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Male dominance and sexism on YouTube: results of three content analyses

Nicola Döring and M. Rohangis Mohseni 

Department of Economic Sciences and Media, TU Ilmenau, Ilmenau, Germany

ABSTRACT

This study conceptually and empirically extends a study by Wotanis and McMillan in which the authors claimed that female video producers are underrepresented on YouTube and receive much more negative (including hostile and sexist) feedback than male YouTubers. Using quantitative content analysis, this study supported the claim of female underrepresentation. Among the top 100 most subscribed YouTube channels in nine different countries ($N = 900$ channels), with a statistically significant proportion of only 25%, female video producers were strongly underrepresented. Additionally, a second content analysis of $N = 2,400$ video comments directly replicated the original study's main quantitative results. This analysis confirmed that the popular female US comedy YouTuber Jenna Mourey ("JennaMarbles") received much more negative (including hostile and sexist) feedback than her male counterpart Ryan Higa ("nigahiga"). However, a third content analysis of $N = 6,000$ video comments from five other pairs of comparable comedy YouTubers did not reveal that women's videos generally attract a larger number of negative video comments. Possibly, women attract more negative comments only if they display their sexuality (like Jenna Mourey) or address feminist topics, but not if they conform to gender role expectations. Future research directions and practical implications are discussed.

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Introduction

Regarding *mass media* like television, it is a well-established fact that men dominate decision-making positions (cf. Katti Gray 2017). In addition, the content found in mass media regularly reproduces gender clichés (Rebecca L. Collins 2011). Whether this situation differs in *social media* has not yet been established. For instance, do men and women participate equally in the production of videos on YouTube, the widest reaching social media video platform (Alexa Traffic Ranks 2017)? Are the videos and the corresponding video comments less sexist? Lindsey Wotanis and Laurie McMillan (2014) deny this; they claim that most YouTube performers (i.e., channel operators and video producers, hereafter referred to as "YouTubers") are men. Furthermore, they claim that women on YouTube receive much more negative (including hostile and sexist) video comments.

Considering that YouTube is an important video platform, which has begun to replace television for adolescents (Defy Media 2016), the aim of this study was to empirically investigate male dominance and sexism on YouTube. This was realized in the form of an extension of the study carried out by Wotanis and McMillan (2014).

Review of the literature

Thus far, only a few empirical studies on male dominance and sexism on *YouTube* have been carried out. Some of them show that negative feedback is *generally* abundant on YouTube, especially in its hostile form (Jean Burgess and Joshua Green 2009, 96; Peter J. Moor, Ard Heuvelman, and Ria Verleur 2010), and that most YouTubers experience hateful feedback and feel emotionally hurt by it (Patricia G. Lange 2007). Other studies demonstrate that *female* YouTubers in particular face more challenges and receive more negative feedback, including hostile and sexist comments.

The most important of these studies was conducted by Wotanis and McMillan (2014). They claim that 80% of YouTubers are male, and that female YouTubers receive much more negative feedback than male YouTubers. In order to verify this, they examined which kinds of negative (including hostile and sexist) and positive video comments were addressed at Jenna Mourey and Ryan Higa, the two most prominent US YouTubers within the comedy genre. They found that Jenna Mourey received a total of 18% negative (including hostile and sexist) video comments, while her male counterpart Ryan Higa only received 4%.

This finding is in line with other studies. Roughly 25% of the most-viewed videos on YouTube include “misogynistic discourse, violence, or both,” while the primary actors are male (Mary Tucker-McLaughlin 2013). Women receive lower ratings; more criticism for their physical appearance and, in the case of feminist videos, more hate comments (Natasha Szostak 2013; see also Emma Alice Jane 2012, 2013). Even prominent female YouTubers have to “contend with ... sexist and often abusive comments” (Burgess and Green 2009, 96). All of this is problematic because, for some users, negative feedback becomes the reason to stop uploading videos (Moor, Heuvelman, and Verleur 2010). As a result of this disparity, women are disadvantaged when trying to participate actively on YouTube. They are “less likely to post comments, videos and even visit YouTube on a regular basis” (Heather Molyneaux, Susan O'Donnell, Kerri Gibson, and Janice Singer 2008).

