Australia was the only country to depict more male nudity (16.7%) than the industry norm. The percentage of male characters referenced as attractive was not meaningfully different across the 12 samples. Overall, 15.7% of males were portrayed as thin, with Germany (28.4%) and Japan (25.1%) showing significantly more and Australia (10.2%) and India (6.7%) showing less.

**Table 5**  
**Sexualization of Male Characters by Country**

Country	% of males in sexy attire	% of males w/ some nudity	% of attractive males	% of thin males
<b>Australia</b>	13.8%	16.7%	5.9%	10.2%
<b>Brazil</b>	11.5%	11.5%	2.3%	18.6%
<b>China</b>	10%	8.5%	4.2%	12.1%
<b>France</b>	10.7%	14.2%	1.6%	12.3%
<b>Germany</b>	13.8%	16.2%	2.1%	28.4%
<b>India</b>	12.2%	13.5%	4.3%	6.7%
<b>Japan</b>	10.3%	11.3%	1.9%	25.1%
<b>Korea</b>	3.8%	7.6%	3.8%	12.3%
<b>Russia</b>	8%	14.2%	1.1%	10.9%
<b>U.K.</b>	6.5%	7.2%	1.8%	20%

<b>U.S./U.K.</b>	7.5%	8.7%	1.2%	18.5%
<b>U.S.</b>	5.7%	9.6%	2.5%	13.2%
<b>Total</b>	9.4%	11.5%	2.6%	15.7%

*Note:* Cells illuminate the percentage of male characters within a particular country possessing the sexualization characteristic. For instance, the percentage of male characters in Australian films is 13.8%. This means that 86.2% of male characters in Australia films are not shown in sexy attire.

In addition to country, we looked at sexualization in films for slightly younger audiences (see definition above).<sup>28</sup> Again, females were analyzed first and then males were assessed. As noted in Table 6, films for slightly younger audiences were *less* likely to depict females in sexually revealing attire or with some nudity than were films for all other audiences. These general audience films were more likely to show thin females than were their age-restrictive counterparts. These findings may represent a step in the right direction, particularly if they replicate with a larger sample of family-oriented films.

Turning to male characters, no differences were observed in sexualization across three of the four indicators (see Table 7). However, male characters in films for younger audiences were *more* likely to be thin than were male characters in films for all other audiences. Presumably, the lack of difference between these types of movies may have more to do with the fact that so few male characters are sexualized in the first place. Without variability, it is very unlikely to find differences between groups. It should also be noted that only 27 films were demarcated for younger audiences. As such, the results should be interpreted cautiously.

**Table 6**  
**Sexualization of Female Characters by Type of Films**

<b>Sexualization Indicators</b>	<b>Films for Younger Audiences</b>	<b>All Other Films</b>
% in sexy attire	16.9%	26.5%
% w/exposed skin	15.6%	26%
% beautiful	9.7%	13.9%
% depicted thin	45.1%	37%

**Table 7**  
**Sexualization of Male Characters by Type of Films**

<b>Sexualization Indicators</b>	<b>Films for Younger Audiences</b>	<b>All Other Films</b>
% in sexy attire	8.9%	9.5%
% w/exposed skin	10.4%	11.7%
% beautiful	2.4%	2.7%
% depicted thin	26.2%	13%

Given the global apprehension over the sexualization of young women, we looked at how age was related to our four appearance measures. The analyses were conducted separately for males and females and focus specifically on three age levels: teens, young adults, and middle-aged characters. These analyses are not broken out by country, as too few teens are represented across the sample.

Focusing first on females, teens and adults were equally likely to be shown in sexy attire, partially or fully naked, and referred to as beautiful.<sup>29</sup> That is, there is virtually little or no difference in the sexualization of female characters between the ages of 13 and 39 years. However, a higher percentage of female teens were shown thin than their adult female counterparts. Also, middle-aged females were far less likely to be sexualized in cinematic content than were females from the other two age groups evaluated (see Table 8).

**Table 8**  
**Sexualization of Female Characters by Age**

<b>Sexualization Indicators</b>	<b>Teens</b>	<b>Adults</b>	<b>Middle Aged</b>
% in sexy attire	35.6%	32.4%	14.9%
% w/exposed skin	33.3%	31.7%	14.9%
% beautiful	20.1%	16.8%	4.8%
% depicted thin	55%	45.9%	11.3%

*Note:* Cells represent the percentage of speaking characters within an age bracket that were shown in a particular light. For instance, 35.6% of teenaged females were depicted in sexy attire. This also means that 64.4% were not shown in revealing clothing.

Table 9 shows that findings for male sexualization are slightly different than female sexualization.<sup>30</sup> Adult males were more likely than middle-aged males to be shown in sexualized attire. Teen-aged males and adult males were more likely than middle-aged males to be depicted partially and/or fully naked. In terms of physical beauty, teen-aged males were more likely than middle-aged males to be referenced as attractive. When compared to adult males, male teens were more likely and middle-aged males were less likely to be shown thin.

**Table 9**  
**Sexualization of Male Characters by Age**

<b>Sexualization Indicators</b>	<b>Teens</b>	<b>Adults</b>	<b>Middle Aged</b>
% in sexy attire	11.1%	12.6%	6.2%
% w/exposed skin	15.4%	13.6%	8.5%
% beautiful	7.1%	3.4%	.9%
% depicted thin	48.2%	14.9%	4.8%

*Note:* Cells represent the percentage of speaking characters within an age bracket that were shown in a particular light. For instance, 11.1% of male teens were depicted in sexy attire. This also means that 88.9% were not shown in revealing clothing.

In sum, youth and beauty are clearly two important components of female portrayals in global films. The focus on age and the sexualization of female characters becomes particularly problematic as we examine how females fare in the workplace, where perceptions of competence may be linked to aspects of appearance.<sup>31</sup>

### ***Occupation***

Females are a crucial part of the global economy. Research indicates that increasing female's labor force participation could create macroeconomic impact.<sup>32</sup> As a result, it becomes important to examine whether cinematic content reflects reality in terms of the world of work. Research reveals that media portrayals can contribute to or reinforce occupational knowledge, career socialization, and even gender stereotypical attitudes and beliefs about work.<sup>33</sup> Because of this, we assessed whether every speaking character over the age of 12 was shown with a job.

Occupations were defined as receipt of payment for the performance of a service or provision of some resource. To ascertain the employment status of each speaking character, we scrutinized four types of information: verbal (e.g., "I am a doctor") or textual (e.g., name on office door) references to what a character does; uniforms (e.g., lab coat) or artifacts (e.g., stethoscope, plexor) associated with a specific occupation; engagement in role-related behaviors; and the context in which the character was depicted working. Jobs, whether they existed in this world or not, and regardless of their legal status, were coded as present or absent for each character.

**Table 10**  
**Occupational Status by Character Gender within Country**

Country	% of Employed Male Characters	% of Employed Female Characters
Australia	63.1%	42.9%
Brazil	72.8%	43.1%
China	70.2%	51.5%
France	74.7%	43.3%
Germany	59.9%	35.2%
India	70%	38.8%
Japan	66.4%	57.7%
Korea	67.6%	43.4%
Russia	73.7%	47.8%
U.K.	69.3%	50.8%
U.S./U.K.	74.4%	54.2%
U.S.	62.9%	49.2%
Total	69.1%	46.6%

*Note:* Cells reflect the percentage of characters within gender holding a job. For instance, 63.1% of male characters in Australia films were employed. As such, the percentage of non employed male characters in Australia films was 36.9%.

Gender was related to employment.<sup>34</sup> Males (69.1%) were more likely to be depicted with an occupation than were females (46.6%). Put differently, 69.1% of all male characters in the sample were shown working whereas less than half of all females (46.6%) were shown gainfully employed.

Male participation in the work force varied across the sample (see Table 10), with France (74.7%) and U.S./U.K. (74.4%) portraying a significantly higher percentage than the industry norm (69.1%) and Australia (63.1%), the U.S. (62.9%), and Germany (59.9%) depicting a significantly lower percentage. The percentage of females shown working also varied by country. Japan (57.7%), and U.S./U.K. (54.2%) portrayed significantly more female employees than the industry average (46.6%) and India (38.8%) and Germany (35.2%) showed significantly less.

Another way to think about these relationships is to examine the gender distribution of all working characters. Of those holding a job, 77.5% were males and 22.5% were females. This finding parallels our results across 129 popular films in the U.S.<sup>35</sup> To further contextualize the findings, the percentages of women working in the fictional world are compared to real-world percentages across 11 countries (see Table 11). For obvious reasons, the U.S./U.K. sample is not compared to any real-world correlate. Women comprise 39.8% of the actual global workforce which is higher (+17.3) than the percentage observed here in global films (22.5%).<sup>36</sup>

**Table 11**  
**Female Characters' Workforce Participation vs. Females' Actual Workforce Participation**

Country	% of Working Females in Film	% of Working Females in Real World	Difference
<b>Australia</b>	22.8%	45.5%	- 22.7
<b>Brazil</b>	25.4%	43.7%	- 18.3
<b>China</b>	27.8%	43.6%	- 15.8
<b>France</b>	18.8%	47.4%	- 28.6
<b>Germany</b>	24.2%	45.9%	- 21.7
<b>India</b>	15.6%	25.3%	- 9.7
<b>Japan</b>	23.7%	42.2%	- 18.5
<b>Korea</b>	26.3%	41.6%	-15.3
<b>Russia</b>	20.8%	49.2%	- 28.4
<b>U.K.</b>	27.9%	45.9%	- 18
<b>U.S./U.K.</b>	17.6%	n/a	n/a
<b>U.S.</b>	23.2%	46.3%	- 23.1
<b>Total</b>	22.5%	n/a	n/a

*Note:* Real-world percentages are based on figures from World Bank (2012). Percentages were rounded to one decimal point.

Across all the countries examined, females were underrepresented in the film workforce compared to their actual percentages globally. Discrepancy scores were calculated to determine the degree to which on-screen depictions of occupations differ from real-world values. The

scores were grouped into three categories based on the size of the discrepancy: small (5-9.9), moderate (10-19.9), and large (20+). India was the only country in which female film jobs revealed a small difference from the real world. Five countries (Japan, Brazil, U.K., China, Korea) showed moderate differences between movie and actual workforce percentages and five countries (France, Russia, U.S., Australia, Germany) showed large differences.

