Gender Inequality in Cinematic Content?
A Look at Females On Screen & Behind-the-Camera in Top-Grossing 2008 Films

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Summary

This study examined the gender of all speaking characters and behind-the-scenes employees on the 100 top-grossing fictional films in 2008. A total of 4,370 speaking characters were evaluated and 1,227 above-the-line personnel. In addition to prevalence, we assessed the hypersexualization of on screen characters across the 100 movies. Below are the study's main findings.

32.8 percent of speaking characters were female. Put differently, a ratio of roughly 2 males to every one female was observed across the 100 top-grossing films. Though still grossly imbalanced given that females represent over half of the U.S. population, this is the highest percentage of females in film we have witnessed across multiple studies.

The presence of women working behind-the-camera is still abysmal. Only, 8% of directors, 13.6% of writers, and 19.1% of producers are female. This calculates to a ratio of 4.90 males to every one female. Films with female directors, writers, and producers were associated with a higher number of girls and women on screen than were films with only males in these gate-keeping positions. To illustrate, the percentage of female characters jumps 14.3% when one or more female screenwriters were involved in penning the script.

Females continue to be hypersexualized in film, particularly 13- to 20-year old girls. A substantially higher percentage of young females, in comparison to young males, are shown wearing sexually revealing attire (39.8% vs. 6.7%), partially naked (30.1% vs. 10.3%), with a small waist (35.1% vs. 13.6%), and physically attractive (29.2% vs. 11.1%). No gender differences emerged for chest size or ideal body shape for teenaged speaking characters.

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The purpose of this study was to assess gender prevalence and the portrayal of male and female speaking characters in popular motion picture content. To this end, we content analyzed 100 of the top-grossing theatrically-released fictional films from 2008.[1] Below, we present our key findings from this investigation and compare 2008 trends to those we observed in 2007. For all comparisons, only differences of 5% or more will be reported as meaningful.

Key Findings

#1 Females are Still Underrepresented in Popular Film

A total of 4,370 speaking characters with an identifiable gender were coded across the 100 films, with 32.8% female (*n*=1,435) and 67.2% male (*n*=2,935).[2] On screen, this translates into 2.045 males to every one female. Though still grossly imbalanced, this is the lowest ratio of males to females we have observed in our research of top-grossing films to date.[3]

Table 1
Occupational Title by Employee Sex

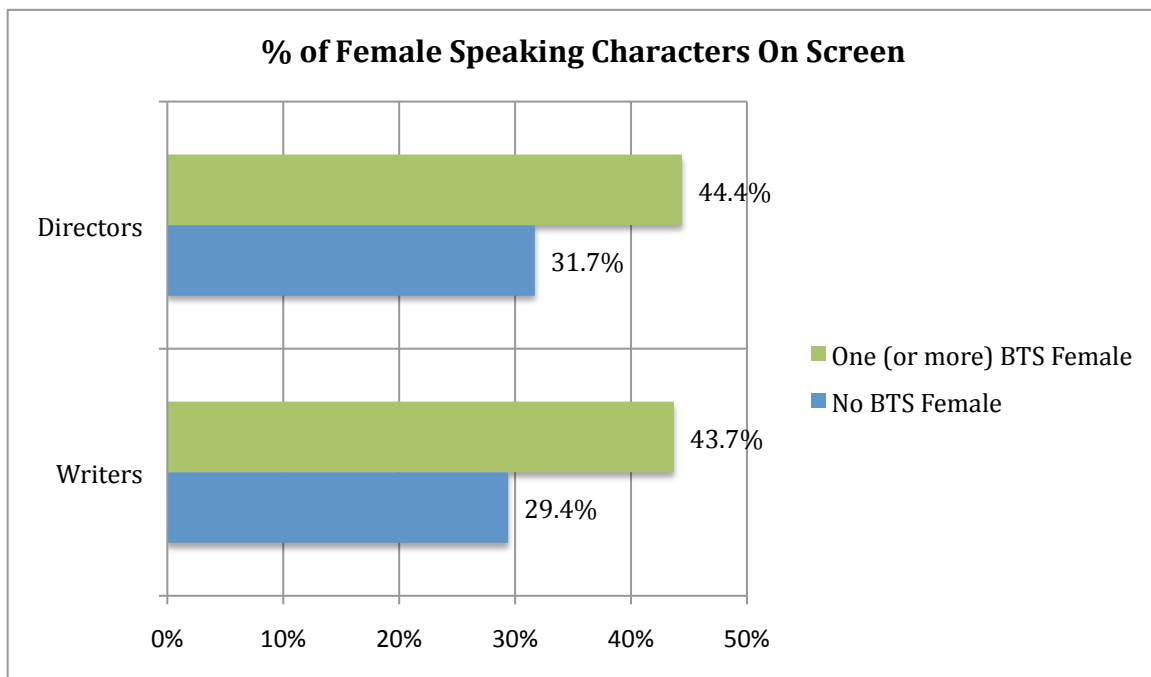|	Males	Females	Total
Directors	92% (*n*=103)	8% (*n*=9)	112
Writers	86.4% (*n*=223)	13.6% (*n*=35)	258
Producers	80.9% (*n*=693)	19.1% (*n*=164)	857
Total	1,019	208	1,227