All over the internet, “threatening rape has become the *modus operandi* for those wishing to critique female[s]” (Jane 2012, 535). According to Citron, online harassment discourages women “from ... earning a living online” (Danielle Keats Citron 2009, 375). Even worse, it “causes considerable emotional distress [and] some women have committed suicide” (Citron 2009, 375). However, this is often dismissed by the public as “harmless locker-room talk,” where victims are seen as “overly sensitive complainers” and offenders as “juvenile pranksters” (Citron 2009, 375). A prominent example is Donald Trump’s famous remark that he can do anything to women, even grab them by the p—y, which he later dismissed as mere “locker-room banter” (David A. Fahrenthold 2016). According to Citron, the public also falsely believes that “victims can ignore or defeat [harassment] with counterspeech,” which leads to a twofold victimization, as the blame for being effectively victimized can be put on the victim herself (Citron 2009, 375). Compounding this problem yet further, sexist attitudes offline can lead to sexual harassment online (Wai Yen Tang and Jesse Fox 2016), and interacting with sexist content online can amplify sexist attitudes offline (Jesse Fox, Carlos Cruz, and Ji Young Lee 2015).

However, the causal relation between online and offline sexual harassment remains empirically untested. According to *theories* explaining sexist online hate, offline hate leads to online hate: Inequalities like male dominance and sexist attitudes that are already established in many offline settings are particularly prominent in online settings, where people react to others more often on a group level than on an individual level and feel less inhibited to act aggressively due to their anonymity. Some theories focus more on the social processes that facilitate group-based aggression (e.g., the *Social Identity Model of Deindividuation*; Stephen David Reicher, Russell Spears, and Tom Postmes 1995), while others focus more on the specific conditions of computer-mediated communication (e.g., the *Online Disinhibition Effect*; John Suler 2004).

To gain deeper insights into male dominance and sexism online, the study by Wotanis and McMillan (2014) was selected for a *replication* for two reasons. First, *replications are generally very valuable for scientific progress* because problems with flexibility in data collection and analysis regularly lead to unreliable research findings (Joseph P. Simmons, Leif D. Nelson, and Uri Simonsohn 2011). Some authors even claim that most research findings are false (John P. A. Ioannidis 2005). Hence, replications are required to verify empirical results (Matthew C. Makel, Jonathan A. Plucker, and Boyd Hegarty 2012; Ivar Vermeulen and Tilo Hartmann 2015). Indeed, reproducibility projects often reveal that many seemingly well-established findings fail to be replicated in later studies (John Bohannon 2015; Open Science Collaboration 2015). Replications can also be *particularly valuable* when studying environments that develop very quickly. For instance, the design of YouTube and the behavior of its users change rapidly and constantly, which makes it worthwhile to update studies on YouTube on a regular basis. However, in contrast to their importance for the progress of scientific research, only approximately 1% of all empirical studies are replication studies (Makel, Plucker, and Hegarty 2012).

Second, the *quantitative results of the specific study* by Wotanis and McMillan (2014) were chosen for replication because it is the most relevant study for examining male dominance and sexism on YouTube. Nevertheless, the study by Wotanis and McMillan (2014) comes with three limitations. These were counterbalanced by applying the following refinements in this research project: First, the authors anecdotally reported an unequal gender distribution on YouTube, while in this study, empirical data is collected to verify this claim. Second, the authors only compared two YouTube channels to check for gender differences regarding feedback, while in this study, 10 additional comparable channels were investigated. Third, the authors neither calculated reliability scores for the coding scheme, nor computed statistical analyses for frequencies and effect sizes, while this study makes full use of inferential statistics.

Hypotheses

The first hypothesis addresses Wotanis and McMillan's (2014) untested claim of *male dominance* on YouTube.

H1: Across different countries, more men than women operate the 100 most subscribed YouTube channels.

The second hypothesis addresses *negative (including hostile and sexist) and positive feedback to two selected YouTubers*, and is a *direct replication* of the original study's first research question.

H2: Jenna Mourey, the most popular female comedy YouTuber in the USA, receives more negative (including hostile and sexist) video comments and fewer positive video comments than her male counterpart Ryan Higa.

To enhance the generalizability of the findings and to disentangle gender effects from channel effects, other female/male pairs of comedy YouTubers from North America are examined. This results in a *systematic replication*, which tests the third hypothesis.

H3: Popular female North American comedy YouTubers receive more negative (including hostile and sexist) video comments and fewer positive video comments than their male counterparts.

Material and methods

Sampling

For H1, YouTube channel statistics for different countries that are available online were analyzed, while for H2 and H3, user comments on YouTube videos were collected. All data was gathered in summer 2015.

Male dominance on YouTube

In order to find out if the top YouTube channels are mostly operated by men (H1), the gender proportions within the 100 most subscribed YouTube channels of nine countries (Australia, Canada, Germany, Great Britain, India, Mexico, South Korea, Turkey, USA) were evaluated, resulting in $N = 900$ channels. The countries were selected to represent different world regions (North America, Europe, Asia, and Australia). Data was derived from the YouTube statistics service by VidStatsX (2015), which limited the range of selectable countries.