Given that occupational portrayals can be a source of aspiration, we were interested in capturing the types of jobs held by male and female characters. We approached our analysis of the world of work in three ways. First, we were curious about the major occupational groups characters were depicted in across cinematic content. To this end, a variable was created reflecting the major employment categories derived from the *Occupational Outlook Handbook* (2010) from the U.S. Bureau of Labor Statistics.

Each job was categorized into one of the following groups: 1) management/business/finance; 2) professional/specialized; 3) service; 4) sales; 5) administrative; 6) farming/fishing; 7) construction; 8) maintenance/repair; 9) production; 10) transportation; 11) armed forces; 12) crime; and 13) other. Group membership was evaluated by assessing the power, education level, specialization, and skill sets or competencies needed to fulfill a particular job. Though these categories are derived from U.S. measurements, we believe they are sufficiently broad to capture variability in jobs worldwide.

While assessing major group is important, it fails to reveal the industry characters work within and whether they hold the highest level of clout within their sector. As such, we measured a few additional characteristics for every job. Occupations were placed into a specific sector or industry. The sectors included are: business/financial; science/technology/engineering; media/arts/entertainment; journalism; law; politics/government; religion; sports; healthcare; law enforcement/protective services; academia; food service; personal/corporate care, crime, and other. By evaluating and combining major group and sector, we have captured where characters' jobs fit within the hierarchy of industries. For instance, the accountant at a multinational media corporation can be placed within a rank relative to characters shown working in the mailroom or in transportation at the same company.

It is important to note that two sectors, personal/corporate care as well as science, technology, and engineering are not reported in detail below. These broad industries are best explored via a more in depth analysis. We will break them out by focusing on STEM and service and labor occupations later in the report.

In addition to sector and major group, we measured whether employed characters possessed clout (no, yes). Clout refers to those individuals holding the highest power, influence, and rank over other employees. Further, all characters were evaluated for executive status (no, yes) or whether they were considered chief executives (i.e., CEOs, COOs, CFOs, GMs, Presidents, VPs) governing large firms, or conglomerates. Small business owners also were categorized as present or absent for each occupation.

In Table 12, we summarize the distribution of jobs within sector by gender. The jobs are arranged hierarchically. The top line of the chart illuminates the most power or clout characters were shown possessing within a particular industry. Jobs with a lower level of influence or importance fall below.

Five gendered trends are apparent in Table 12. First, few females fill executive positions in the C-suite, politics, and finance. Of the 79 executives shown across the sample, 13.9% ( $n=11$ ) were females. Women in these roles span just four sectors (business/financial; science, technology, and engineering; media, arts, and entertainment; and healthcare) while men in power are visible across eight (business/financial; science, technology, and engineering; media, arts, and entertainment; personal care; food service; legal; law enforcement; sports). Two of the female top executives were actually the same character in two different films. Viewers would be hard pressed to find a mediated example of executives such as Indra Nooyi, Chanda Kochhar, or Gail Kelly in our sample of films.

Turning to politics, we looked carefully for some representation of the many current and former female political powerbrokers worldwide. From Brazil's Dilma Rousseff to South Korea's Park Geun-hye, or even India's Pratibha Patil, films featured few female politicians. Just 12 women were shown at the highest levels of local, state/provincial, or national governmental authority, versus 115 males, a gender ratio of 9.6 to one. These 12 women represented the actual or fictional equivalent of: legislators ( $n=2$ ), ministers/secretaries/chiefs ( $n=3$ ), ambassadors/international council members ( $n=2$ ), or mayors ( $n=2$ ). However, just 3 female characters governed at the very apex of political leadership. One, a fictional representation of German Chancellor Angela Merkel did not even speak. Another, a female elephant named Angie, brought her constituents together to marshal resources when global warming threatened their existence. Finally, the only female protagonist who wielded power on the world stage was Margaret Thatcher in *The Iron Lady*. Interestingly, due to the framing of Thatcher's political career, she accounts for 3 of the 12 high-powered political depictions. This translates to just ten unique women in political authority across 120 films and 5,799 speaking characters.

Of course, royals and rulers also exerted leadership. We counted these political figures separately, given the improbability of viewers to inherit this type of governmental power. Women thrive as fictional monarchs worldwide, where they represented 29.5% of those imbued with authority by divine right, despotism, or other means. Even when their kingdoms were comprised of owls, bees, or other talking animals, these queens outnumbered the representations of attainable political power in films.

Second, stereotypes stifle women in powerful professional positions across medicine, law, and academia. Only two female lawyers (vs. 20 males) were shown across the sample, both of whom appeared in comedic roles. Emi, the protagonist of the Japanese film *A Ghost of a Chance*, is portrayed as a fumbling attorney who solves her case thanks to the assistance of a male samurai ghost. Similarly, just one female judge appeared in these movies. Powerful males in the cinematic legal world outnumber women by a factor of 13 to 1. Women in academics face a similar struggle; just one female professor was shown while 16 males were depicted. The most balanced of these three distinguished careers across the 120 films was among health practitioners



(e.g., doctors, veterinarians, psychologists), where more than 5 male doctors appeared for every one female (69 males vs. 12 females). One bright spot in the medical field was the depiction of a female cardiac surgeon (*Head over Heels 2*). However, across these 140 characters in top professional positions, a single counter stereotypical example represents a needle in the haystack of traditional portrayals.

Third, occupational stereotyping is present in global films. Female characters populated professions such as nursing (78-80%) and teaching (52%). They also comprised half of casting, costuming, and make-up personnel. In contrast, the fourth trend reveals that women are nearly shut out of sports and spiritual professions. Although the Olympics prominently feature female athletes and the Church of England recently allowed female bishops, these portrayals are almost absent in feature films. Just two women were shown in any kind of religious career—a pair of Brazilian nuns. Men were depicted across a variety of spiritual posts, including but not limited to Hindu priests, Buddhist monks, pastors, deacons, and even one imam. While women can fill lower-level or administrative positions across multiple industries, they are rarely allowed to achieve even a small level of athletic or divine success. It is interesting to note from Table 12 that the number of women in law enforcement and military is outperforming the number of women in religion and sports. These counter stereotypical depictions reveal women infiltrating some male-dominated arenas.

**Table 12**  
**Occupational Sector by Clout and Gender**

Sector	Males	Females
<b><i>Executive Suite</i></b> (n=79)	86.1% (n=68)	13.9% (n=11)
<b><i>Business/Financial</i></b> (n=204)	73% (n=149)	27% (n=55)
- Executives, Developers, Investors	88.7% (n=47)	11.3% (n=6)
- Managers, Consultants	81.1% (n=30)	18.9% (n=7)
- Brokers, Traders, Agents	71.4% (n=10)	28.6% (n=4)
- Sales, Clerks, Cashiers	66.7% (n=48)	33.3% (n=24)
- Administrative, Other	50% (n=14)	50% (n=14)
<b><i>Politics/Government</i></b> (n=222)	85.6% (n=190)	14.4% (n=32)
- Political Officials, Legislators, Leaders	90.5% (n=115)	9.5% (n=12)
- Advisors, Inspectors, Interpreters	100% (n=17)	0
- Administrative (i.e, clerical, front desk)	70.8% (n=17)	29.2% (n=7)
- Other	100% (n=10)	0
- Rulers/Royals	70.5% (n=31)	29.5% (n=13)
<b><i>Legal Profession</i></b> (n=47)	91.5% (n=43)	8.5% (n=4)
- Law Firm Head	100% (n=1)	0
- Judges, Lawyers	92.7% (n=38)	7.3% (n=3)
- Administrative, Other	80% (n=4)	20% (n=1)
<b><i>Healthcare</i></b> (n=143)	59.4% (n=85)	40.5% (n=58)
- Doctors, Pharmaceutical/Healthcare Mgr's	84.3% (n=70)	15.7% (n=13)
- Nurses, Social Workers	22.2% (n=8)	77.8% (n=28)
- Nursing Aides/Assistants	20% (n=3)	80% (n=12)
- Sales, Administrative	28.6% (n=2)	71.4% (n=5)
- Other	100% (n=2)	0
<b><i>Academia</i></b> (n=104)	59.6% (n=62)	40.4% (n=42)
- Deans, Principals, Headmasters	70.6% (n=12)	29.4% (n=5)
- Professors	94.1% (n=16)	5.9% (n=1)
- Teachers, Librarians	48.4% (n=31)	51.6% (n=33)
- Administrative	0	100% (n=2)
- Other	75% (n=3)	25% (n=1)
<b><i>Journalism</i></b> (n=134)	61.2% (n=82)	38.8% (n=52)
- News Director	0	100% (n=1)
- Anchors, Reporters, Photojournalists	59.8% (n=76)	40.1% (n=51)
- Administrative, Staff, Sales	100% (n=6)	0

Note: Cells feature the percentage of within row category by gender. Columns do not total to 100%.

