CA Journal of Cultural Analytics

Leontyeva, Xenia, et al. "Gender (Im)Balance in the Russian Cinema: On the Screen and behind the Camera." *Journal of Cultural Analytics*, vol. 9, no. 1, May 2024, https://doi.org/10.22148/001c.116142.

ARTICLE

Gender (im)balance in the Russian cinema: on the screen and behind the camera

Xenia Leontyeva[1], Olessia Koltsova[2], Deb Verhoeven[3]

[1] Saint Petersburg State University of Cinema and Television, [2] National Research University Higher School of Economics, [3] University of Alberta

Keywords: women in cinema, Bechdel-Wallace test, gender equity, cinema attendance, Russian film industry

https://doi.org/10.22148/001c.116142

Journal of Cultural Analytics

Vol. 9, Issue 1, 2024

The relationship between on-screen and off-screen inequality in film industries and the relative impact of these on movie attendance is widely discussed but not necessarily empirically demonstrated. This article examines the binary gender composition of film project teams and the gendered representation of film characters as factors for cinema attendance. We collected a unique dataset (N=1285) of all films released during the pre-pandemic decade (2008-2019) in Russia – at that time the largest European cinema market. A marked-up subset of 243 films was used to calculate a novel version of the Bechdel-Wallace test that accounts for the proportion of all non-stereotypical dialogues in the film narration, as opposed to the classical binary test. Our test proves very informative, revealing a strikingly high proportion of dialogues with stereotypical portrayals of women even among the films that pass the Bechdel-Wallace binary threshold. We also undertook a social network analysis (SNA) of the characters' communications. This analysis demonstrate that women predominantly occupy a peripheral position in film plots. Both stereotyping and marginalization of women are positively related to the proportion of men in the film crew, especially in the role of screenwriter. Simultaneously, having more men in key positions is also correlated with access to larger budgets and better distribution, thus effectively impeding films with stronger women characters from wider audiences. These audiences, however, show no prejudice towards films with such characters: after 2015, films featuring central women protagonists have the same level of attendance as movies without them. Although Russia exemplifies a large non-Western cinema market, the trends we identify, particularly the "gatekeeping" effect of male filmmakers, is notably in line with those observed in Western democracies.

1. Introduction

Issues of skewed gender representation in screen media, including advertising, film, and television, have been the focus of attention of the feminist movement and media scholars since the 1970s (see for example, Johnston; Mulvey). Recently, these issues have attracted wider attention due in part to the #metoo social movement in which notable producers, directors, actors, and other stars were alleged to have sexually abused or harassed their junior

or dependent colleagues (Liddy). In addition to gender inequality, increasing attention is being paid to its intersections with race, age, and other forms of discrimination (both on and off-screen) (Conor).

The increasing attention to on-screen gender imbalance and the stereotypical representation of characters is also related to the growing understanding of its social consequences. Most important is the possible effect of media images on human behavior and in particular, on wider instances of gender discrimination (Aley and Hahn; 21st Century Fox and The Geena Davis Institute on Gender in Media, et al.). As a response to these concerns, some film industries have made small gestures to gender equality, for example backing films with stronger than previous female protagonists. Hollywood studios, for instance, have modified traditional franchise plots to enable greater diversity in their cast such as the more recent Star Wars movies (Lopez; Vainikka). However, a recent aggregate report on the top 100 grossing films in Hollywood sounds a note of caution. In 2021 the Centre for the Study of Women in Film and Television identified that women accounted for only 35% of major characters in the top 100 grossing films, down slightly from 38% in 2020 and 37% in 2019 (Lauzen 6). Women comprised only 34% of all speaking characters, also down slightly from 36% in 2020 (Lauzen 7). Although the percentage of films featuring women protagonists increased by 2 percentage points to 29% in 2021, this is well below the high of 40% achieved in 2019. The Centre's report found that after two years of promising gains, 2021's percentage of women protagonists was the same as in 2016 – the year before the start of the #MeToo movement (Lauzen 4–5). What seems on the surface to be an increase of women in substantial screen roles is not necessarily supported by the quantitative evidence. This paper similarly develops a quantitative approach to the problem of gender discrimination on screen with a unique focus on the Russian film industry.

To address on-screen gender imbalance and its dynamics quantitatively, several measurements have been offered (Kagan et al.; Kapoor et al.; Jones et al.) and their relation to film success has been estimated (Treme et al.; Lindner et al., "Million Dollar Maybe?"). The most popular index, the Bechdel-Wallace (BW) test (Bechdel), is a simple binary indicator (yes/no) of the presence of at least one conversation between two or more women touching on non-stereotypical topics. However, being binary, it provides no information about the actual proportion of non-stereotypical conversations or characters in the films. To address this limitation, in this paper, we propose a BW test modification (BWL) that scores films according to the share of conversations between women characters on qualified topics.

In its current form, the BW test has been widely used to study on-screen gender balance both in films from Western democracies (Agarwal et al.; Garcia et al.; Lindner et al., "Million Dollar Maybe?"; Lindner and Schulting) and, a lesser extent, beyond (Kapoor et al.). Likewise, as the collection

of gender statistics on filmmakers is becoming a common practice of government agencies worldwide, behind-the-camera gender balance is also being increasingly studied with a variety of quantitative approaches based on the number of women in key positions in film crews, their access to large budgets and financial state support (Dean; Follows et al.; Liddy).