Negative (including hostile and sexist) and positive feedback to female and male YouTubers

For the direct replication (H2), the 100 most recent comments (excluding replies) from the 12 most popular videos (see Appendix 1) produced by Jenna Mourey (channel “JennaMarbles”) and by Ryan Higa (channel “nigahiga”) were analyzed, resulting in a total of $N = 100$ comments \times 12 videos \times 2 YouTubers = 2,400 comments. Due to the different times of sampling (original study: spring 2012 vs. replication study: summer 2015), the sample of videos differed from that of the original study. Two thirds of Ryan Higa’s videos and half of Jenna Mourey’s videos overlapped because they were still the most popular. However, it is reasonable to assume that after more than three years, regarding the most recent comments, there was no overlap between the comments sampled by Wotanis and McMillan (2014) and the comments sampled in the replication study. Therefore, compared to the original study, this direct replication did not analyze the same video comments, but more recent video comments.

The systematic replication (H3) was based on five other pairs of comparable female and male comedy YouTubers from North America (see Appendix 2). They were selected only if they independently operated a popular, currently active, and entirely English-language YouTube comedy channel. Popularity was assessed using VidStatsX (2015). A theoretical sample was drawn both to search for racist and homophobic comments and to control for the effect of the type of comedy.

The systematic replication focused on the most recent videos of the 10 selected YouTube Channels. While the direct replication was based on 12 videos \times 100 comments per YouTuber, the systematic replication was based on 6 videos \times 100 comments per YouTuber because a power analysis revealed that 5,200 comments would be sufficient to detect even very small effects of $w = .05$ ($\alpha = .05$, $\beta = .05$, $df = 1$). Per channel, the 100 most recent comments (excluding replies) of the 6 most recent videos from the paired channels were analyzed, which resulted in a total of $N = 100$ comments \times 6 videos \times 10 YouTubers = 6,000 comments.

Checks were made to see if public disclosures, scandals, affairs or other noticeable events regarding the selected YouTubers, which may have biased the user comments, fell into the time period of data collection; this was not the case.

Measurement of variables

Male dominance on YouTube

In order to test H1, the sample of $N = 900$ YouTube channels was subjected to a quantitative content analysis. The gender inequality codebook for H1 contained three variables: the channel country (obtained from VidStatsX), the channel type (coded: individual person, group or organization) and the gender of the YouTuber (coded: male or female) of channels operated independently (i.e., by one individual person).

Negative (including hostile and sexist) and positive feedback to female and male YouTubers

In order to test H2 and H3, the negative/positive feedback codebook of Wotanis and McMillan (2014) was adopted and enhanced. It contained three categories of support/compliment (video content, personality of performer and appearance of performer), five categories of critical/hostile feedback (video content, personality of performer, appearance of performer, explicit/aggressive sexual comment and racist/sexist comment), and two categories of omission (spam and incomprehensible/unclassifiable comment). As in the original study, coding was not disjunctive, meaning a video comment could be coded into more than one category at the same time. The codebook was slightly modified by disentangling sexual from aggressive comments and racist from sexist comments; by adding the two categories of homophobic comments and violent comments and by including comments about the performers' channels in the video content categories. This resulted in 13 categories (see Table 1).

Inter-coder reliability

In case of the male dominance codebook, inter-coder reliability was perfect, that is, agreement equaled 100%. For the enhanced negative/positive feedback codebook, a pre-test was conducted to calculate the inter-coder reliability between two independent coders. It was anticipated that openly hostile comments could be rare (cf. Wotanis and McMillan 2014; see also Mike Thelwall, Pardeep Sud, and Farida Vis 2011). Therefore, 50% of the 12 videos created by Ryan Higa and Jenna Mourey were analyzed, resulting in 1,200 comments. The calculations were performed using SPSS 23 and ReCal 0.1 (Deen G. Freelon 2010), and revealed "fair" to "almost perfect" (Richard J. Landis and Gary G. Koch 1997) inter-coder reliability (see Table 1). For the category *violent comment*, reliability could not be calculated, because one coder never used the category, while the other coder used it only once. As anticipated, openly hostile comments like

Table 1. Coding variables, coding examples, and inter-coder reliability (Cohen's κ) of the enhanced negative/positive feedback codebook.