Table 12 - Continued

Sector	Males	Females
<b>Media, Arts, &amp; Entertainment</b> (n=437)	71.4% (n=312)	28.6% (n=125)
- Studio Heads, Agency Partners, Venue Owners	83.8% (n=31)	16.2% (n=6)
- Talent Managers, Agents, Scouts	88.2% (n=15)	11.8% (n=2)
- Actors, Designers, Photographers	68.3% (n=209)	31.7% (n=97)
- Costuming, Make-up, Casting	50% (n=4)	50% (n=4)
- Sales	78.3% (n=18)	21.7% (n=5)
- Administrative, Staff, Other	76.1% (n=35)	23.9% (n=11)
<b>Religion</b> (n=44)	95.5% (n=42)	4.5% (n=2)
- Institutional Leaders	100% (n=3)	0
- Clergy	94.9% (n=37)	5.1% (n=2)
- Service Workers	100% (n=2)	0
<b>Sports</b> (n=147)	93.9% (n=138)	6.1% (n=9)
- Directors, Managers, Recruiters	87.5% (n=14)	12.5% (n=2)
- Sports Players, Coaches, Announcers	95.9% (n=117)	4.1% (n=5)
- Administrative, Animal Care	77.8% (n=7)	22.2% (n=2)
<b>Food Service</b> (n=235)	68.9% (n=162)	31.1% (n=73)
- Managers, Instructors	77.8% (n=14)	22.2% (n=4)
- Wait Staff, Bartenders, Chefs	65.3% (n=81)	34.7% (n=43)
- Vendors, Cashiers	69% (n=29)	30.9% (n=13)
- Fishery, Farm Workers	74.3% (n=29)	25.6% (n=10)
- Other	75% (n=9)	25% (n=3)
<b>Law Enforcement</b> (n=500)	85.2% (n=426)	14.8% (n=74)
- Police Leaders (e.g., heads, chiefs)	82.9% (n=34)	17.1% (n=7)
- Unit Managers	90.9% (n=10)	9.1% (n=1)
- Professional (i.e, EMTs, social work)	70% (n=14)	30% (n=6)
- Police Officers	86.3% (n=358)	13.7% (n=57)
- Administrative	76.9% (n=10)	23.1% (n=3)
<b>Military</b> (n=296)	92.9% (n=275)	7.1% (n=21)
- Military Leaders (e.g., generals)	88.4% (n=38)	11.6% (n=5)
- Safety officer/EMTs	100% (n=2)	0
- Soldiers	93.6% (n=235)	6.4% (n=16)

Note: Cells feature the percentage of within row category by gender. Columns do not total to 100%.

The fifth trend reveals a positive element of occupational portrayals. The journalism sector featured a higher percentage of females in the workforce, with 40.1% of reporting, anchor, and photojournalism jobs allocated to women. Additionally, the only news director depicted was a female. Every territory in the sample but one showed a female journalist. Given the importance of journalism to an informed and educated constituency, it is heartening to see that fictional females have a role to play in delivering the news to their fellow citizens.

**Table 13**  
**Labor & Service Professions by Gender**

Labor/Service Professions	Males	Females
Household Services (i.e., nannies, maids, butlers)	50.5% ( <i>n</i> =56)	49.5% ( <i>n</i> =55)
Farming, Fishing, Forestry	76.2% ( <i>n</i> =32)	23.8% ( <i>n</i> =10)
Construction	100% ( <i>n</i> =32)	0
Maintenance & Repair	88.9% ( <i>n</i> =16)	11.1% ( <i>n</i> =2)
Factory & Plant Workers	50% ( <i>n</i> =12)	50% ( <i>n</i> =12)
Product Moving, Delivery, & Transportation	95% ( <i>n</i> =134)	5% ( <i>n</i> =7)

Though not in Table 12, three additional groups were examined: labor/service professions, small business owners, and criminal occupations. A total of 191 small business owners were observed across the sample. Over a quarter of proprietors were women (27.2%, *n*=52). Female-owned businesses included but were not limited to restaurants, retail and convenience stores, medical practices, hotels, and beauty salons. Turning to the labor force (see Table 13), women comprised nearly half of workers in household services (49.5%), a category which represents work in positions such as nannies and maids. Factory work was also divided equally between males (50%) and females (50%). Yet, females lag behind males in more stereotypically masculine employment arenas such as farming, construction, maintenance, and transportation. It appears that women are visible in certain labor/service jobs more than others.

In terms of crime, a total of 241 characters were engaged in illicit behavior sample wide. A life of nefarious activity is gendered, with 88.4% of law-breakers male and only 11.6% female. This means females are more likely to be depicted as a criminal than high-level political official, judge, lawyer, or professor. Females were more likely to need an attorney than to be one. Of the 28 female criminals, 9 or 32.1% were illegal sex workers.

The findings reviewed above reveal that female participation in the fictional global economy is still heavily stereotyped. Women are excluded from executive ranks and political decision-making, and even from sports and religious professions. Where women thrive is still in lower level positions. In the next section, we move to examining one specific sector in which females' involvement has been closely monitored worldwide.

### STEM Careers

Global innovation has made the need for a vital STEM (i.e., Science, Technology, Engineering, and Math) workforce stronger than ever. These oft-lucrative careers should be open to both men and women. However, the stereotypical nature of these jobs may affect perceptions about their openness or reduce their appeal to women. Media does not have to be limited to these stereotypes and can provide counter stereotypical cultural knowledge to developing youth in the context of fictional storytelling. The aim here was to examine what types of STEM models are available in popular films and how they may thwart or reinforce prevailing societal attitudes and beliefs.

Each working character in the sample was evaluated for the presence or absence of a STEM job. As noted by the U.S. Department of Commerce report (2011) *Women in STEM: A Gender Gap to Innovation*, a universal definition of a STEM occupation does not exist.<sup>37</sup> Consequently, we used the 50 STEM jobs listed in the aforementioned report with two modifications. Consistent with our previous report of STEM careers across media content,<sup>38</sup> we added college and University professors teaching within STEM fields (e.g., biology, chemistry) and forensic pathologists. The latter involves not only medical jurisprudence but also use of the scientific method.

Of the more than 3,000 characters with a job, 3.5% were shown working in an identifiable STEM career.<sup>39</sup> Across countries, the U.S. had the highest number of STEM characters and Germany and the U.K. the lowest. Of these, 88.4% were men and 11.6% were women. This calculates into a gender ratio of 7.6 STEM males to every 1 STEM female. Table 14 displays percentages on women in the STEM workforce from each country where information was available. Very few women were portrayed in STEM jobs across the sample, as shown in Table 14. As such, we did not compare real-world STEM jobs to fictional representations.<sup>40</sup>

**Table 14**  
**STEM Jobs by Gender and Country**

Country	# of STEM Jobs	STEM Males	STEM Females	% of Females in STEM Workforce
Australia	6	100%	0	n/a
Brazil	9	88.9%	11.1%	17.7%
China	6	100%	0	n/a
France	5	60%	40%	n/a
Germany	2	50%	50%	n/a
India	12	91.7%	8.3%	12.7%
Japan	21	90.5%	9.5%	11.6%
Korea	6	66.7%	33.3%	12.3%
Russia	3	100%	0	n/a
U.K.	2	100%	0	15.5%
U.S./U.K.	17	94.1%	5.9%	n/a
U.S.	32	87.5%	12.5%	24%
<b>Total</b>	<b>121</b>	<b>88.4%</b>	<b>11.6%</b>	<b>n/a</b>

Note: n/a indicates that STEM workforce data by gender was not available.

Table 15 breaks down the types of STEM jobs into four categories: life/physical sciences, computer science/technology, engineering, math, other. Females only fill 8.9%-17.2% of jobs in the life or physical sciences, computer science/technology, and engineering. No females were shown as mathematicians, though only one male was depicted in this occupational arena.

**Table 15**  
**Type of STEM Occupation by Character Gender**

Type of STEM Occupation	Males	Females
% working in the life or physical sciences	88.4% ( $n=38$ )	11.6% ( $n=5$ )
% working in computer science/technology	82.8% ( $n=24$ )	17.2% ( $n=5$ )
% working in engineering	91.1% ( $n=41$ )	8.9% ( $n=4$ )
% working in mathematics	100% ( $n=1$ )	0
% working in other	100% ( $n=3$ )	0

*Note:* Other involved occupations that were a hybrid of multiple STEM categories.

Focusing on the life/physical sciences, the gender ratio was 7.6 males to every one female. Only 5 women were shown working and all but one were supporting characters. Three of the jobs were in physical science (i.e., physics), but one involved running a company (CEO) devoted to producing clean energy. The remaining two involved the life sciences, focusing on botany and zoology. Conversely, 38 different male characters holding life/physical science jobs were observed across the sample. Six of these were main characters, 17 were supporting and 15 were inconsequential to the plot.

The computer science and technology sector only depicted five women as a part of the workforce. These gals had their hands on keyboards and their brains in binary, engaging in programming, developing, and even hacking sometimes in pursuit of saving the day. None of the computer science and technology jobs involved main characters, independent of gender. There were 24 males in this category of STEM, which is almost 5 times higher than the number of women.

Males were 10 times as likely as women to be engineers (41 vs. 4). Three of the women were architects and the fourth was a mechanical engineer. Engineering jobs for males included 4 main characters from this STEM category. The only male character with a mathematical profession was from the Japan sample and the three “other” male STEM workers were scientists (i.e., astronauts) and a criminal that used STEM to steal the moon.

Although STEM careers across the sample were not numerous, the few that fell to women were less varied than those held by men. Though every country depicted at least one STEM position, not all filled them with females. Across the globe, STEM still seems to be a stereotyped and skewed career field, even for fictional females.