The gender gap widens substantially when we look at the biological sex of those working behind-the-camera.[4] As shown in Table 1, only 8% of directors, 13.6% of writers, and 19.1% of producers were female across the 100 top-grossing theatrically-released films of 2008. Behind-the-scenes, the ratio of male to female employment is 4.90 to one! Clearly, females are grossly underrepresented both on screen and behind-the-camera in popular

motion picture content. These findings are surprising given that females comprise over half the U.S. population.[5]

#2 Females Working Behind-the-Scenes Seem to Matter for On Screen Female Characters

Films with one or more females working in key decision-making positions behind-the-camera have a higher percentage of on screen female characters. As shown in Figure 1, the percentage of females on screen is significantly higher for films with at least one female director (44.4%) than those with only male directors (31.7%).[6] A similar trend was observed with the gender of writers. When compared to those films with only male screenwriters, the percentage of females on screen was significantly higher for films with one or more female screenwriters (43.7% vs. 29.4%). For producers, a similar but less pronounced trend was observed (films with only male producers=27.9% females on screen; films with one or more female producers=34.2% females on screen).

Figure 1
Percentage of Female Characters by Gender of Behind-the-Scenes Employees

% of Female Speaking Characters On Screen

Directors: One (or more) BTS Female 44.4%; No BTS Female 31.7%
Writers: One (or more) BTS Female 43.7%; No BTS Female 29.4%

Legend: One (or more) BTS Female; No BTS Female

These findings suggest that b-t-s women may be advocating for on screen female characters. Or, it may be the case that studios are more likely to attach above-the-line females as directors/writers when developing female-driven storylines.   It must be noted that these findings are very similar to trends we have observed across 100 top-grossing films in 2007 as well as across 150 Academy Award Best Picture nominated films between 1977 and 2006.[7]

#3 Females are Still Sexualized, Particularly Teen Girls

As depicted in Figure 2, females were more likely than their male counterparts to be depicted in a hypersexualized light in top-grossing 2008 films.[8] Females were more likely to be shown wearing sexy or revealing attire (25.7% vs. 5.1%), partially naked (23.7% vs. 8.2%), possessing a small waist (20.1% vs. 4%), and referenced as physically attractive (15.1% vs. 4.1%). Males were slightly more likely than females to possess a large chest (17.5% vs. 13.7%), though this difference just fell short of the 5% criterion. Females were slightly more likely than males to be shown with an unrealistic or idealized body shape (i.e., hourglass for females, inverted triangle for males) but the difference was trivial (1.5%).