The study of gender in Russian cinema predominantly focuses on cinematic rather than sociological questions. The most notable study is Lynne Attwood's 1993 edited collection, *Red Women on the Silver Screen*. In the first parts of this volume, both international and local researchers analyze the changing image of women in Soviet films from the standpoint of the perestroika era on the eve of the collapse of the USSR. The articles in the collection trace the evolution of the "woman question" from pre-revolutionary femmes fatales to the strong, joyful, purposeful, and confident workers of socialist realism in the 1930s and the various images of women in decades following. In the 1940s, selfless home front workers, and faithful wives awaiting their husbands from the war, appeared on the screens. In the 1950s, women acquired the everyday attractiveness of the "girl next door". In the 1960s, they were reimagined as refined companions and even the occasional antagonists of men protagonists. In the 1970s, there were echoes of the Western second wave of feminism in Soviet films, with the conflict of the emancipated woman caught between career and personal life: either unsettled in love or overburdened with domestic duties, and typically caught in a vicious spiral of double exploitation. (Bulgakova) The ambiguity of women's position in the Soviet Union was particularly evident during this time, especially in the comedies of Eldar Ryazanov (Rojavin and Harte). By the end of the 1980s and the beginning of the 1990s, the screens were flooded with sex and violence that had long been restrained by censorship.

The various authors of the perestroika anthology critically evaluate the cinema's representation of women as a political proxy, a continuation of a long tradition of symbolically portraying the motherland through women. and extended in the Soviet era to exemplification of the state's relationship with its citizens. The authors describe this portrayal as cynical and duplicitous, reflecting contempt for "woman-motherland" and the desire to humiliate her as a sublimation of the suppressed Soviet society over many years. (Drozdova; Attwood, "Part 1. Women, Cinema and Society'")

Since this important publication, very little substantive research on women and the cinema has been available for Russia. One exception is a publication from 2021 that covers crossover art-mainstream films of the 2010s and observes that women's cinema in this period shifted towards romanticizing traditional values as a general basis for its narratives. These films exploit the legitimacy of "female power in powerlessness" in the increasingly entrenched patriarchal discourse of the country. (Артюх).

For the most part, however, the Russian film-making community is broadly indifferent to the global gender agenda. Furthermore, a properly inclusive understanding of gender-related practices in the global film industry is only possible by analyzing large non-Western markets of which Russia is an important representative.

As of 2020, the first pandemic year, the Russian film industry amounted to approximately 360 feature film production companies (Леонтьева et al.) which released 110-186 films per year (Kanzler and Simone, "Focus 2022 World Film Market Trends") and employed about 26,000 professionals (Leontyeva and Danilov). Russian audiences were enthusiastic film consumers. In 2017, Russia, with 212 million tickets sold, took first place in terms of cinema attendance in Europe, beating the previously permanent leader – France (209 million admissions) (Kanzler and Simone, "Focus 2022 World Film Market Trends"). Two years later, in 2019, Russia established a European record with around 220 million cinema tickets sold (Kanzler and Simone, "Focus 2020 World Film Market Trends").

Given this, the absence of research on gender balance in Russian movies presents an obvious gap. This paper seeks to close it by offering a rigorous and comprehensive examination of gender inequality both on and off the screen in the Russian film industry in the pre-pandemic period (2008-2019). Specifically, we seek to establish the relationship between the gender composition of "key creative" crew members (producer, writer, and director), on-screen female representation (measured with a number of proposed methods, including BWL), and the theatrical admissions of the films. We also trace the dynamics of several gender-related processes in the Russian film industry. To do so, we use a complete database of all the Russian feature films shown on the big screen in Russia and in the Commonwealth of Independent States (CIS) between 2008 and 2019. Different subtasks employ different subsets of this database, including the sample of 243 films manually marked up using our BWL test.

The paper consists of six sections, including this introduction. The next section reviews the relevant literature and develops our hypotheses. The third section describes data and methods used in this article for measuring on-screen and behind-the-camera gender inequality. The fourth section presents the results of the analysis and their discussion. The paper ends with the Limitations and Conclusion sections.

2. Literature review and hypotheses

2.1. Measuring gender inequality in the production crew

Existing theories and practices of studying gender inequality in the film industry globally have been largely shaped by the respective research done by various non-government organizations promoting gender equality, including the Annenberg Foundation (S.L. Smith et al., "Inequality in 1,200 Popular

Films: Examining Portrayals of Gender, Race/Ethnicity"; S.L. Smith et al., "Inequality in 1 ,300 Popular Films : Examining Portrayals of Gender"), the Geena Davis Institute (Stacy L. Smith et al.), the New York Film Academy (Perrone), the Center for the Study of Women in Television and Film (Lauzen), the International Federation of Actors (Dean), and the European Audiovisual Observatory that, unlike others, focuses on international comparisons (Fontaine; Simone). These various organizations produce both reports and databases that are subsequently widely reused by the academic community.