### *Relationship Between Content Creator Gender & On Screen Prevalence*

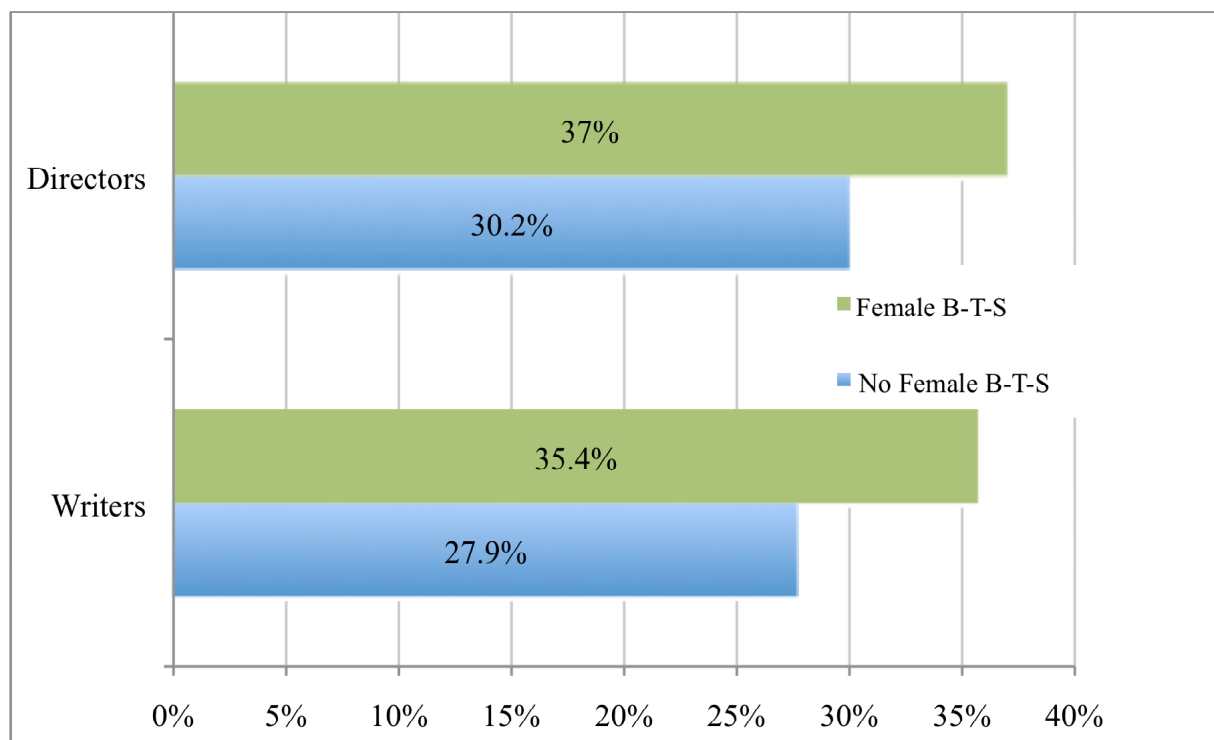
In the previous sections, we overviewed how girls/women were presented relative to boys/men. Now, we turn to examine why we may be seeing such a gendered picture on screen or in the movie theatre. As you may recall from Table 2, most of the directors and writers across the sample were male. This leads us to the question, does the landscape of storytelling shift when a woman is directing, writing, or producing a film? The answer to this question was sought in this section.

In general, previous research has documented a relationship between content creator gender and gender prevalence on screen.<sup>41</sup> Here, we tested that relationship with directors and writers. All of the films were siphoned into one of two silos: those with a female director attached and those without a female director. Then, we looked at the percentage of on screen speaking characters within each grouping. The same process was repeated for writers.

The results showed a significant relationship between filmmaker gender and character gender.<sup>42</sup> That is, films with at least one female director or writer working behind the scenes (b-t-s) have a higher percentage of girls/women on screen than do those without a female sensibility behind the camera. As shown in Figure 3, the percentage of females on screen jumps 6.8% with the addition of a female director and 7.5% with the inclusion of one or more female writers. Producer gender was not related to gender prevalence on screen, however. These findings can be explained in one of two ways.

First, females are more likely to tell stories featuring female characters and experiences. This explanation reflects the adage, “write what you know.” On the other hand, women may be given those projects to write and direct that focus on one or more female characters. This second and latter explanation is more problematic, as it restricts the range of open directing and writing opportunities given to women. In fact, our U.S.-based research on 1,100 top-grossing films from 2002 to 2012 reveals that 65% of female directed movies are in three genres: romance, comedy, and drama films.<sup>43</sup>

**Figure 3**  
**Filmmaker Gender and Character Gender On Screen**



### Conclusion

The purpose of this study was to examine the prevalence and nature of female characters in popular films from 11 countries around the world. One unifying theme was apparent: female characters are not equal and they are not aspirational in this sample of global films. This theme is illustrated by the following facts from this study:

- Only 30.9% of all speaking characters are female.
- A few countries are better than the global norm: U.K. (37.9%), Brazil (37.1%), and Korea (35.9%). However, these percentages fall well below population norms of 50%.
- Two samples fall behind: U.S./U.K. hybrid films (23.6%) and Indian films (24.9%) show female characters in less than one-quarter of all speaking roles.
- Females are missing in action/adventure films. Just 23% of speaking characters in this genre are female.
- Out of a total of 1,452 filmmakers with an identifiable gender, 20.5% were female and 79.5% were male. Females comprised 7% of directors, 19.7% of writers, and 22.7% of producers across the sample.
- Films with a female director or female writer attached had significantly more girls and women on screen than did those without a female director or writer attached.
- Sexualization is the standard for female characters globally: girls and women are twice as likely as boys and men to be shown in sexually revealing clothing, partially or fully naked,



thin, and five times as likely to be referenced as attractive. Films for younger audiences are less likely to sexualize females than are those films for older audiences.

- Teen females (13-20 years) are just as likely as young adult females (21-39 years) to be sexualized.
- Female characters only comprise 22.5% of the global film workforce, whereas male characters form 77.5%.
- Leadership positions pull male; only 13.9% of executives and just 9.5% of high-level politicians were women.
- Across prestigious professions, male characters outnumbered their female counterparts as attorneys and judges (13 to 1), professors (16 to 1), medical practitioners (5 to 1), and in STEM fields (7 to 1).

Given these grim findings, a call to change is crucial. Girls and women comprise 50% of the world's population, but represent far less of the international film populace. Asking filmmakers to create more roles for girls and women is not asking for the impossible. Instead, adding girls and women to stories means conceptualizing a fictional world that looks startlingly like the one we already inhabit.

Second, a call to be creative is necessary. Female characters can and should easily fill an equivalent share of the workforce and clout positions across industries simply through the imaginations of their creators. Conceiving of female CEOs, politicians, lawyers, judges, and doctors is the work of a creative writing moment but could have important and lasting consequences for the next generation.

Though the findings above are compelling, this study has a few limitations. First, the sample of films from each country was quite small. Analyzing ten movies does not summarize the full array of diversity that exists in each nation. Future research should examine more movies to determine if these initial trends are borne out.

Second, highly popular films for slightly older audiences were not included in order to achieve a “rough equivalency” to a MPAA rating of PG-13 or lower in our sample. This may mean that content with more girls and women or different portrayals of sexualization or occupation was not captured. Future scholars could expand the range of films they study to determine if films with higher ratings contain more or less gender stereotyping, or other problematic instances of gender relations (i.e., domestic violence). A deeper dive into animated or films targeted to children would also be instructive.

Third, the occupation measure we used privileged a U.S. definition of industries. This was chosen specifically to facilitate comparisons to our previous research. However, we may have missed slight cultural variability in how different jobs or sectors are regarded in each country. Relying on research assistants primarily from the countries sampled was one means of ensuring that any variation remained minimal.

Despite these limitations, the present study offers a unique glance at the gendered nature of film content worldwide. The opportunity to usher in a new reality is close at hand, however. Equipping and catalyzing storytellers to counter decades of stereotypical media portrayals is one place to start. After all, filmmakers make more than just movies, they make choices. Those choices could be for balance, for less sexualization, and for more powerful female roles. The choice could be for gender equality.

## Footnotes

<sup>1</sup> Elborgh-Woytek, K., Newiak, M., Kochhar, K., Fabrizio, S., Kpodar, K., Wingender, P., Clements, B., & Schwartz, G. (September, 2013). *Women, Work, and the Economy: Macroeconomic Gains From Gender Equity*. International Monetary Fund. Retrieved from: <https://www.imf.org/external/pubs/ft/sdn/2013/sdn1310.pdf>. United Nations. (2010). *The World's Women 2010: Trends and Statistics*. New York: United Nations.

<sup>2</sup> United Nations Millennium Development Goal 3: Promote Gender Equality and Empower Women. <http://www.un.org/millenniumgoals/gender.shtml>

<sup>3</sup> Smith, S.L., Choueiti, M., & Pieper, K. (2014). *Gender Inequality in Popular Films: Examining On Screen Portrayals and Behind-the-Scenes Employment Patterns in Motion Pictures Released Between 2007 and 2013*. Media, Diversity, & Social Change Initiative. Los Angeles, CA: USC Annenberg. Smith, S.L. & Choueiti, M. (2010). *Gender Disparity On-Screen and Behind the Camera in Family Films*. Report prepared for the Geena Davis Institute for Gender in Media. Smith, S.L. & Cook, C.A. (2008). *Gender Stereotypes: An Analysis of Popular Films and TV*. Report prepared for the Geena Davis Institute for Gender in Media. Powers, S.P., Rothman, D.J., Rothman, S. (1996). *Hollywood's America: Social and Political Themes in Motion Pictures*. Boulder, CO: Westview Press. Smith, S.L., Choueiti, M., Prescott, A., & Pieper, K. (2013). *Gender Roles & Occupations: A Look at Character Attributes and Job-Related Aspirations in Film and Television*. Report prepared for the Geena Davis Institute for Gender in Media.

<sup>4</sup> Motion Picture Association of America (2012). *Theatrical Market Statistics: 2012*. Author. See report online: <http://www.mpa.org/wp-content/uploads/2014/03/2012-Theatrical-Market-Statistics-Report.pdf>

<sup>5</sup> Because not all countries have a rating system (i.e., China) and film certifications vary widely from country to country, a number of steps were taken to construct the sample of films for this study. The major purpose of this investigation was to examine how U.S. films are performing relative to popular films in other countries. As such, the top 10 G, PG, and PG-13 U.S. films were scrutinized for their ratings in the other countries in our study. The ratings were gathered from websites (e.g., Government, Non government, Media Ratings Boards), downloaded in their original languages, and translated into English for comparative purposes. A grid was created to conceptualize where equivalency might emerge across countries and ratings. Unfortunately, the rating systems in France and Japan provide little to no information on this process.

From the grid, the most frequent type of U.S. film is PG-13. Further, the modal rating for other countries across the set of U.S. films is in the bottom row. After scrutinizing other country's rating systems, PG-13 rated films seem to be "roughly equivalent" to the following age-based ratings: Australia, M; Brazil, 12; Canada (Ontario) 14A, France, 12; Germany, FSK 12; Hong Kong IIB, India, U/A; Japan, PG-12; South Korea, 12+; United Kingdom, 12A; and Russia, 14. Any popular films that surpassed these ratings within country, were automatically excluded from sample consideration. Canada was included to gauge how another North American country with European and U.S. ties rates cinematic content. Hong Kong was examined to provide certification information on Chinese films.