Category	Examples $n = 1,200$ comments	Cohen's κ	Agreement %
Critical feedback			
Criticism video content/channel	<i>this is not funny at all / will unsubscribe / boring stuff / this gave me cancer</i>	.40	92.4
Criticism personality	<i>you are not funny at all / who is this retard? and why so many views? / you are arrogant</i>	.60	97.0
Criticism appearance	<i>you are so ugly / I don't think she's hot / you are too fat</i>	.81	99.6
Hostile feedback			
Sexual comment	<i>are you single, and can I lick you? / I'd fuck you</i>	.63	97.6
Sexist comment	<i>this is why ignorant whores like you belong in the fucking kitchen / she is a whore bitch</i>	.52	99.3
Racist comment	<i>I hate niggers / Indians are fucking little scrawny bitches</i>	.40	99.8
Homophobic comment	<i>I hate faggots / stupid fucking gay / why do gay people act like women</i>	.33	99.7
Violent comment	<i>go kill yourself / I hope you die soon</i>	-	-
Supportive feedback			
Compliment video content/channel	<i>this is really funny / dat intro / I like your channel / best channel / shared on Google+</i>	.61	81.4
Compliment personality	<i>you are really funny / you are the best / I love you</i>	.63	93.8
Compliment appearance	<i>you have a rockin bod / you look great / hot / I love her hair / he has the cutest laugh</i>	.79	97.6
Omitted from analysis			
Spam	<i>watch this video [including a link] / watch my channel</i>	.33	99.0
Unclassified comment	<i>I'm 7 and my real name is Ise / I am Russian!!! / I'm putting free wif on my grave so that people will come visit me / is she still with sk? / can you do the Charlie Charlie Challenge?</i>	.50	76.3

violent video comments were rare. This rarity explains why the hostile feedback categories and the spam category have concurrently low Kappa values and high percentage agreements.

Procedure

For all three hypotheses, chi-square tests were calculated using SPSS 23. All one-sided p -values were based on exact Fisher p -tests. In order to answer H1, the gender proportion was assessed both globally and on a country-by-country basis. In order to test H2 (direct replication), the results of this study were compared with those of Wotanis and McMillan (2014, 919). However, Wotanis and McMillan (2014) neither provided significance tests nor absolute frequencies that could be used to calculate significance tests. Therefore, the absolute frequencies of the original study were estimated by multiplying the given percentage values with the given respective N (cf. Figure 2 in Wotanis and McMillan 2014, 919), and chi-square tests were calculated from the estimated absolute frequencies. For better comparability, all categories in this study were collapsed using the same method as the authors. For H3 (systematic replication), categories remained disjoined, and the original pair was replaced by five comparable pairs of YouTubers.

Results

Male dominance on YouTube

The proportion of 75% male YouTubers in the sample was significantly higher than the proportion of 25% female YouTubers, $\chi^2(1) = 97.0, p < .001, V = .49$, and the variation between countries was not significant, $\chi^2(8) = 11.2, p = .194, V = .17$ (see Table 2). As a consequence, H1 can be confirmed. This supports the claim of Wotanis and McMillan (2014) that YouTube is strongly dominated by male YouTubers, although here the percentage of male top YouTubers equaled 75% instead of 80%.

Table 2. Channel types and gender distribution within the top 100 most subscribed YouTube channels of nine international countries.

Countries	Channel type ($N = 900$ channels)					
	Organization	Group	Individual Person			
			Male		Female	
	n	n	n	%	n	%
Australia	12	21	50	74.6	17	25.4
Canada	17	25	37	63.8	21	36.2
Germany	19	17	49	76.7	15	23.4
Great Britain	34	7	49	83.1	10	16.9
India	91	2	5	71.4	2	28.6
Mexico	14	22	42	65.6	22	34.4
South Korea	65	23	9	75.0	3	25.0
Turkey	43	18	31	79.5	8	20.5
USA	62	4	29	85.3	5	14.7
Total	357	139	301	74.5	103	25.5

Negative (including hostile and sexist) and positive feedback to Jenna Mourey and Ryan Higa (direct replication)

The direct replication showed that in comparison to Ryan Higa, Jenna Mourey was criticized more often for her personality and the content of her videos, $\chi^2(1) = 11.7$, $p < .001$, $V = .07$, and she also obtained more sexist, racist, or sexually aggressive comments, $\chi^2(1) = 81.9$, $p < .001$, $V = .19$ (see Table 3).

Ryan Higa received more positive feedback for his personality and the content of his videos than his female counterpart Jenna Mourey, $\chi^2(1) = 3.3$, $p = .037$, $V = .04$, while Jenna Mourey only received more compliments for her physical appearance, $\chi^2(1) = 62.2$, $p < .001$, $V = .16$ (see Table 4).