The focus of these reports is on the proportion of women among producers, directors, screenwriters, and sometimes composers and directors of photography (with the two latter professions demonstrating fewer women) (Simone). Among the three major film types, documentary film production was found to be the easiest for women to enter in all three "key creative" film crew roles (producer, writer, and director), followed by live-action fiction and animation films in the second and third positions, respectively (Simone). This effect is closely related to film budgets: the more expensive the production is, the smaller the share of women. Thus, the budget difference between fiction and documentary films in Austria in 2011-2013 was revealed to be especially important, with the gender gap higher in the former (Hetherington Raveney et al. 523). In Sweden in 2013-2017 films with men directors, producers, and writers were found to have budgets that were higher than those available for women by four, seven, and six million SEK, respectively (Wikstrand J. 11). British data from 2008-2014 showed that only 3.3% of films budgeted above 30 million GBP were directed by women, while among low and micro-budget films (under 500,000 GBP) women-directed works comprised 16% (Follows et al. 20). A French study has revealed that in 2008-2017 the average budget of women-directed films used to be 3.33 million EUR, against 5.7 million EUR for films directed by men (Piccon et al.). Moreover, Centre national du cinéma et de l'image animée found out that distribution budgets for women-directed films were lower by 34.4% (Piccon et al.). Verhoeven et al. using the data from 40 countries and 3.4 thousand films distributed between 2012 and 2015, proved poor access of women not only to funding but also to the screening infrastructure: in their sample, films directed solely by women accounted for only 3% of international screenings (Verhoeven et al. 140) (simultaneously, the number of screens for films made by mixed teams was 3-4 times higher than for those made solely by women (Verhoeven et al. 143–44)).

In the third part of the volume by Lynne Attwood, mentioned in the introduction, the behind-the-camera situation in Russian cinema was revealed via a historical perspective and a series of interviews with key Russian filmmakers from the perestroika era. Attwood and her co-authors pondered the concept of "women's cinema" and traced the history of Russian female directors from Olga Preobrazhenskaya, who directed her first film in 1916,

to Esther Shub, Darya Zhukova, Yulia Solntseva, and Margarita Barskaya, to Dinara Asanova, Larisa Shepitko, and Kira Muratova, many of whom were skeptical of the concept of "women's cinema" per se and tried not to emphasize their gender. (Turovskaya) The following interviews testify to the blatant discrimination against women applying to study at the VGIK (the main Soviet film institute in Moscow) and the subsequent need to continually prove their worth during and after their education not only as professionals but also as women. The publication makes for dismal readings as women directors, cinematographers, and screenwriters reveal misogyny, survivor bias (some of them try to ignore discrimination against themselves or their colleagues), adaptability (using both professional and personal collaborations such as marriage to ensure an acting or screenwriting career), and stereotypical thinking ("Children must be born!"). They acknowledge the industry's unsuitability for women who bear the burden of household chores and motherhood and yet show no signs of a feminist view of the problems. During a period of heightened instability and hopes, they were primarily concerned with the then-recent reform of the film industry, which abolished censorship and proclaimed the commercial freedom of film production and distribution (Vizitei; Attwood, "'Some Interviews on Personal Questions...': Soviet Women Talk About Their Experiences in the Film Industry'").

Given how little emphasis has been placed on feminist interventions in Russian cinema neither the filmmaking community nor any respective institutions have been yet involved in the regular gathering of gender statistics. The first-ever statistical analysis of the share of women producers, directors, screenwriters, and directors of photography (DOP) in Russian cinema was carried out by the European Audiovisual Observatory. An especially small number of women has been revealed among DOPs: women dominated the creative teams of DOPs in less than 3% of films that were released theatrically in 2013-2017 (a female-dominated team was defined as a team with 50% or more of women on the position of DOP) (Leontyeva et al.). The proportion of films shot under the direction of women during the same period was 15.9%, while film crews dominated by women scriptwriters and producers comprised the largest share – about 22% each. The analysis of the extended version of this dataset spanning from 2009 to 2019 (Артюх 236–42) shows that women's teams make cheaper films and receive less direct state support; it is not surprising that their films are less popular among the audiences.

As these studies use descriptive statistics only, in this paper we seek to test the revealed trends with inferential statistics by proposing the following hypotheses:

> H1. *The higher the proportion of women among filmmakers in key creative positions, the smaller the film budget is.*

> H2. *The higher the proportion of women among filmmakers in key creative positions, the lower a film distributor's power is.*
>
> H3. *The higher the proportion of women among filmmakers in key creative positions, the lower the attendance of Russian films in the CIS is.*

Additionally, we seek to test our Russia-specific assumptions concerning the changes in the Russian film community that took place around 2015. As we see a certain rise in attention to gender equality after 2015, we anticipate a decrease in the strength of the influence of men filmmakers on film popularity.