Figure 2
Hypersexuality Measures by Character Gender
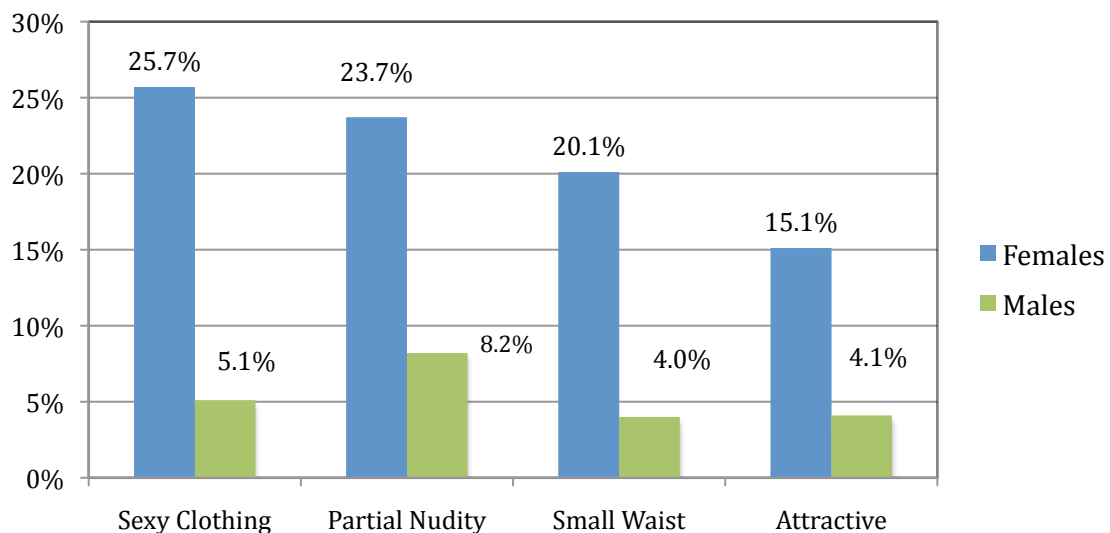
Turning to teenaged speaking characters (13- to 20-year olds), we observed similar and more pronounced patterns of sexualization by gender. As portrayed in Table 2, teenaged females were more likely than teenaged males to be in sexy attire, partially clad, possess a small waist, and be referenced as physically attractive.[9] No differences emerged by gender in chest size or unrealistic body ideal, however.   These findings are troubling given that repeated exposure to thin and sexy ideals may contribute to negative effects in some viewers and reinforce patterns of lookism in the entertainment industry.[10] See Appendix B for further analyses of the hypersexuality indicators by apparent age.

Table 2
Hypersexuality Indicators by Gender of Teens in Film

	Teenaged Males	Teenaged Females
% in sexy clothing	6.7% (*n*=11)	39.8% (*n*=41)
% partially naked	10.3% (*n*=17)	30.1% (*n*=31)
% attractive	11.1% (*n*=19)	29.2% (*n*=33)
% w/small waist	13.6% (*n*=20)	35.1% (*n*=33)

#4 Little Change Between 2007 Films and 2008 Films

We compared the 100 top-grossing films from 2008 to the 100 top-grossing films from 2007, across our major prevalence and hypersexuality measures. Only those variables that were reliably captured and reported in both 2007 and 2008 are included in Table 3. [11] Using our 5% criterion for demarcating change, only one variable differs between 2007 and 2008 films. A higher percentage (+5.3%) of female directors were present in the 100 top-grossing films of 2008 than in the 100 top-grossing films of 2007. Using a larger sample of 250 films each year, other research shows a similar (+3%) but less pronounced increase in female directors from 2007 to 2008.[12]

Table 3
Comparing Females in Film from 2007 to 2008

	2007 Films	2008 Films	Difference
% of females on screen	29.9%	32.8%	+2.9%
% of female directors	2.7%	8%	+5.3%
% of female writers	11.2%	13.6%	+2.4%
% of female producers	20.5%	19.1%	-1.4%
% of females in sexy clothes	27%	25.7%	-1.3%
% of females partially naked	21.8%	23.7%	+1.9%
% of females that are attractive	18.5%	15.1%	-3.4%

Conclusion

Our findings reveal that motion picture content is sending two consistent and troubling messages to viewers. The first is that females are of lesser value than are males. This is evidenced by their on screen presence and the lack of employment opportunities behind-the-camera. The second is that females are more likely than males to be valued for their appearance. Roughly a fifth to a quarter of all female speaking characters are depicted in a hypersexualized light. These numbers jump substantially higher when only teenaged females are considered. This result is particularly troubling, given the frequency with which young males and females go to the multiplex.