All this taken together, H2 can be confirmed: YouTube is a more hostile environment for Jenna Mourey than for Ryan Higa, which is a successful replication of the finding by Wotanis and McMillan (2014). Jenna Mourey received roughly three times more negative feedback (compared to four times in the original study), and she received less positive feedback. As in the original study, she only received more compliments for her physical appearance, which can be explained by gender stereotyping (Jane 2012, 2013; Wotanis and McMillan 2014; Andreas Zick, Carina Wolf, Beate Küpper, Eldad Davidov, Peter Schmidt, and Wilhelm Heitmeyer 2008). Although three years passed between the original study and the replication study, the feedback tends to be similar.

Table 3. Prevalence of negative feedback within the 100 most recent comments of the most viewed YouTube videos created by Jenna Mourey (female) and Ryan Higa (male).

	Female (Jenna Mourey)		Male (Ryan Higa)				
Negative feedback	<i>n</i>	%	<i>n</i>	%	χ^2	<i>p</i>	<i>V</i>
Original study (<i>N</i> = 2,000 comments from 10 videos, <i>n</i> = 193 comments omitted from analysis)							
Content or personality	83	9.0	27	3.0	30.2	<.001	.12
Sexist, racist or sexually aggressive	83	9.0	9	1.0	62.4	<.001	.18
Total	166	18.0	36	4.0			
Direct replication (<i>N</i> = 2,400 comments from 12 videos, <i>n</i> = 1,148 comments omitted from analysis)							
Content or personality	102	13.5	60	10.1	11.7	<.001	.07
Sexist, racist or sexually aggressive	95	12.6	6	1.0	81.9	<.001	.19
Total	197	26.1	66	11.1			

Table 4. Prevalence of positive feedback within the 100 most recent comments of the most viewed YouTube videos created by Jenna Mourey (female) and Ryan Higa (male).

	Female (Jenna Mourey)		Male (Ryan Higa)				
Positive feedback	<i>n</i>	%	<i>n</i>	%	χ^2	<i>p</i>	<i>V</i>
Original study (<i>N</i> = 2,000 comments from 10 videos, <i>n</i> = 193 comments omitted from analysis)							
Content or personality	689	75.0	834	94.0	57.9	<.001	.17
Physical appearance	64	7.0	18	2.0	26.9	<.001	.12
Total	753	82.0	852	96.0			
Direct replication (<i>N</i> = 2,400 comments from 12 videos, <i>n</i> = 1,148 comments omitted from analysis)							
Content or personality	476	63.1	520	87.5	3.3	.037	.04
Physical appearance	81	10.7	8	1.3	62.2	<.001	.16
Total	557	73.9	528	88.9			

Negative (including hostile and sexist) and positive feedback to female and male comedy YouTubers (systematic replication)

The systematic replication revealed that overall, women received 11% negative feedback, while men received 14%, $\chi^2(1) = 10.3$, $p = .001$, $V = .04$. In contrast to H3, women received *less* negative feedback. All significant single effects have the wrong direction, too. Female YouTubers received *less* criticism for the content of their videos, $\chi^2(1) = 20.3$, $p < .001$, $V = .06$, *fewer* racist video comments, $\chi^2(1) = 3.6$, $p = .043$, $V = .02$, and *fewer* homophobic video comments, $\chi^2(1) = 3.6$, $p = .048$, $V = .02$ (see Table 5).

Regarding positive feedback, women received 52% positive feedback overall, while men received 54%. This difference is small and not statistically significant, $\chi^2(1) = 2.7$, $p = .054$, $V = .02$, because two single effects seem to cancel each other out. Although women received *fewer* compliments for the content of their videos, $\chi^2(1) = 12.6$, $p < .001$, $V = .05$, they also received *more* compliments for their personality, $\chi^2(1) = 7.5$, $p = .003$, $V = .04$ (see Table 6).

Most findings do not support H3; instead, they contradict H3. Adding more YouTubers to the sample largely diminished the gender effect that women receive more negative and less positive feedback compared to their male counterparts.

Table 5. Prevalence of critical/hostile comments within the 100 most recent comments of the six most viewed YouTube videos of five female and five male YouTubers.