> H4. *After 2015 the (positive) effect of the proportion of men among filmmakers on theatrical attendance is smaller than before.*

2.2. Measuring on-screen gender inequality – the Bechdel-Wallace test

As noted above, a popular simple method for examining gender bias on the screen is the Bechdel-Wallace test. It asks whether there are at least two women characters in the film, preferably with names, who talk to each other about something other than men (Bechdel). Shockingly, as much as 44% of Hollywood films fail to overcome this low threshold while only 56% meet one to three requirements (*Bechdel Test Movie List*). For Russia, the only available data for running this test has been on 75 films and TV shows collected in a journalism project by Konstantin Zarubin and Elizaveta Soldatova (*А Бабы Здесь Тихие. Тестом Бехдель По Нашему Кино*). Of these 75 films, 37% passed the test, and additionally, 20% were borderline – together they comprise a proportion similar to 56% that found for Hollywood films.

Several studies have pointed out the limitations of the BW test, which originated in a cartoon strip and was never intended to be a scholarly method. Amongst them is its inability to account for central or even non-stereotypical women characters who are not involved in dialogues with other women (Agarwal et al.). The test does not allow us to determine whether women characters are equally strong throughout the narrative or whether they are presented as atypical outliers (Jones), or even whether they simply talk more than once (Kagan et al.). Despite these shortcomings, the BW test is used not only in academic research but in industry practice as well. Thus, *Eurimages*, a European cinema support fund, is employing this test for monitoring gender bias in scripts submitted to its competition ("Eurimages' Gender Equality Strategy (2021-2023): Equal Voices for Equal Talent").

As a response to the criticism of the BW test, new methods for measuring gender centrality and marginality based on social network analysis (SNA) have been developed. Agarwal et al. propose 43 SNA features to classify films

as gender balanced. Kagan et al. introduce the Gender Degree Ratio (GDR) indicator calculated as a ratio of the total female characters' degree centrality to that of the male characters:

$$Gender\ degree\ ratio = \frac{Total\ degree\ female}{Total\ degree\ male} \quad (1)$$

The authors propose films with 0.8> GDR> 1.2 to be considered balanced (Kagan et al. 8). Pete Jones (Jones; Jones et al.) criticizes static network metrics as unable to reflect the focus of viewer attention on the heroines in the context of the storyline. He suggests methods of dynamic network analysis accounting for the communication of characters during the entire film by calculating character centralities in each dialogue and by further plotting them as graphs of centrality by time.

The relationship between the gender of onscreen characters and the gender of the filmmaking teams that produce them is another fruitful area of analysis with calls for close attention to this phenomenon (Lindner et al., "Million Dollar Maybe?"). Researchers have previously noted that the gender of the filmmakers is directly related to the visibility of the female characters they portray (Smith and Choueiti; Linke and Prommer; S.L. Smith et al., "Inequality in 1,100 Popular Films: Examining Portrayals of Gender, Race/ Ethnicity"). Based on these considerations our next hypothesis is:

> H5. *The higher the proportion of women among filmmakers, (a) the higher the centrality of female characters, and (b) the less stereotypical their representation is.*

The benefits of increasing the number of women onscreen are manifold. From the social point of view, media images are influential in shaping people's gender beliefs and behavior, for example, inspiring gender identifications from childhood (Aley and Hahn), and limiting the choice of career paths for girls (21st Century Fox and The Geena Davis Institute on Gender in Media, et al.). There are also debates on the economic benefits of enhancing the profile of women on screen. Shift7 and Creative Artists Agency (Shift7 and CAA), based on an analysis of 350 most popular studio films from 2014-2017, showed a positive relationship between passing the Bechdel-Wallace test and film box office, whereas Treme et al. have argued that the presence of a male star increased the box office in the home market by 12%, and a female star had no effect on the success of films from 1990 to 2010.

Lindner and Schulting and Lindner et al. examine the relation between Bechdel-Wallace test results and film performance among critics and audiences. They find that for wide audiences this relationship, initially negative, is rendered insignificant when film genre and budget size are introduced in the model. Consequently, according to Lindner, this initial negative relationship is explained not by the audience's prejudices, but by the work of "gatekeepers" who protect the industry from expensive projects