Footnotes

1. The list of films was purchased from Nielsen EDI. One documentary made the list (*Hannah Montana & Miley Cyrus/Best of Both Worlds Concert Tour*) but was removed from the sample. As such, the 101ˢᵗ film on the list (*The Women*) was added to our sample to bring the total number of movies to 100.   See Appendix A for the list of films in the sample.

2. The major unit of analysis for this study is the speaking character. Characters may speak independently or in a group context. Single characters speak overtly and discernibly on screen. Group characters, however, are identical in appearance but speak sequentially making their independent identity impossible to ascertain. As such, groups are very difficult to quantify reliably in terms of size. Only 7 units met the definition of a group and were coded across the sample. They are not included in any of the analyses.

For each character, a series of demographic and hypersexuality indicators were measured. Only a subset of those variables were reported in this research brief. In terms of demography, *apparent age* (0-5, 6-12, 13-20, 21-39, 40-64, 65+) and *gender* (male, female) were measured. For hypersexuality, we used variables derived from Downs, E., & Smith, S. L. (2009). Keeping abreast of hypersexuality: A video game character content analysis. *Sex Roles*. http://www.springerlink.com/content/ 1646t346 76837317/ fulltext.pdf. For all shape- and clothing-related variables, only those characters with bodies that approximate homo sapiens more than some other species were evaluated.

Sexually revealing clothing (SRC) refers to tight or alluring apparel that may arouse interest in other characters. SRC was coded as present or absent. *Nudity* measures the amount of exposed skin depicted between the mid chest and high upper thigh region. Nudity has three values: none (i.e., no exposed skin), some (i.e., exposed cleavage, midriff, and/or upper thigh region), full (i.e., exposure of genital area, buttocks; for females only, also includes nipple exposure). For analysis, the latter two categories were collapsed. It must be noted, however, that most instances of exposed skin fall into the "partial" category (91% or *n*=495). Stated another way, only 9% (*n*=47) of the instances of exposed skin were coded as "full" nudity.

Waist size captures the circumference of the torso due to fitness or fat. Each character was coded as small (i.e., a mid section that curves inward due to a shortage of fat), medium (i.e., a mid section that curves slightly inward or outward naturally, due to fitness or fat); or large (i.e., a mid section that curves outward and "spills over" the waist line due to excess fat). Before running statistical analyses, the latter two categories were collapsed. *Chest size* refers to the expansiveness of characters' breast region for females and pectoral/shoulder region for males. Chest size has three levels; small (i.e., no definition or shapeliness in pectoral/shoulder region for males; bra size "A" for females), medium (i.e., average definition or shapeliness in pectoral/shoulder region for males – lines may accentuate muscle development but not excessively so; bra size large "B" or "C" for females), or large (i.e., excessive shapeliness or curves in pectoral/shoulder region for males; bra size "D" or greater for females). *Unrealistic body ideal* refers to those body shapes that typically are not attainable by regular exercise and/or diet. For females, the unrealistic ideal is the

hourglass figure. The inverted triangle represents the exaggerated standard for males. Unrealistic ideal was coded as present or absent.

The last appearance measure is *physical beauty*, which assesses whether one or more characters verbally (e.g., referring to a character as gorgeous, pretty, handsome, or any equivalent synonym) and/or nonverbally (e.g., whistling, starring) communicate the desirousness of another character. There were three levels to this variable: not attractive, attractive (i.e., one verbal or nonverbal reference), or very attractive (i.e., two or more verbal or nonverbal references). Again, the latter two levels were collapsed prior to analysis. Unlike the body- and clothing-related variables, physical beauty was measured for all speaking characters.