Critical/hostile comments	Female ($n = 3,000$ comments)		Male ($n = 3,000$ comments)		χ^2	p	V
	n	%	n	%			
Criticism video content	165	5.5	254	8.5	20.3	<.001	.06
Criticism personality	88	2.9	86	2.9	0.0	.469	.00
Criticism appearance	47	1.6	53	1.8	0.4	.307	.01
Sexual comment	39	1.3	31	1.0	0.9	.200	.01
Sexist comment	11	0.4	13	0.4	0.2	.419	.01
Racist comment	9	0.3	19	0.6	3.6	.043	.02
Homophobic comment	5	0.2	13	0.4	3.6	.048	.02
Violent comment	14	0.5	8	0.3	1.6	.143	.02
Total (excluding multiple codings)	342	11.4	425	14.2	10.3	.001	.04

Table 6. Prevalence of supportive comments within the 100 most recent comments of the six most viewed YouTube videos of five female and five male YouTubers.

Supportive comments	Female ($n = 3,000$ comments)		Male ($n = 3,000$ comments)		χ^2	p	V
	n	%	n	%			
Compliment video content	1,103	36.8	1,237	41.2	12.6	<.001	.05
Compliment personality	463	15.4	389	13.0	7.5	.003	.04
Compliment appearance	141	4.7	129	4.3	0.6	.247	.01
Total (excluding multiple codings)	1,554	51.8	1,617	53.9	2.7	.054	.02

Conclusion

Male dominance and sexism are visible problems on YouTube. Women are clearly underrepresented in the top 100 YouTube channels of nine different countries (H1), even more so than in traditional media (Gray 2017). In addition, female YouTubers seem to be prone to receiving more negative and hostile video comments. For instance, the US comedy YouTuber Jenna Mourey received more negative (including hostile and sexist) feedback in the comments to her videos than the comparable US comedy YouTuber Ryan Higa (H2). This can discourage female YouTubers “from ... earning a living online” (Citron 2009, 375), which would explain the dominance of males on YouTube. But negative feedback does not seem to be based solely on the gender of the YouTuber, because adding more channels diminished these effects (H3).

The findings of this study come with limitations: The codebook of the original study could not be perfectly reproduced, and absolute frequencies could not be perfectly reconstructed. This restricts the comparability between the replication study and the original study, and could possibly have led to a slight distortion of the results regarding H2. In addition, YouTubers may delete hate comments from their comments section (Lange 2007), and users can also ask YouTube to remove hate comments (YouTube 2016). As a result, the video comments visible to the public are not entirely representative of the quantity and quality of negative feedback that YouTubers of different genders receive. This may have caused an underestimation of effect sizes in both the original study and its replication.

These limitations could be addressed in future research. For instance, negative feedback that is not publicly visible (deleted comments, personal messages) could be included by conducting interview studies with YouTubers that differ regarding gender, genre, and popularity. More importantly, a closer look at the effect mechanisms is needed. Possibly, it is not the gender of the YouTuber alone that attracts hateful feedback, but rather gender performance in terms of gender role conformism or non-conformism. Female YouTubers seem to attract more sexist comments if they do not conform to gender role expectations: for instance, by talking about sexual topics while confidently displaying their sexuality (like Jenna Mourey) or by addressing feminist topics (Jane 2012, 2013; Szostak 2013). Consequently, more studies are needed that focus on the gender of the YouTubers *in combination* with the topics of the videos.

In practice, it is also relevant how online hate, as well as online sexism, can be prevented. Most YouTubers reject direct regulation by YouTube (Lange 2007). Therefore, YouTubers have already begun developing ideas on how better to control online hate themselves (cf. Lange 2007). However, each of these ideas comes with severe drawbacks. To date, no ideal solution has been found.

In sum, this study can be regarded as a valuable contribution to an important yet under-researched topic. As a replication study, it demonstrated that the findings of the original study could be confirmed, but are limited in generalizability. The refinements in form of broader and larger samples and the use of inferential statistics produced clearer evidence, and the optimized codebook will be helpful in future studies. Further research is necessary to identify the factors that best explain online hate and online sexism on YouTube, as well as on other leading social media platforms.

Disclosure statement

No potential conflict of interest was reported by the authors.

Notes on contributors

Nicola Döring is professor of Media Psychology and Media Design at TU Ilmenau in Germany. Her research interests include gender and sexuality research, the psychology of online, mobile, and human robot communication, social scientific research methods, and evaluation. Her recent journal publications address gender roles in selfies (in *Sex Roles*, 2016), in online sexual activities (in *Archives of Sexual Behavior*, 2017), and in sexting (in *Cyberpsychology: Journal of Psychosocial Research on Cyberspace*, 2014). Website: www.nicola-doering.de; E-mail: nicola.doering@tu-ilmenau.de