### Ratings Comparison Across Sample of 10 U.S Films

	AU	BR	CA	FR	DE	HK	IN	JP	RU	SK	UK	US
Marvel's The Avengers	M	12	PG	U	FSK12	IIA	UA	G	14	12	12A	PG-13
Toy Story 3	G	L	G	U	FSK0	I	U	G	ALL	ALL	U	G
The Hunger Games	M	14	14A	U*	FSK12	IIB	UA	PG12	14	15	12A	PG-13
Transformers: Dark of the Moon	M	12	PG	U	FSK12	IIA	UA	G	14	12	12A	PG-13
Alice in Wonderland	PG	10	PG	U	FSK12	IIA	U	G	12	ALL	PG	PG
Iron Man 2	M	12	PG	U	FSK12	IIA	UA	G	14	12	12A	PG-13
The Twilight Saga: Eclipse	M	14	PG	U	FSK12	IIA	UA	G	14	12	12A	PG-13
The Amazing Spider-Man	M	10	PG	U	FSK12	IIA	UA	G	12	12	12A	PG-13
Despicable Me	PG	L	PG	U	FSK0	I	U	G	ALL	ALL	U	PG
Shrek Forever After	PG	L	PG	U	FSK6	I	U	G	12	ALL	U	PG
Mode	M	12/L	PG	U	FSK12	IIA	UA	G	14	12	12A	PG-13

*Note:* Country codes are listed above: AU=Australia, BR=Brazil, CA=Canada, FR=France, DE=Germany, HK=Hong Kong, IN=India, JP=Japan, RU=Russia, SK=South Korea, UK=United Kingdom, and US=United States.

Films sometimes exceeded ratings in other countries but not in their own. To handle this issue, we applied the following rules. Any film was excluded from the sample if it was rated higher than 1) Motion Picture Association of America's (MPAA) PG-13 (i.e., rating=R); 2) United Kingdom's 12A (i.e., rating=15), or 3) Australia's M (i.e., rating=MA 15+). In the absence of a U.S., U.K., or Australian rating, we looked to ratings in specific countries to inform whether a film should be included in the sample. If a film was rated FSK 16 in Germany, 16+ in Russia, or Teenager Restricted in South Korea, it was automatically excluded from sample consideration.

Using this information, we selected the top 10 domestic performing movies within each country. Only collaborations or movies that were produced or coproduced within the sampled country were considered. Co productions with any U.S. studios (i.e., involvement listed on IMDbPro.com with U.S. addresses for Sony, Twentieth Century Fox, Warner Brothers, Disney, Universal, or Paramount) were excluded unless the film met one of the three following conditions: 1) the main character was portrayed from the country evaluated, 2) the director was associated with the country of origin (i.e., Australian director, British director), or 3) the country indicated the film passed a specific "cultural" test. We had cultural information on collaborations, co productions, and productions from Australia (Anthony Johnsen, *Screen Australia*), U.K. (Nick Maine, *British Film Institute*), and Germany (i.e., Markus Wessolowski, Patrick Seyboth, *Deutsches Filminstitut*, Katrin Moelke, *Bundesarchiv-Filmarchiv*).

Because of the collaboration/co production rule, a few films have more than one "country of origin." For instance, two movies in the Australian sample are collaborations with the U.S. (i.e., *Happy Feet Two*; *Legend of the Guardians: The Owls of Ga'Hoole*). Both films were certified as Australian films by <http://www.screenaustralia.gov.au/> and via email correspondence with an individual noted above. Further, the two films meet the other two components of our cultural test outlined above. In only one sample did collaborations pose a larger challenge: the United Kingdom. To address this, we constructed a list of films which were all co productions/collaborations or were designated as having a joint country of origin between the U.S. and U.K. This may or may not be obvious in industry databases (i.e., IMDbPro.com, Studio System). To obtain a complete list of joint films, we consulted with the British Film Institute (BFI). Only after ensuring that the movies passed BFI certification to be considered co productions did we include them in the sample. These films are all hybrids and will be referenced as such. Out of

necessity, we constructed a second sample to represent films with no U.S. major studio involvement in the U.K. These movies were also certified by the BFI as being U.K. films independent of U.S. studio involvement. The BFI's distinctions about these films could be contested, but we privileged the cultural designation as a mark of authenticity.

Six remaining caveats are important to note. First, China does not have a rating system. As such, we had to use Hong Kong's ratings to inform sample inclusion. However, one of the Chinese films, *The Chef, The Actor, The Scoundrel* has not been rated by any country in our sample. Because the content was excessively violent and gory, the film was *not* included in the study. Second, the box office performance within and between countries varied dramatically. Thus, the top 10 produced films in one country may not be financially or artistically equivalent to the top 10 in other countries. Third, and despite trying to standardize content globally, the films feature a wide range of violent content, sexual activity, and profane language. Ultimately, these content attributes reflect the values and ethics held per country and do not generalize across territories. Given this, it was important to attempt to demarcate an age-based limit for sample inclusion without assuming that each country would prescribe the same type of content as appropriate for children and emerging adults. In fact, several countries depict mature sexual scenes that would probably be rated R by the MPAA.

Fourth, the U.S. sample of films were not allowed to have any co productions with any other countries. As such, *The Hobbit* was not included in the U.S. sample of top films (i.e., co production with New Zealand). Fifth, the ratings for films were determined at particular points in time (Summer 2013=India, China; March/April 2014=all other territories). As a result, if a film was *subsequently* rated by another country based on the rules outlined above in our sample after we finished coding of a particular territory, this could *not* be taken into account. Sixth, one release in the Japan sample was a simultaneous showing of two films: *Pokémon the Movie: Black—Victini and Reshiram* and *White—Victini and Zekrom*. Essentially, these films were almost identical save a few characters. Rather than double code characters twice, we randomly sampled and evaluated only one of the two feature length movies (*Pokémon the Movie: White—Victini and Zekrom*).

<sup>6</sup> Olsberg SPI, KEA European Affairs, & KPMG (2003). *Empirical Study on the Practice of the Rating of Films Distributed in Cinemas Television DVD and Videocassettes in the EU and EEA Member States. Report prepared on behalf of the European Commission.* Retrieved from: <http://www.mediadeskcz.eu/uploaded/20090910095507-rating-finalrep2.pdf>. Hanewinkel, R., Morgenstern, M., Tanski, S.E., & Sargent, J.D. (2008). Longitudinal study of parental movie restriction on teen smoking and drinking in Germany. *Addiction, 103*, 1722-1730. Anderson, S.J., Millett, C., Polansky, J.R., & Glantz, S.A. (2010). Exposure to smoking in movies among British adolescents 2001-2006. *Tobacco Control, 19*, 197-200. Doi: 10.1136/tc.2009.034991. Leenders, M.A.A.M. & Eliashberg, J. (2011). The antecedents and consequences of restrictive age-based ratings in the global motion picture industry. *International Journal of Research in Marketing, 28*, 367-377. Hanewinkel, R., Sargent, J.D., Karlsdóttir, S., Jónsson, S. H., Mathis, F., Faggiano, F., ... & Morgenstern, M. (2011). High youth access to movies that contain smoking in Europe compared with the USA. *Tobacco Control, 22*, 241-244. Thrasher, J.F., Sargent, J.D., Vargas, R., Braun, S., Barrientos-Gutierrez, T., Sevigny, E.L., ... & Hardin, J. (2014). Are movies with tobacco, alcohol, drugs, sex, and violence rated for youth? A comparison of rating systems in Argentina, Brazil, Mexico, and the United States. *International Journal of Drug Policy, 25*, 267-275. Price, J., Palsson, C., & Gentile, D. (2014). What matters in movie ratings? Cross-country differences in how content influences mature movie ratings. *Journal of Children and Media.* DOI: 10.1080/17482798.2014.880359

<sup>7</sup> Price, Palsson, & Gentile (2014).

<sup>8</sup> The major unit of analysis was the independent speaking character. Characters had to speak one or more words discernibly on screen to be evaluated in this investigation. Named characters that did not speak were also included. Sometimes homogeneous characters spoke sequentially on screen making their independent identity impossible to ascertain. These characters were chunked together as a group. Group characters were not included in any analyses. Only 11 groups were coded across the sample of 120 films.

In most cases, coding speaking characters is straightforward. Two aspects of storytelling can affect unitizing characters, however. At times, characters will morph or change into different entities (i.e., Genie in *Aladdin*). Any time a character changes demographics (i.e., age, type, race/ethnicity, sex), a new line of data is created. Only 257 demographic changes appeared across the sample of speaking characters. The overall percentage of speaking characters by gender after removing demographic changes (males=69.5%, females=30.5%) changes very little (-.4% of female characters) from leaving them in (males=69.1%, females=30.9%). Interestingly, demographic changes are 38% female ( $n=98$ ) and 62% male ( $n=159$ ). Consistent with all of our content analytic work, demographic changes are *included* in all of the reports' analyses.

Besides type changes, we also code occupation changes. Occupation changes occur when characters move from one job to the next or hold two or more jobs concurrently within the context of the plot. For all gender prevalence, demographic, domesticity, and hypersexualization analyses, occupation changes were removed. Occupation changes were only left in when assessing types of employment (i.e., major group, sector, small business owner, etc) and STEM careers. A total of 171 job changes appeared across the sample. 24.6% of job changes involved women and 75.4% involved men, which is remarkably consistent with the distribution of gender by occupation reported above (males=77.5%, females=22.5%).

<sup>9</sup> Several variables were measured at the character and the film level. At the character level, demographics, domesticity, hypersexualization, and occupation were captured. Adapted from Wilson et al., (1997), characters were coded for *sex* (i.e., male, female), *apparent age* (i.e., 0-5, 6-12, 13-20, 21-39, 40-64, 65 years or older), and *apparent race/ethnicity* (i.e., White/Caucasian, Hispanic/Latino/Spanish, Black, Natives to North/South America/Indigenous Peoples, Asian, Middle Eastern, Other/Mixed race). Domestic variables included *parental status* (i.e., not a parent, single parent, co parent, parent-relational status unknown) and *romantic involvement* (i.e., single, married, committed relationship-not married, committed relationship-marital status unknown, divorced, widowed). Some of these variables were collapsed prior to analysis, which will be noted in footnotes below.