It must be noted that all variables, demographic and hypersexuality, had two additional levels. Not applicable was selected when the measure did not apply to the character being evaluated (i.e., SRC is not applicable if a character, by design and the culture s/he lives in, does not wear clothes). Can't tell was used when there was not sufficient information to render a judgment (i.e., waist size of individual obstructed when sitting down behind a large desk).

In terms of evaluating films, a total of 60 students were recruited to our research team across the Fall of 2009 (*n*=35) as well as the Spring (*n*=28), Summer (*n*=2), and Fall (*n*=7) of 2010. Some students participated multiple terms (as such, the total does not sum to 60). Each semester, the same instructor (2nd author) trained students on the codebook with minimal assistance from the 1st author. Training consisted of attending lectures multiple times per week and completing a series of lab assignments/reliability diagnostics. During the regular semester, training lasts roughly 6 weeks. Over the summer, training occurs over a 3 week period.

After training, the films in the sample were randomly assigned for individual evaluation. Three to five research assistants independently evaluated each film in the sample at our ASC&J lab. Multiple students coded each movie because of the complexity of unitizing characters in motion picture content. Disagreements in unitizing and variable coding were resolved through discussion, after the second author computed reliability and highlighted sources of deviation among group members coding each film. Breaking the sample of films into quarters, the number of agreed upon lines (i.e., speaking characters) seen by all but one coder in each group are as follows: (*Q1 range*=97.06%-90.20%, *Q2 range*=89.66%-82.14%, *Q3 range*= 80.85%-71.64%, *Q4 range*=71.56%-53.85%). Only five films in the sample had less than 60% of characters seen by all but one coder.

Using Potter and Levine-Donnerstein's (1999) formula for multiple coders, the median reliability coefficients across the study's variables are as follows: *form* (100%, *range*=100%), *age* (100%, *range*=59%-100%), *sex* (100%, *range*=100%), *sexually revealing clothing* (100%, *range*=80%-100%), *nudity* (100%, *range*=80%-100%), *chest size* (100%, *range*=63%-100%), *waist size* (100%, *range*=58%-100%), *body realism (*100%*, range*=80%-100%*),* and *physical beauty* (100%, *range*=100%). Both the unitizing and

variable coding were consistent with our previous studies and reflect reliable evaluations given the complexity of coding cinematic content.

It must be noted that we identified a shift in how coders were assessing two variables: *waist size* and *body realism*. As such, these variables were not reported in our 2007 report. A group of coders (*n*=5) were trained and re-evaluated all of the unitized speaking characters in 2008 on these two measures during the Spring of 2010. Prior to coding, the research assistants were trained and four separate reliability diagnostics were computed. The median coefficients, based on the Potter & Levine-Donnerstein (1999) formula, were as follows: *waist size* (80%, *range*=80%) and *body realism* (100%, range=100%).

[3.] Smith, S. L., Choueiti, M., Granados, A. & Erickson, S. (2008). *Asymmetrical Academy Awards®? A look at gender imbalance in best picture nominated films from 1977 to 2006*. http://annenberg.usc.edu/Faculty/ Communication /~/media/93914BE9EB5 F4C2795A3169E5A CDB84F.ashx. Smith, S. L. & Choueiti, M. (2010a). *Gender oppression in cinematic content? A look at females on-screen and behind-the-camera in top-grossing 2007 films. annenberg.usc.edu/News%20and%20Events /News/~/.../07GenderKey.ashx* Smith, S.L., & Choueiti, M. (2010b). *Gender disparity on screen and behind the camera in family films; The executive report.* Report available at the Geena Davis Institute for Gender and Media website: http://thegeenadavisinstitute. org/ Smith, S.L., & Cook, C.A. (2008). *Gender stereotypes: An analysis of popular films and TV.* Los Angeles, CA: Geena Davis Institute for Gender and Media.