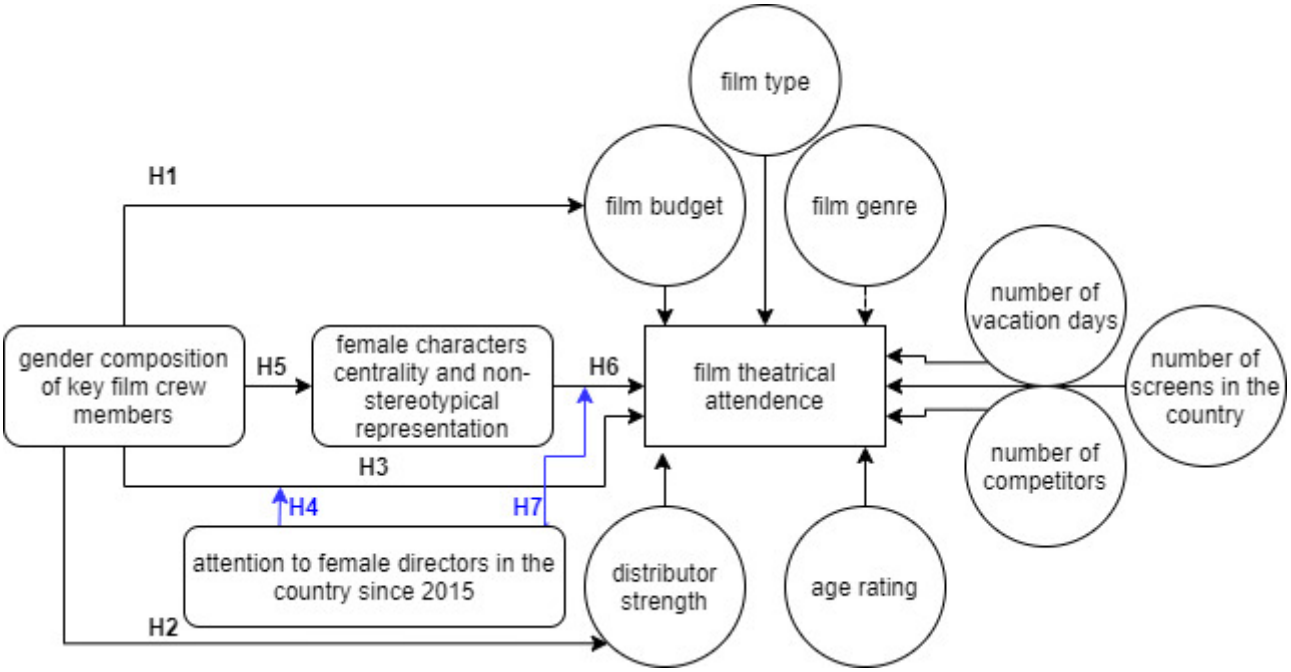

Figure 1. Conceptual model. Dependent and independent variables are in squares, and control variables are in circles. *Hn* next to the arrow marks the hypothesis number. Blue arrows signify interactive effects (moderation).

with strong female characters. Perhaps more surprisingly, Lindner notes that the critics' assessments of films free from stereotypical female images are not hostile.

Developing the ideas of Lindner, we propose the following two additional hypotheses:

> H6. *(a) The higher the degree centrality of female characters and (b) the lower their stereotyping in dialogues is, the higher the attendance of Russian films in the CIS is.*
>
> H7. *After 2015, the (positive) effect of (a) female centrality and (b) female character non-stereotyping on attendance is higher than before 2015.*

A conceptual model of the hypotheses and variables relationships is presented in Fig. 1.

3. Method and data

3.1. Datasets and mark-up

We use a dataset (N=1285) that includes all Russian films produced between 2008 and 2019 and theatrically released between December 1, 2008, and December 31, 2019 (referred to as the full dataset). Distribution statistics cover the territory of the CIS of which the Russian Federation is the biggest market. Budget information is available for 644 films, and BWL test mark-up – for 243 films (further referred to as the marked-up dataset). Both of the latter subsamples are relatively evenly distributed through period the 12

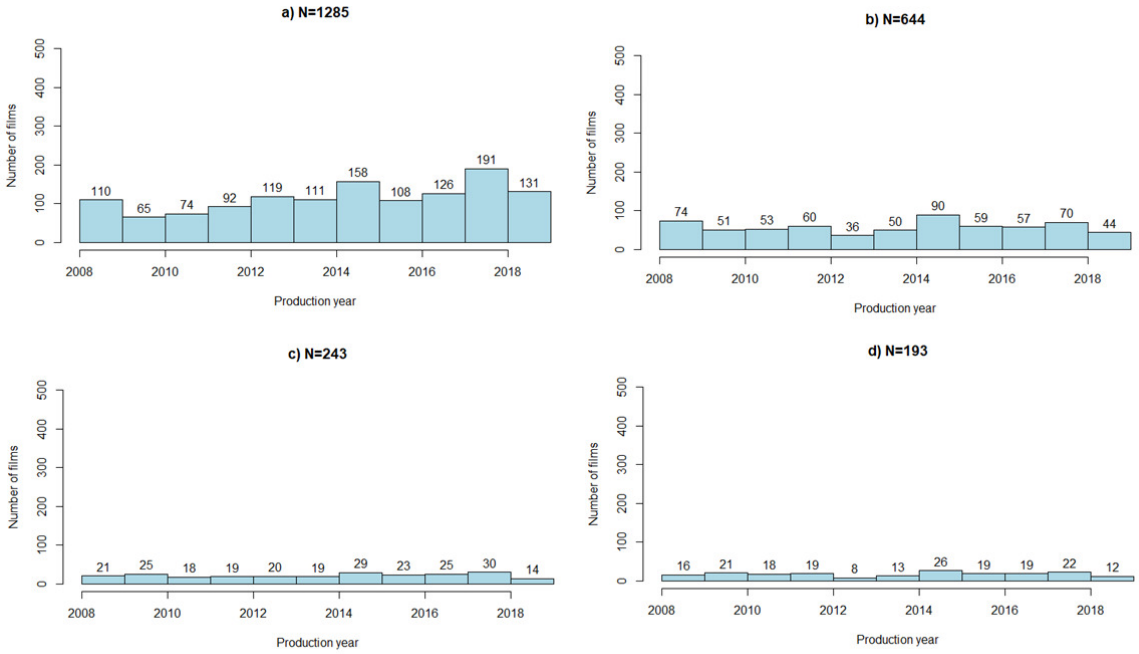

Figure 2. Number of films by the year of production: (a) all films; (b) all films with budget information; (c) marked-up films; (d) marked-up films with budget information.

years of our analysis (Fig. 2). The datasets alongside the detailed description of all variables are available in the supplement to the article at https://doi.org/10.7910/DVN/GDKOSR.