Four indicators captured appearance and/or sexualization. The latter measures were adapted from Downs & Smith (2005). *Sexualized attire* referred to tight or alluring apparel designed to evoke interest or arousal from other characters. This variable was coded as present or absent. *Nudity* measured the degree of exposed skin between the mid chest and high upper thigh regions. Any skin exposure in the chest (i.e., cleavage), midriff (i.e., stomach) or upper thigh/buttocks region was considered partial nudity or some exposed skin. Full nudity occurred when 1) characters were shown without clothes from mid chest to upper thigh, 2) genitals were shown, or 3) females were depicted topless or with nipple exposure. Toplessness in males was coded as partial or some nudity.

*Thinness* captured the degree of fat or muscle on a character's body and was coded as not thin, thin, extremely thin. Seven-point line drawings from the body image research facilitated these judgments (modified version of Collins' 1991 scale), allowing coders to see pictorial representations of an extremely thin to extremely large boy/man and girl/woman. Coders were instructed to evaluate "thin" and "extremely thin" using the tails of the distribution on the line drawings (points 1-2). This variable was

only assessed on characters with bodies that approximate the human shape and form more than any other species. Roughly two-thirds of the character's body had to be depicted for a thinness judgment to be rendered. Finally, we measured *attractiveness* of speaking characters. This variable assessed the number of verbal (e.g., he is hot!) and nonverbal references (e.g., cat call) directed at characters based on their physical desirousness. Characters were coded as receiving no references, one reference, or two or more references.

Across all measures coders were allowed to use two additional values: not applicable and can't tell. Not applicable would be used in those instances where it is not possible to measure a specific variable for a character. To illustrate, SRC would be coded as "not applicable" for characters not wearing clothes. Can't tell is used when characters can be evaluated on a particular characteristic, but it is impossible to ascertain the value due to insufficient information. In addition to these variables, the presence/absence of an occupation, major occupational group, sector, small business owner (no/yes), executive (no/yes) and highest clout (no/yes) were measured.

Research assistants (RAs) were recruited during the 2013 and 2014 school years to code the sample of films. Training took place in a classroom type environment where students learned how to unitize and measure character attributes. Diagnostics were given to students to facilitate the training process and evaluate unitizing and variable reliability. At the end of a roughly 6 week training process, student RAs began evaluating the sample of films. Each film was evaluated independently in the Media, Diversity, & Social Change Initiative lab at USC's Annenberg School for Communication and Journalism. Typically, three students were assigned to code each movie in two phases.

First, students unitized speaking characters and evaluated demographic, domesticity, and appearance measures. Reliability was then computed and students discussed disagreements with one of the study authors, who would adjudicate the process. Post discussion, a final file was prepared and the second round of variable coding commenced. During the second phase, students evaluated independently occupation and STEM measures. After all three students had evaluated the movie, a discussion would ensue regarding disagreements. After both phases of content coding were completed, a final research assistant would "quality check" all of the students' judgments by watching the film one more time noting whether s/he agreed with all of the previous coders' judgments. One film in the sample deviated from this approach (*Meet the In Laws*, Korea), as only two coders were able to evaluate the content. Also, one coder evaluated 2 rounds of one Japanese film outside of the MDSC lab.

For this study, we report unitizing and variable coding reliability by film across all measures. Unitizing was determined by the number of agreed upon lines (i.e., speaking characters) by the majority (3 of 4, 2 of 3, or 2 of 2 for *Meet the In Laws*) of RAs coding each film. Breaking the sample into quartiles, the percentage of agreement is as follows: Q1 (100%-90.74%), Q2 (90.70%-84.81%), Q3 (84.62%-80%), and Q4 (79.41%-59.62%). Only 7 films had a percentage of agreement below 70% (range=69.77%-59.62%).

Variable reliability was calculated using the Potter & Levine-Donnerstein (1999) formula for multiple coders. In the case of *Meet the In Laws*, Scott's pi (1955) was used. We report the sample-wide median coefficients for each variable as well as the range (minimum, maximum): *form* (1.0, range=1.0), *type* (1.0, range=.64-1.0), *age* (1.0, range=.65-1.0), *gender* (1.0, range=.95-1.0), *apparent race/ethnicity* (1.0, range=.66-1.0), *parental status* (1.0, range=.64-1.0), *romantic relationship* (1.0, range=.65-1.0), *sexually revealing clothing* (1.0, range=.74-1.0), *nudity* (1.0, range=.92-1.0), *thinness* (1.0, range=.63-1.0), *attractiveness* (1.0, range=.95-1.0), *role* (1.0, range=.57-1.0), *occupation* (1.0, range=.57-1.0), *major group* (1.0, range=.66-1.0), *sector* (1.0, range=.00-1.0), *executive* (1.0, range=.61-1.0), *high clout* (1.0,

*range=.61-1.0*), *small business owner* (1.0, *range=.61-1.0*), *STEM job* (1.0, *range=.63-1.0*), *STEM category* (1.0, *range=.47-1.0*), and *style of presentation* (1.0, *range=0-1.0*). The zero's on both sector and style of presentation were only observed on one film each, *Alice in Wonderland* (i.e., style) and *The Hunger Games* (i.e., sector).

A team of research assistants (undergraduate, graduate students) were recruited to evaluate the sample of films. USC has the largest international student population of U.S. universities. see: <http://www.usc.edu/admission/graduate/international/>. This made recruiting a sufficient number of RA's for each sample on campus possible. Movies were analyzed in their native language, requiring culturally and linguistically astute coders that could speak and write French, German, Hindi, Japanese, Korean, Mandarin, Portuguese, and Russian. For this study, films were watched with subtitles. Teams of 3-9 individuals were constructed to evaluate the sample of films from each of these territories. The teams were comprised of primarily international students or RAs that have been immersed in the language and culture of a particular country. More cultural variability existed on the Japanese (5 of 9 students from Japan), French (2 of 5 students from France), and Russian (all three fluent in Russian, two were raised in former Soviet Union and the other was raised in U.S. but spoke Russian as the first language in the home) teams. Films presented in English (i.e., U.S., U.K., Australian samples) were evaluated by multiple members of the research team, independent of their ethnic, national, or racial identity.

<sup>10</sup> Women are 49.6% of the population. This is a sex ratio of 1.014 males to every female. See: [http://www.census.gov/population/international/data/idb/worldpop/tool\\_population.php](http://www.census.gov/population/international/data/idb/worldpop/tool_population.php) and <https://www.cia.gov/library/publications/the-world-factbook/geos/xx.html>

<sup>11</sup> The chi-square analysis for *gender prevalence by country* was significant,  $X^2(11, 5,799)=60.11, p<.05, V^*=.10$ .

<sup>12</sup> The analysis of female *lead/co lead character* (no, yes) by *country* was marginally significant,  $X^2(11, 120)=19.38, p<.06, V^*=.40$ . This analysis should be interpreted with caution due to low expected frequencies (>5) across many cells.

<sup>13</sup> Smith, Choueiti, & Pieper (2014).

<sup>14</sup> To assess genre, IMDbPro was first consulted. Then, the second author of the investigation sorted the movies into one of five mutually exclusive categories. IMDbPro's categorization was overturned when it violated the content of the film. The five categories included: action/adventure, comedy, drama, animation, and other. Only one film was coded as other, *The Woman in Black*. This film is billed as a "drama/horror/thriller" on IMDbPro. The relationship between *character gender* (male, female) and *genre* was significant,  $X^2(4, 5,799)=48.38, p<.01, V^*=.09$ .

<sup>15</sup> To assess behind the scenes data, the names and positions of each individual credited (i.e., given a title) for directing, writing, and producing were gathered from the DVDs in the sample. Research assistants were instructed to look for specific titles under each category. Content creators were allowed to duplicate across the three above-the-line categories but not within. Titles such as 'Line Producer' and 'Script' had indirect translations in non-English speaking countries. We used IMDbPro to compare and confirm the translation of titles (in English vs. the language of the film's country) for a given filmmaker so that the correct credits were collected. Research assistants were instructed to watch the opening of each film first, scanning for any credits until roughly 15 minutes into the plot. After some time had passed since the last credit was given on screen, assistants watched from the end until the final credits rolled. Directors, writers, and producers were noted per film and their biological sex was confirmed using an online source that referenced their gender or showed their image.



It must be noted that not all producers were evaluated in this study. Specifically, a few rules were applied to the credits. First, visual effects, digital or animation producers were excluded in the study whereas collaborating, supervising, and creative producers were included. Second, any producer listed with a company affiliation was scrutinized on a case-by-case basis. Clear producing credits appearing on a title card were included in the data. Individuals listed with company credits significantly after the cast or other on set crew were excluded. Also, credits that were unique to each country but translated as director, writer, or producer were included.

One or two assistants initially collected all the information; later the data (e.g., credits and biological sex proof) were checked by another assistant. Except for the English language content, films from specific regions were analyzed by those research assistants fluent in the language of the film. Once all of the data were collected, the judgments were compared to IMDbPro as well as specific country databases such as Korean Movie Data Base (KMDB, <http://www.kmdb.or.kr/eng/>), Japanese Film Database (JFDB, <http://jfdb.jp/en/>), Allocine (<http://www.allocine.fr/>), Filmstarts (<http://www.filmstarts.de/>), Kinopoisk (<http://www.kinopoisk.ru/>), and Adorocinema (<http://www.adorocinema.com/filmes/filme-142/>). Importantly, we examined each of the lists of directors, writers, and producers in each the language from each country. It should be noted that there was considerable disagreement among the DVD credits, IMDbPro, and national databases.

A total of 1,460 individuals were credited across the films in the sample. We were unable to confirm the biological sex of 66 individuals across the sample. We were able to sort 58 names into either sex using databases that indicated the likely gender of specific names (i.e., websites such as babynames.com, indiachildnames.com, and babynamesworld.parentsconnect.com). We were unable to determine the gender of 8 individuals in the sample. Thus, the total number of filmmakers analyzed is 1,452.

<sup>16</sup> See examples from: Smith, et al. (2014), Smith & Choueiti (2010), and Smith & Cook (2008).

<sup>17</sup> The chi-square analysis for character *gender* (male, female) and *apparent age* (0-12 yrs., 13-20 yrs., 21-39 yrs., 40-64 yrs., 65+ yrs.) was significant,  $X^2(4, 5,545)=138.18, p<.05, V^*=.16$ . Prior to analysis, the first two age levels (0-5 yrs., 6-12 yrs.) were collapsed.