[4.] Using internet sources including but not limited to IMDb.Pro and InBaseline, the biological sex of 1,227 directors, writers, and producers was coded. The biological sex of 10 individuals could not be located online. Those with traditionally female or male names (*n*=5) were assigned as such (Becky, Robert) based on BabyNames.com. The remaining (*n*=5) were classified as "unknown" and excluded from analysis.

[5.] U.S. Census Bureau (2010). Fact Sheet – American FactFinder: Census 2000 demographic profile highlights. http://factfinder.census.gov/home/saff /main.html?_lang=en

[6.] The chi-square analyses of biological sex of content creator and gender of on screen speaking characters are as follows: *director*, X^2 (1, 4,370) = 26.60, $p < .05$, ϕ=.08; *writer,* X^2 (1, 4,370) = 72.745, $p < .05$, ϕ=.13; *producer*, X^2 (1, 4,370) = 13.31, $p < .05$, ϕ=.055.

[7.] Smith et al. (2008). Smith, S. L. & Choueiti, M. (2010a).

[8.] The chi-square analyses of gender of on screen speaking character and each of the hypersexuality indicators are as follows: *sexually revealing clothing*, X^2 (1, 4,066) = 362.19, $p < .05$, ϕ=.30; *nudity,* X^2 (1, 4,065) = 185.32, $p < .05$, ϕ=.21; *waist size*, X^2 (1, 3,155) = 213.06, $p < .05$, ϕ=.26; *beauty*, X^2 (1, 4,368) = 166.435, $p < .05$, ϕ=.195; *chest size*, X^2 (1, 3,814) = 8.775, $p < .05$, ϕ=-.05; *body realism*, X^2 (1, 3,276) = 5.35, $p < .05$, ϕ=.04.

[9.] For teen characters only, the chi-square analyses of gender by hypersexuality indicator are as follows: *sexually revealing clothing*, X^2 (1, 268) = 44.53, *p* < .05, ϕ=.41; *nudity,* X^2 (1, 268) = 16.90, *p* < .05, ϕ=.25; *waist size*, X^2 (1, 241) = 15.45, *p* < .05, ϕ=.25; *chest*, X^2 (1, 265) = .502, *p* = .48, ϕ=-.04; *beauty*, X^2 (1, 284) = 14.89, *p* < .05, ϕ=.23. Due to low expected counts in two cells, chi square analysis for *body realism* should be interpreted with extreme caution (X^2=1.87, *p*=.17, ϕ=.09). A trivial difference (3.2%) was observed between males and females on this variable.

[10.] Grabe, S., Ward, L. M., & Hyde, J. S. (2008). The role of media in body image concerns among women: A meta-analysis of experimental and correlational studies. *Psychological Bulletin, 134*, 460-476. Ditmar, H., Halliwell, E., & Ive, S. (2006). Does Barbie make girls want to be thin? The effect of experimental exposure to images of dolls on the body image of 5- to 8- year old girls. *Developmental Psychology, 42*, 283-292.

[11.] As noted above, a shift occurred in coding waist size and unrealistic body ideals in the 2007 and 2008 samples. We recoded all of the 2008 films (and a portion of the 2007 films for another research project) to be consistent with our previous research. Not all of the 2007 movies were reassessed and thus comparisons over time cannot be made. Finally, chest size was not reported in the 2007 report and thus no over time comparisons were conducted.

[12.] Lauzen, M. M. (2010). *The celluloid celling: Behind-the-scenes employment of women on the top 250 films of 2009*. Center for the Study of Women in Television and Film. San Diego, CA.