M. Rohangis Mohseni is a postdoctoral researcher of the Media Psychology and Media Design research group at TU Ilmenau in Germany. His research interests include electronic media effects and moral behavior. His latest publications address moral disengagement in the Nier video game (in *100 Greatest Video Game Characters*, 2017), gendered hate speech in YouTube comments (in *SC|M*, in press), and objectivity issues in experimental aggression measurement (in *Psychological Assessment*, 2014). Website: www.rmohseni.de; E-mail: rohangis.mohseni@tu-ilmenau.de

ORCID

M. Rohangis Mohseni  <http://orcid.org/0000-0001-7686-8322>

References

- Alexa Traffic Ranks. 2017. "How Popular is YouTube.Com?" *Alexa*. Accessed October 18, 2017. <http://www.alexa.com/siteinfo/youtube.com>.
- Bohannon, John. 2015. "Many Psychology Papers Fail Replication Test." *Science Magazine* 349 (6251): 910–911. doi:10.1126/science.349.6251.910.
- Burgess, Jean, and Joshua Green. 2009. *YouTube: Online Video and Participatory Culture*. Cambridge, UK: Polity.
- Citron, Danielle Keats. 2009. "Law's Expressive Value in Combating Cyber Gender Harassment." *Michigan Law Review* 108: 373–415.
- Collins, Rebecca L. 2011. "Content Analysis of Gender Roles in Media: Where Are We Now and Where Should We Go?" *Sex Roles* 64 (3–4): 290–298. doi:10.1007/s11199-010-9929-5.
- Defy Media. 2016. "Youth Video Diet: Acumen Report." *Defy Media*. Accessed May 19, 2016. <http://www.defymedia.com/acumen/acumen-report-youth-video-diet>.
- Fahrenheit, David A. 2016. "Trump Recorded Having Extremely Lewd Conversation about Women in 2005." *The Washington Post*, October 8. https://www.washingtonpost.com/politics/trump-recorded-having-extremely-lewd-conversation-about-women-in-2005/2016/10/07/3b9ce776-8cb4-11e6-bf8a-3d26847eed4_story.html.
- Fox, Jesse, Carlos Cruz, and Ji Young Lee. 2015. "Perpetuating Online Sexism Offline: Anonymity, Interactivity, and the Effects of Sexist Hashtags on Social Media." *Computers in Human Behavior* 52: 436–442. doi:10.1016/j.chb.2015.06.024.
- Freelon, Deen G. 2010. "ReCal: Intercoder Reliability Calculation as a Web Service." *International Journal of Internet Science* 5 (1): 20–33.
- Gray, Katti. 2017. "The Status of Women in the U.S. Media 2017: Report." *Women's Media Center*. Accessed October 25, 2017. <http://www.womensmediacenter.com/reports/the-status-of-women-in-u.s.-media-2017>.
- Ioannidis, John P. A. 2005. "Why Most Published Research Findings Are False." *PLoS Medicine* 2 (8): e124. doi:10.1371/journal.pmed.0020124.
- Jane, Emma Alice. 2012. "'Your a Ugly, Whorish, Slut'" *Feminist Media Studies* 14 (4): 531–546. doi:10.1080/14680777.2012.741073.
- Jane, Emma Alice. 2013. "'back to the Kitchen, Cunt': Speaking the Unspeakable about Online Misogyny." *Continuum* 28 (4): 558–570. doi:10.1080/10304312.2014.924479.
- Landis, J. Richard, and Gary G. Koch. 1997. "The Measurement of Observer Agreement for Categorical Data." *Biometrics* 33 (1): 159–174. doi:10.2307/2529310.