<sup>18</sup> To test this relationship, we computed a chi-square on *age* (child, teen, adult, middle aged, elderly) by *gender* (males, females) within the 12 territory samples. Ten of the 12 chi-square statistics were significant at the  $p<.05$  level (India and Brazil were not significant). A higher percentage of females were shown than males between the ages of 21-39 whereas the opposite was true for ages 40-64. Additionally, 22 of the 24 comparisons between males and females across these two age groupings were 5% or greater. One age level (adults) failed to reach a gender difference in India and the other failed to reach a gender difference in the U.K. independent sample. Both, however, were in the predicted stereotypical direction.

<sup>19</sup> To assess race and/or ethnicity of global populations, our measure accounted for differences in how countries considered Native groups, immigrant distinctions, and individuals of mixed race/ethnicity. For more information, see: Pieper, K.M., Smith, S.L., & Choueiti, M. (2014). *Race & Ethnicity in Independent Films: Prevalence of Underrepresented Directors and the Barriers They Face*. Report prepared for the National Endowment for the Arts.

<sup>20</sup> Repetti, R.L. (1984). Determinants of children's sex stereotyping: Parental sex-role traits and television viewing. *Personality and Social Psychology Bulletin*, 10 (3), 457-468. Meyer, B. (1980). The development of girls' sex-role attitudes. *Child Development*, 51(2), 508-514.

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- <sup>22</sup> The relationship between character *gender* (male, female) and *parental status* (no, yes) was significant,  $X^2(1, 1,190)=6.99, p<.05, \phi=.08$ . It should be noted that parental status was originally a four level variable: not a parent, single parent, co parent, parent-relational status unknown. The latter three levels were collapsed to create a dichotomous measure: parent vs. not a parent.
- <sup>23</sup> An association between character *gender* (male, female) and *romantic relationship* (no, yes) was also significant,  $X^2(1, 1,247)=4.48, p<.05, \phi=.06$ . To create the romantic relationship variable, we collapsed single, widow, and divorced into one level and married, committed relationship not married, and committed relationship marital status unknown into another. The collapsing created a binary measure prior to analysis.
- <sup>24</sup> See, for example: American Psychological Association, Task Force on the Sexualization of Girls. (2010). *Report of the APA Task Force on the Sexualization of Girls*. Retrieved from <http://www.apa.org/pi/women/programs/girls/report-full.pdf>. 'Just the women.' (2012). A joint report by Eaves, End Violence Against Women Coalition, Equality Now, OBJECT. Retrieved from <http://www.object.org.uk/files/Just%20the%20Women%20-%20Nov%202012.pdf>. Papadopoulos, Linda (2010). Sexualisation of young people review. London: Home Office.
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<sup>27</sup>. All four appearance indicators varied with gender: *sexually revealing clothing*:  $X^2(1, 5,484)=229.66$ ,  $p<.01$ ,  $\phi=.21$ ; *nudity*,  $X^2(1, 5,487)=145.27$ ,  $p<.01$ ,  $\phi=.16$ ; *thinness*,  $X^2(1, 4,281)=275.16$ ,  $p<.01$ ,  $\phi=.25$ ; *physical beauty*,  $X^2(1, 5,799)=245.98$ ,  $p<.01$ ,  $\phi=.21$ . *Nudity* was collapsed prior to analysis: none vs. some (partial or full nudity). Some nudity featured 803 instances of partial and 45 instances of full nudity. *Thinness* also was collapsed into two categories: not thin vs. thin. Finally, attractiveness was transformed into a binary: attractive (1 or more references) vs. not attractive (no references).

We looked at each sexualization variable for males and females separately across countries. For females, all four variables were significant by country: *sexually revealing clothing*:  $X^2(11, 1,717)=66.61$ ,  $p<.01$ ,  $V^*=.20$ ; *nudity*,  $X^2(11, 1,717)=71.78$ ,  $p<.01$ ,  $V^*=.20$ ; *thinness*,  $X^2(11, 1,374)=53.67$ ,  $p<.01$ ,  $V^*=.20$ ; *physical beauty*,  $X^2(11, 1,789)=32.04$ ,  $p<.01$ ,  $V^*=.13$ . For males, all four variables also differed by country: *sexually revealing clothing*:  $X^2(11, 3,767)=36.04$ ,  $p<.01$ ,  $V^*=.10$ ; *nudity*,  $X^2(11, 3,770)=33.99$ ,  $p<.01$ ,  $V^*=.09$ ; *thinness*,  $X^2(11, 2,907)=84.79$ ,  $p<.01$ ,  $V^*=.17$ ; *physical beauty*,  $X^2(11, 4,010)=30.75$ ,  $p<.01$ ,  $V^*=.09$ .

<sup>28</sup>. All four appearance measures varied for females by *film type* (for younger audiences vs. all other films): *sexually revealing clothing* (no, yes):  $X^2(1, 1,717)=12.33$ ,  $p<.01$ ,  $\phi=-.09$ ; *nudity*,  $X^2(1, 1,717)=14.81$ ,  $p<.01$ ,  $\phi=-.09$ ; *thinness*,  $X^2(1, 1,374)=5.76$ ,  $p<.05$ ,  $\phi=.07$ ; *physical beauty*,  $X^2(1, 1,789)=4.56$ ,  $p<.05$ ,  $\phi=-.05$ . For males, the only chi-square that differed by *film type* (for younger audiences vs. all other films) was *thinness*;  $X^2(1, 2,907)=61.14$ ,  $p<.01$ ,  $\phi=.15$ .

<sup>29</sup>. The same appearance variables varied by females' *age* (teen, adult, middle aged): *sexually revealing clothing*,  $X^2(2, 1,432)=39.94$ ,  $p<.01$ ,  $V^*=.17$ ; *nudity*,  $X^2(2, 1,432)=36.21$ ,  $p<.01$ ,  $V^*=.16$ ; *thinness*,  $X^2(2, 1,159)=115.89$ ,  $p<.01$ ,  $V^*=.32$ ; *physical beauty*,  $X^2(2, 1,468)=33.01$ ,  $p<.01$ ,  $V^*=.15$ .

<sup>30</sup>. Males' *age* (teen, adult, middle aged) was significantly related to the four appearance measures: *sexually revealing clothing*,  $X^2(2, 3,226)=34.06$ ,  $p<.01$ ,  $V^*=.10$ ; *nudity*,  $X^2(2, 3,227)=21.41$ ,  $p<.01$ ,  $V^*=.08$ ; *thinness*,  $X^2(2, 2,499)=239.86$ ,  $p<.01$ ,  $V^*=.31$ ; *physical beauty*,  $X^2(2, 3,354)=35.85$ ,  $p<.01$ ,  $V^*=.10$ .

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<sup>34</sup> Chi-square analyses revealed a significant association between character *gender* (males, females) and *occupation* (no, yes);  $X^2(1, 5,304)=242.00, p<.01, \phi=-.21$ . Within gender, the relationship between *occupation* (no, yes) and *country* was significant for females,  $X^2(11, 1,596)=25.19, p<.01, V^*=.13$ ; and males,  $X^2(11, 3,708)=37.80, p<.01, V^*=.10$ . Looking at the workforce only, the *gender* by *country* analysis was also significant,  $X^2(11, 3,306)=28.47, p<.01, V^*=.09$ .

<sup>35</sup> Smith, Choueiti, et al. (2012).

<sup>36</sup> Data in Table 13 are from The World Bank (2012). See <http://data.worldbank.org/indicator/SL.TLF.TOTL.FE.ZS>. Global workforce data are also from The World Bank (2012), available: <http://wdi.worldbank.org/table/2.2>.

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<sup>39</sup> Twenty-three of the occupations were coded as “can’t tell” for STEM. Two characters were STEM but changed demographics and became a second line of data. Because the characters held the same job, they were only counted once.

<sup>40</sup> Definitions of the STEM workforce around the world vary widely, according to the U.S. Department of Commerce (see p. 2). In fact, according to one researcher, “comprehensive international data on gender difference in STEM” is not readily available (B. Kahn, personal correspondence, 2014). Thus, researchers must rely upon government or international data sources with varying definitions, indicators, and meanings. As a result, few comparable indicators exist across countries and alternate definitions of STEM may result in different real-world figures. We utilized consistent data when available. It is possible that other data sources using other indicators may provide different data for the countries in the sample. Readers should interpret real-world statistics with extreme caution. For the data presented in Table 9, the following links provide relevant data. U.S.: Beede, Julian, Langdon, McKittrick, Khan, & Doms (August, 2011). *Women in STEM: A Gender Gap to Innovation*. ESA Issue Brief #04-11. Economics and Statistics Administration: Author. <http://www.esa.doc.gov/sites/default/files/reports/documents/womeninstemagaptoinnovation8311.pdf>. Brazil, India, South Korea: Women in Global Science & Technology (2013). *National Assessments on Gender Equality in the Knowledge Society*. Country Results: India. Retrieved from: [http://wisat.org/data/documents/National\\_Scorecard\\_India.pdf](http://wisat.org/data/documents/National_Scorecard_India.pdf). See p. 7. Note that the definition for STEM jobs in these countries is not clear, thus the professions indicated may include jobs that do not fall under the heading of STEM in the U.S. or U.K. and should be compared cautiously. See: [http://wisat.org/data/documents/GEKS\\_-Synthesis-Nov2012.pdf](http://wisat.org/data/documents/GEKS_-Synthesis-Nov2012.pdf) (page 91). UK: Kirkup, G., Zalevski, A., Maruyama, T. and Batool, I. (2010). *Women and Men in Science, Engineering and Technology: the UK Statistics Guide 2010*. Bradford: the UKRC. Data are from 2008. See: <http://www.napier.ac.uk/research/centresandprojects/src/Documents/final-sept-15th-15-42-ukrc-statistics-guide-2010.pdf>

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<sup>42</sup> The chi-square analysis for *female director attached* (no/yes) and *character gender* (males, females) was significant,  $X^2(1, 5,799)=10.27, p<.05, \phi=.04$ . The analysis for *female writer attached* (no/yes) and *character gender* (males, females) also was significant,  $X^2(1, 5,799)=35.91, p<.05, \phi=.08$ .