The sample for BWL markup was constructed to represent three types of films: blockbusters, moderately popular, and films of festival appeal, and additionally included 21 films that could not be categorized. Within this sample, a team of 94 volunteers chose the films for mark-up. The coders developed a contingency matrix of characters by scenes where the role of the former in the latter was coded as either speechless participation, communication on a qualified topic, or communication on one of the disqualified topics (about relationships between men and women, beauty, fashion, or about children and housekeeping).

The matrix was used as the input data to calculate the BWL score.

3.2. Variables

Main dependent variable

Attendance: the number of cinema tickets sold.

Other variables tested in hypotheses

Behind-the-scenes gender balance. **DirMaleShare**, **ProdMaleShare**, and **ScrMaleShare** are calculated as the proportion of males among all people in the position of director, producer, and screenwriter, respectively, for each film. The aggregated variable **maleshare** is an accumulated proportion of

men in all three positions together. Binary sex (male or female) was identified automatically based on a list of male and female first names and the endings of surnames; it was also checked manually if needed.

Female representation on the screen is measured with BWL and gender degree ratio (Kagan et al.) calculated for two kinds of networks.

BWL *(Bechdel-Wallace test modified by Leontyeva):* proportion of dialogues among female characters on qualified topics in the total number of the film dialogues (formula 2). Being an extension of the initial Bechdel-Wallace (Lindner et al., "Million Dollar Maybe?"), BWL differs both from the classical binary variant and the four-point scale proposed by Agarwal et al. and Bechdel Test Movie List (https://bechdeltest.com/).

$$BWL = \frac{Number\ of\ dialogues\ among\ female\ characters\ on\ qualified\ topics}{Total\ number\ of\ the\ film\ dialogues} \quad (2)$$

The disqualified topics were not only about men, as in the classical test, but also about women, beauty, fashion, attractiveness, children, and housekeeping. This definition of the set of stereotypical themes associated with women is based on a stream of prior research (Kapoor et al.). Mixed conversations, in which both disqualified and general topics were mentioned, were considered qualified. Only characters who participated in more than one scene (or in one, but important, according to the coder) and had at least one line of dialogue were marked up. Monologues were excluded.

The gender degree ratio (**GDR**) of a film is calculated from the bimodal network of characters and dialogues in which they participate throughout the entire movie. For this purpose, an unimodal weighted projection of this network is constructed where the vertices are characters only, and the arcs between each pair of vertices represent the number of dialogues in which both characters in the pair have participated. Once, based on this data, the weighted centrality for each character is obtained, the sum of centralities of all female characters is divided by the respective sum for males. Gender degree ratio total (**GDRT**) differs from GDR with the input data only: instead of dialogues, all scenes are used, including those where a given character is participating silently. Unlike the BW test which aims to assess stereotyping of women, these network measures evaluate women's overall importance in a film, as compared to men.

The film budget (**BudgetALL**) and the amount of state support (**StateSup**) were measured in rubles and adjusted for inflation. The power of the distribution company which is its capability to book film widely was evaluated via a proxy parameter – company type (**DistrType**). It is a nominal variable with four levels, where 4 is assigned to representatives of Hollywood major studios that possess the highest power; 3 – to representatives of

Russian leading producers; 2 – to independent distributors; 1 – to self-distributors (producers who release their films without the mediation of a distribution company and possess the lowest power).

Threshold is a binary variable that assigns each film to one of the two categories based on its year of release in CIS, either before or in and after 2015. This year was chosen based on ad-hoc tests and qualitative movie industry analysis. This was the year when the attention of the professional cinema community to the gender of filmmakers experienced a shift. Among other things, a special out-of-competition program appeared at the *Moscow International Film Festival*, and women's films began to win at *Kinotavr*, the most prestigious film festival of Russian cinema.

Control variables

Data for determining film genre was retrieved from (*КиноПоиск*) https://www.kinopoisk.ru/ where each film usually gets multiple genre assignments. Based on factor analysis (see details in the supplement available at https://doi.org/10.7910/DVN/GDKOSR) we created enlarged groups of genres to reduce the dimensionality of the indicator. Six numeric variables express the proportion of each genre in a film: drama (**Drm**), comedy (**Cmd**), family (**Fml**), suspense (**Ssp**), dynamic (**Dyn**), and prestige (**Prs**). Some of them were excluded from some models due to multicollinearity. The film genre is distinct from the film **type** that represents four categories (*top*, *average, festival,* and *undefined)* used to compile our sample for BWL mark-up, as described above.

Russian film age rating (**AgeRateRu**) is a nominal variable with four categories: 0/6+, 12+, 14/16+, and 18+ which unites two ranking systems that existed in Russia before and after the reform of 2012, respectively.