Acknowledgements

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Appendix A
List of Films in the Sample

The Dark Knight	Pineapple Express	Nights in Rodanthe
Iron Man	Valkyrie	Max Payne
Indiana Jones and the Kingdom of the Crystal Skull	21	Righteous Kill
Hancock	What Happens in Vegas	Body of Lies
WALL-E	Jumper	Lakeview Terrace
Kung Fu Panda	Cloverfield	Meet the Spartans
Twilight	The Day the Earth Stood Still	Harold & Kumar Escape from Guantanamo Bay
Madagascar: Escape 2 Africa	27 Dresses	First Sunday
Quantum Of Solace	Hellboy II: The Golden Army	The Secret Life of Bees
Dr. Suess' Horton Hears A Who!	Vantage Point	Tyler Perry's The Family That Preys
Sex and the City	The Spiderwick Chronicles	Death Race
Gran Torino	Fool's Gold	Changeling
Mamma Mia!	Seven Pounds	Star Wars: The Clone Wars
Marley And Me	Role Models	The Reader
The Chronicles of Narnia: Prince Caspian	Hannah Montana/Miley Cyrus: Best of Both Worlds Concert Tour*	Semi-Pro
Slumdog Millionaire	The Happenning	Fireproof
The Incredible Hulk	Forgetting Sarah Marshall	Doubt
Wanted	Baby Mama	Drillbit Taylor
Get Smart	Burn After Reading	Definitely, Maybe
The Curious Case of Benjamin Button	Step Up 2 the Streets	The Love Guru
Four Christmases	Saw V	Milk
Bolt	The Strangers	Transporter 3
Tropic Thunder	The Forbidden Kingdom	Quarantine
Bedtime Stories	The Tale Of Despereaux	Nick & Norah's Infinite Playlist
The Mummy: Tomb of the Dragon Emperor	Australia	Zack and Miri Make a Porno
Journey to the Center of the Earth	The House Bunny	The Eye
Eagle Eye	Nim's Island	Leatherheads
Step Brothers	Made of Honor	Mirrors
You Don't Mess With the Zohan	College Road Trip	Space Chimps
Yes Man	The Sisterhood of the Traveling Pants 2	The Bank Job
10,000 B.C.	Speed Racer	Untraceable
Beverly Hills Chihuahua	Prom Night	Defiance
High School Musical 3: Senior Year	Rambo	The Women
	Welcome Home Roscoe Jenkins	
	Tyler Perry's Meet the Browns	

Appendix B
Supplemental Data Analyses

Below are supplemental data analyses of the hypersexuality variables. Table 4 focuses on gender differences in hypersexuality among 21- to 39-year olds and 40- to 64-year olds. For females only, Table 5 illuminates the relationship between the hypersexuality indicators and three age groups.

Table 4
Gender Differences across Hypersexuality Indicators within Age Group

	21 – 39 years old		40 – 64 years old	
	Males	Females	Males	Females
% in sexy clothing	6.9%	32.4%	3.1%	14.9%
% partially naked	10.0%	30.5%	4.7%	14.2%
% attractive	5.1%	17.9%	1.9%	7.7%
% w/small waist	2.8%	23.3%	1.1%	5.3%*
% w/large chest	16.7%	10.4%	22.8%	26.8%
% w/unreal body	3.8%	5.8%	1.0%	0.9%*

Note: Chi-square analyses within age group by gender were conducted on each of the hypersexuality indicators. All analyses were statistically (p < .05) and practically significant (5% difference) save four: chest size and waist size for 40- to 64-year olds and unrealistic body ideal for both age groups. An asterisk (*) indicates that the analysis within age should be interpreted with caution due to a low expected count in one cell.

Table 5
Hypersexuality Indicators of Female Speaking Characters across Different Age Groups

	Females Only		
	13 - 20 years old	21 - 39 years old	40 - 64 years old
% in sexy clothing	39.8%	32.4%	14.9%
% partially naked	30.1%	30.5%	14.2%
% attractive	29.2%	17.9%	7.7%
% w/small waist	35.1%	23.3%	5.3%
% w/large chest	6.8%	10.4%	26.8%
% w/unreal body*	5.2%	5.8%	0.9%

Note: Chi-square analyses were computed for each hypersexuality indicator by age group (i.e., 13- to 20-year olds, 21- to 39-year olds, 40- to 64-year olds) for female characters only. Each analysis was statistically (p < .05) and practically significant, save one (body realism). An asterisk (*) indicates that the analysis should be interpreted with caution due to a low expected count in one cell.