<sup>43</sup> Smith, S.L., Pieper, K., & Choueiti, M. (2013). *Exploring the Barriers and Opportunities for Independent Women Filmmakers*. Report prepared for the Sundance Institute/Women in Film Los Angeles Women Filmmaker's Initiative.

## Appendix B

### Sample of Movies by Country

Country	Title	Rating	Release
Australia	Red Dog	PG	8/4/2011
Australia	The Sapphires	PG	8/9/2012
Australia	Happy Feet Two	G	12/26/2011
Australia	Bran Nue Dae	PG	1/14/2010
Australia	Kath and Kimderella	PG	9/6/2012
Australia	Legend of the Guardians: Owls of Ga'Hoole	PG	9/30/2010
Australia	The Kings of Mykonos: Wog Boy 2	M	5/20/2010
Australia	The Cup	PG	10/13/2011
Australia	Goddess	PG	3/14/2013
Australia	Return to Nim's Island	G	3/28/2013
Brazil	Head Over Heels 2 - De Pernas Pro Ar 2	12	12/28/2012
Brazil	Astral City: A Spiritual Journey - Nosso Lar	10	9/3/2010
Brazil	Chico Xavier	0	4/2/2010
Brazil	Till Luck Do Us Part - Até Que a Sorte Nos Separe	12	10/5/2012
Brazil	It'll Work Out Fine - Vai Que Dá Certo	12	3/22/2013
Brazil	Any Stray Cat - Qualquer Gato Vira-Lata	12	6/10/2011
Brazil	Gonzaga: From Father to Son - Gonzaga: De Pai pra Filho	12	10/26/2012
Brazil	The Clown - O Palhaço	10	10/28/2012
Brazil	Man of the Future - O Homem do Futuro	12	9/2/2011
Brazil	The Well Beloved One - O Bem Amado	12	7/23/2010
China	Lost in Thailand - 人再囧途之泰囧	IIA	12/12/2012
China	Journey to the West: Conquering the Demons - 西游·降魔篇	IIB	2/10/2013
China	CZ12 - 十二生肖	IIA	12/20/2012
China	So Young - 致我们终将逝去的青春	IIA	4/26/2013
China	Finding Mr. Right - 北京遇上西雅图	I	3/21/2013
China	Love is Not Blind - 失恋33天	IIA	11/8/2011
China	The Grandmaster - 一代宗师	IIA	1/8/2013
China	Detective Dee and the Mystery of the Phantom Flame - 狄仁杰之通天帝国	IIB	9/29/2010
China	If You Are The One II - 非诚勿扰2	I	12/22/2010
China	The Silent War - 听风者	IIA	8/7/2012
France	Nothing to Declare - Rien à Déclarer	U	2/2/2011
France	HOUBA! On the Trail of the Marsupilami - Sur la piste du Marsupilami	U	4/4/2012
France	Would I Lie to You! 3 - La Vérité Si Je Mens! 3	U	2/1/2012
France	Astérix and Obélix: God Save Britannia - Astérix & Obélix: Au Service de sa Majesté	U	10/17/2012
France	Camping 2	U	4/21/2010
France	Serial Teachers - Les Profs	U	4/17/2013
France	What's in a name? - Le Prénom	U	4/25/2012
France	The Dream Team - Les Seigneurs	U	9/26/2012
France	The Artist - L'Artiste	U	10/12/2011
France	Arthur 3: The War of Two Worlds - Arthur 3: La Guerre des Deux Mondes	U	10/13/2010
Germany	Kokowääh	FSK-6	2/3/2011
Germany	The Break Up Man - Schlussmacher	FSK-6	1/10/2013
Germany	Turkish For Beginners - Türkisch für Anfänger	FSK-12	3/15/2012
Germany	Woman in Love - Rubbeldiekatz	FSK-12	12/15/2011
Germany	Wickie and the Treasure of the Gods - Wickie auf Großer Fahrt	FSK-0	9/29/2011
Germany	Friendship!	FSK-6	1/14/2010
Germany	Animals United - Konferenz der Tiere	FSK-0	10/7/2010

Germany	Almanya: Welcome to Germany - Almanya: Willkommen in Deutschland	FSK-6	3/10/2011
Germany	Men In the City 2 - Männerherzen... und die ganz ganz große Liebe	FSK-6	9/15/2011
Germany	A Very Hot Number - Eine ganz heiße Nummer	FSK-12	10/27/2011

### Appendix B Sample of Movies by Country - Continued

Country	Title	Rating	Release
India	Once There was a Tiger - Ek Tha Tiger	UA	8/15/2012
India	Dabangg 2	UA	12/21/2012
India	Bodyguard	UA	8/31/2011
India	As Long as I Live - Jab Tak Hai Jaan	UA	11/13/2012
India	Barfi	U	9/14/2012
India	Ra-One	U	10/26/2011
India	Housefull 2	UA	4/6/2012
India	Son of Sardaar	UA	11/13/2012
India	Bol Bachchan	UA	7/6/2012
India	Golmaal 3	U	11/5/2012
Japan	The Secret World of Arrietty - 借りぐらしのアリエッティ	G	7/1/2010
Japan	Umizaru 3 - THE LAST MESSAGE ザ・ラストメッセージ 海猿	G	7/12/2010
Japan	Bayside Shakedown 3: Set the Guys Loose - 踊る大捜査線 THE MOVIE3 ヤツらを解放せよ!	G	6/7/2010
Japan	Thermae Romae - テルマエ・ロマエ	G	1/16/2012
Japan	One Piece Film Z - ワンピース フィルム ゼット	G	11/15/2012
Japan	From Up on Poppy Hill - コクリコ坂から	G	6/29/2011
Japan	A Ghost of a Chance - ステキな金縛り	G	11/17/2010
Japan	Pokemon the Movie: White - Victini and Zekrom - 劇場版ポケットモンスター ベストウイッシュ ビクティニと白き英雄 レシラム	G	6/16/2011
Japan	Wolf Children - おおかみこどもの雨と雪	G	6/5/2012
Japan	Doraemon: Nobita and the Island of Miracles - Animal Adventure - 映画ドラえもん のび太と奇跡の島 ~アニマル アドベンチャー~	G	2/22/2013
S. Korea	Punch - 완득이	12	10/20/2011
S. Korea	Detective K - 조선명탐정: 각시투구꽃의 비밀	12	1/27/2011
S. Korea	The Grand Heist - 바람과 함께 사라지다	12	8/8/2012
S. Korea	Architecture 101 - 건축학개론	12	3/22/2012
S. Korea	Dancing Queen - 댄싱퀸	12	1/18/2012
S. Korea	Hello Ghost - 헬로우 고스트	12	12/22/2010
S. Korea	Spellbound - 오싹한 연애	12	12/1/2011
S. Korea	Harmony - 하모니	12	1/28/2010
S. Korea	Clash of the Families a.k.a. Meet the In-Laws - 위험한 상견례	12	3/31/2011
S. Korea	Cyrano Agency - 시라노; 연애조작단	12	9/16/2010
Russia	Three Heroes on Distant Shores - Три богатыря на дальних берегах	0	12/27/2012
Russia	Legend No. 17 - Легенда №17	6	4/18/2013
Russia	Vysotsky, Thank You For Being Alive - Высоцкий. Спасибо, что живой	14	12/1/2011
Russia	Ivan Tsarevich & the Grey Wolf - Иван Царевич и Серый Волк	0	12/29/2011
Russia	Yolki 2 - Ёлки 2	12	12/15/2011
Russia	Jungle - Джунгли	6	11/29/2012
Russia	Lucky Trouble - Выкрутасы	12	2/17/2011
Russia	Happy New Year, Mommies! - С новым годом, мамы!	6	12/27/2012
Russia	That's still Karlosson! - Тот ещё Карлосон!	12	3/15/2012

Russia	Gentlemen of Fortune - Джентльмены, удачи!	6	12/27/2012
U.K.	The Woman in Black	12A	2/10/2012
U.K.	The Best Exotic Marigold Hotel	12A	2/24/2012
U.K.	StreetDance 3D	PG	5/21/2010
U.K.	The Iron Lady	12A	1/6/2012
U.K.	Nativity 2: Danger in the Manger!	U	11/23/2012
U.K.	Quartet	12A	1/1/2013
U.K.	Horrid Henry - The Movie	U	7/29/2011
U.K.	Salmon Fishing in the Yemen	12A	4/20/2012
U.K.	Jane Eyre	PG	9/9/2011
U.K.	The Three Musketeers	12A	10/12/2011

**Appendix B**  
**Sample of Movies by Country - Continued**

Country	Title	Rating	Release
U.S./U.K.	Skyfall	12A; PG-13	10/26/2012
U.S./U.K.	Harry Potter and the Deathly Hallows Part 2	12A; PG-13	7/15/2012
U.S./U.K.	The Dark Knight Rises	12A; PG-13	7/20/2012
U.S./U.K.	Les Miserables	12A; PG-13	1/11/2013
U.S./U.K.	Inception	12A; PG-13	7/16/2010
U.S./U.K.	Pirates of the Caribbean: On Stranger Tides	12A; PG-13	5/18/2011
U.S./U.K.	Sherlock Holmes 2: A Game of Shadows	12A; PG-13	12/16/2011
U.S./U.K.	Arthur Christmas	U; PG	11/11/2011
U.S./U.K.	Johnny English Reborn	PG; PG	10/7/2011
U.S./U.K.	Clash of the Titans	12A; PG-13	4/2/2010
U.S.	Marvel's The Avengers	PG-13	5/4/2012
U.S.	Toy Story 3	G	6/18/2010
U.S.	The Hunger Games	PG-13	3/23/2012
U.S.	Transformers: Dark of the Moon	PG-13	6/29/2011
U.S.	Alice in Wonderland	PG	3/5/2010
U.S.	Iron Man 2	PG-13	5/7/2010
U.S.	The Twilight Saga: Eclipse	PG-13	6/30/2010
U.S.	The Amazing Spider-Man	PG-13	7/3/2012
U.S.	Despicable Me	PG	7/9/2010
U.S.	Shrek Forever After	PG	5/21/2010



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