The season factor is controlled by two variables: the number of days off in the Russian Federation on the week of the film release (**VacDays**) and the number of films that were released in the same week (**Competitors**).

As the Russian cinema market was fast growing in terms of the number of screens through the period under investigation, their average number as of the beginning and the end of the month, when the film was released (**ScrRU**), is controlled for. It is being done to compensate for the lack of information on the number of screens booked for every film.

3.3. Data analysis

All data analysis was carried out in R version 3.6.1 (2019-07-05). The main method for testing hypotheses was linear regression. Confirmatory factor analysis (CFA) was applied for genre aggregation. Structural equation

Table 1. Proportions of males in key film crew positions and film budgets; full dataset (N=1285)

Variables	N	Mean	St. Dev.	Min	Pctl(25)	Pctl(75)	Max
Share of males in crew among:							
• directors, %	1,259	0.831	0.365	0	1	1	1
• producers, %	1,218	0.787	0.311	0	0.667	1	1
• screenwriters, %	1,224	0.793	0.354	0	0.667	1	1
• overall male share, %	1,266	0.793	0.258	0	0.667	1	1
Film budget, adjusted rubles	644	190,406,098	382,583,808	118,022	59,277,415	190,289,619	6,927,029,154

modeling (SEM) for the theoretical model as it is presented in Fig. 1 was not applicable as different samples were used for the research of different parts of the scheme.

4. Results and Discussion

4.1. Descriptive statistics

Descriptive statistics of the datasets used for the analysis are presented in Table 1 (full dataset) and Table 2 (marked-up dataset).

In terms of unique persons working on the projects included in the full sample, the overall female share is 19.7%; female producers make up 20.6% of the sample, screenwriters – 19.8%, and directors – 17.5% (Table 3).

4.2. Women behind the camera and their access to resources

The results of the study show that, like in other countries, men dominate among the key creators of Russian films (Fig. 3). Single-gender film crews with men in all three key creative positions (producers, directors, and screenwriters) produced 575 movies out of 1285 during the studied decade; all producers were men in 723 movies, all writers – in 849, and all directors – in 1023.

Regression analysis demonstrates a positive linear relationship between the log-transformed film budget and the proportion of men in the team (Table 4). In other words, men have access to higher budgets in the Russian film industry thus fully confirming H1. However, at the same time, the amount of state support is not related to the gender composition of the key film crew members. Male producers, but not directors or screenwriters have access to the strongest distributors on the market: representatives of Hollywood majors and the leading Russian studios. Formally, this means that H2 is only partially confirmed, however, producers are generally more important for access to resources than either directors or screenwriters. Overall, these results are in line with those received for other countries (e.g. Follows et al.; Piccon et al.; Verhoeven et al.).

Table 2. Proportion of males in key film crew positions and major film features; BWL dataset (N=243)

Variables	N	Mean	St. Dev.	Min	Pctl(25)	Pctl(75)	Max
Attendance, tickets	243	1,267,886	1,780,832	68	205,318	1,857,989	12,443,898
Share of males in crew among:							
• directors, %	243	0.889	0.303	0	1	1	1
• producers, %	243	0.847	0.245	0	0.8	1	1
• screenwriters, %	243	0.841	0.296	0	0.75	1	1
• overall male share, %	243	0.857	0.19	0.167	0.8	1	1
Film budget, adjusted rubles	193	264,754,867	549,412,730	324,420	89,404,300	241,374,858	6,927,029,154
Other (see note)							
VacDays, days	243	2.626	1.427	1	2	3	10
Competitors, films	243	8.444	2.649	2	7	10	16
ScrRU, screens	243	3,655	1,047	1,842	2,707	4,639	5,47
BWL, %	243	0.057	0.095	0	0	0.07	0.76
GDR	242	0.626	0.748	0	0.27	0.718	7
GDRT	243	0.595	0.674	0	0.27	0.66	7.44

Note: VacDays – number of days off in a film release week (the maximum number of days off in week 10 is explained by counting the number of non-working days in a row during the New Year holidays). Competitors – number of competing films released during the same week. ScrRU – the average number of screens in Russia for the month of release. BWL – the proportion of dialogues among female characters on qualified topics in the total number of film dialogues. GDR – gender degree ratio of characters participated in dialogues. GDRT – gender degree ratio of characters appeared in the same scenes.

Table 3. Unique people in key film crew positions, full dataset (N=1285)

	Number of people		Share of people in the position	
	male	female	male	female
Producers	2884	746	79.4%	20.6%
Screenwriters	1954	483	80.2%	19.8%
Directors	1227	261	82.5%	17.5%
All three key positions	6065	1490	80.3%	19.7%

4.3. Women behind the camera and film theatrical attendance

Linear regression analysis of film crew gender composition effects on log-transformed film attendance (Table 5) shows that the proportion of men among screenwriters was not significant in any models. When the budget is controlled for, the significance of the proportion of males in the other two key roles decreases with only the effect of the producers' gender sustaining in all models. This renders H3 partially confirmed. An explanation for this may lie in the fact that men producers have access not only to larger budgets but most importantly, to stronger distributors.