- Lange, Patricia G. 2007. "Commenting on Comments. Investigating Responses to Antagonism on YouTube." Paper presented at the Society for Applied Anthropology Conference, Tampa, Florida, March 31. Accessed March 05, 2016. https://www.researchgate.net/publication/228615792_Commenting_on_Comments_Investigating_Responses_to_Antagonism_on_YouTube.
- Makel, Matthew C., Jonathan A. Plucker, and Boyd Hegarty. 2012. "Replications in Psychology Research: How Often Do They Really Occur?" *Perspectives on Psychological Science* 7 (6): 537–542. doi:10.1177/1745691612460688.
- Molyneaux, Heather, Susan O'Donnell, Kerri Gibson, and Janice Singer. 2008. "Exploring the Gender Divide on YouTube: An Analysis of the Creation and Reception of Vlogs." *American Communication Journal* 10 (1): 1–14.
- Moor, Peter J., Ard Heuvelman, and Ria Verleur. 2010. "Flaming on YouTube." *Computers in Human Behavior* 26 6: 1536–1546. doi:10.1016/j.chb.2010.05.023.
- Open Science Collaboration. 2015. "Estimating the Reproducibility of Psychological Science." *Science* 349 (6251): aac4716. doi:10.1126/science.aac4716.
- Reicher, Stephen David, Russell Spears, and Tom Postmes. 1995. "A Social Identity Model of Deindividuation Phenomena." *European Review of Social Psychology* 6 (1): 161–198. doi:10.1080/14792779443000049.
- Simmons, Joseph P., Leif D. Nelson, and Uri Simonsohn. 2011. "False-Positive Psychology: Undisclosed Flexibility in Data Collection and Analysis Allows Presenting Anything as Significant." *Psychological Science* 22 (11): 1359–1366. doi:10.1177/0956797611417632.
- Suler, John. 2004. "The Online Disinhibition Effect." *CyberPsychology & Behavior* 7 (3): 321–326. doi:10.1089/1094931041291295.
- Szostak, Natasha. 2013. "Girls on YouTube: Gender Politics and the Potential for a Public Sphere." *McMaster Journal of Communication* 8: 47–58.
- Tang, Wai Yen, and Jesse Fox. 2016. "Men's Harassment Behavior in Online Video Games: Personality Traits and Game Factors." *Aggressive Behavior* 42 (6): 513–521. doi:10.1002/ab.21646.
- Thelwall, Mike, Pardeep Sud, and Farida Vis. 2011. "Commenting on YouTube Videos: From Guatemalan Rock to El Big Bang." *Journal of the American Society for Information Science and Technology* 63 (3): 616–629. doi:10.1002/asi.21679.
- Tucker-McLaughlin, Mary. 2013. "YouTube's Most-Viewed Videos: Where the Girls Aren't." *Women & Language* 36 (1): 43–49.
- Vermeulen, Ivar, and Tilo Hartmann. 2015. "Questionable Research and Publication Practices in Communication Science." *Communication Methods and Measures* 9 (4): 189–192. doi:10.1080/19312458.2015.1096331.
- VidStatsX. 2015. "YouTube Stats (Subscriber, Ranking, & Video Statistics)." VidStatsX. Accessed June 30, 2015. <http://vidstatsx.com>.
- Wotanis, Lindsey, and Laurie McMillan. 2014. "Performing Gender on YouTube." *Feminist Media Studies* 14 (6): 912–928. doi:10.1080/14680777.2014.882373.
- YouTube. 2016. "Harassment and Cyberbullying." Accessed June 30, 2016. <https://support.google.com/youtube/answer/2802268?hl=en>.
- Zick, Andreas, Carina Wolf, Beate Küpper, Eldad Davidov, Peter Schmidt, and Wilhelm Heitmeyer. 2008. "The Syndrome of Group-Focused Enmity: The Interrelation of Prejudices Tested with Multiple Cross-Sectional and Panel Data." *Journal of Social Issues* 64 (2): 363–383. doi:10.1111/j.1540-4560.2008.00566.x.

Appendix 1. Most viewed YouTube videos that were sampled for the direct replication

Female channel (JennaMarbles) ($n = 1,200$ comments)	Male channel (nigahiga) ($n = 1,200$ comments)
Used for analysis and for calculating inter-coder reliability	
How to trick people into thinking you're goodlooking	Nice Guys
What Girls Do In The Car	How to be Gangster
How To Avoid Talking To People You Don't Want To	The ipod Human
What I Would Have Done In Cancun	How to be Emo
What Girls Do In The Bathroom In The Morning	Daily Life of Rustin Hieber
Things Girls Lie About	Bromance
Used for analysis	
What Girls Think About During Sex	How to sing like your favorite artist
How Girls Fall Asleep	The ShamWHOOHOO!
Drunk Makeup Tutorial	"Agents of Secret Stuff"
Things Boys Don't Understand	Why Chris Brown Beat Rihanna
How To Get Ready For A Date	Movies in Minutes—Twilight
White Girls At The Club	The iNavigator

Appendix 2. Pairings of popular, currently active, all English-language YouTube comedy channels produced by an individual person that were sampled for the refined replication

Selection criterion	Female channels ($n = 3,000$ comments)	Male channels ($n = 3,000$ comments)
Popularity (among top 100)	lisbug	ShaneDawsonTV
Genre (music related comedy) and popularity (among top 103)	mirandasings08	juliansmith87
Search for homophobia (LGBT)	MyHarto	tyleroakley
Search for racism (African-Americans)	glozell1	ItsKingsleyBitch
Search for racism (Canadians with Indian family background)	Superwoman	JusReign