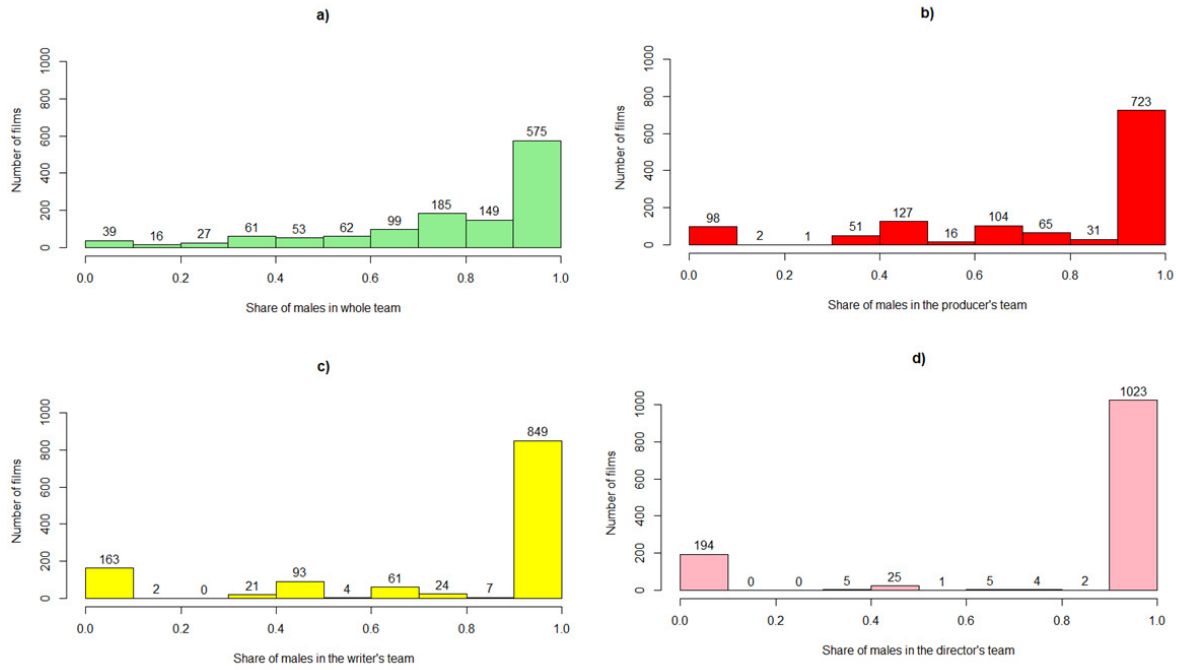

Figure 3. Distribution of Russian films by the proportion of males in the team: (a) – among crew members in all three key positions, (b) – among producers, (c) – among screenwriters, (d) – among directors.

Table 4. Results of the regression analysis of the relationship between access to resources and the share of men in key film crew positions

Dependent variables / Independent Variables	overall male share	male share among producers	male share among directors	male share among screen-writers
Film budget (log-transformed)	0.054***	0.028**	0.086***	0.069***
State support (log-transformed)	-0.0004	0.0001	-0.001	-0.002
Distribution type *(baseline: self-distribution)*				
• independent distributors	0.025	0.017	-0.011	0.025
• leading Russian producers' representatives	0.106***	0.142***	0.040	0.049
• Hollywood representatives	0.107***	0.133***	0.052	0.039
Constant	-0.257	0.198	-0.764**	-0.475
Observations	514	510	514	512
R^2	0.113	0.070	0.072	0.049
Adjusted R^2	0.105	0.061	0.063	0.039
Residual Std. Error	0.218 (df = 508)	0.272 (df = 504)	0.343 (df = 508)	0.322 (df = 506)
F Statistic	12.986*** (df = 5; 508)	7.603*** (df = 5; 504)	7.705*** (df = 5; 508)	5.187*** (df = 5; 506)

Note: *p<0.1; **p<0.05; ***p<0.01.

The influence of the changes in the Russian film industry occurring in and after 2015 on the relationship between the proportion of men among filmmakers and attendance (H4) has been tested with three respective interaction terms. As it can be seen, H4 has to be entirely rejected, which means that after 2015 films, on average, got as much gain in attendance from producers being men as before 2015.

Table 5. Linear regression models of Russian films attendance and key crew members' gender composition

Independent variables	Dependent variable: Attendance (log-transformed)			
	(1)	(2)	(3)	(4)
Male share in crew among:				
• producers	0.827***	0.726***	0.757**	0.868**
• directors	0.612***	0.438*	0.628**	0.582
• screenwriters	0.182	-0.005	0.096	-0.222
Distribution type *(baseline: self-distribution)*				
• independent distributors	1.919***	1.298***	1.922***	1.269***
• leading Russian producers' representatives	3.938***	2.893***	3.938***	2.857***
• Hollywood representatives	5.070***	4.020***	5.074***	3.998***
Film age rating *(baseline: 0+/6+)*				
• 12+	-0.937***	-0.689***	-0.929***	-0.679***
• 14+/16+	-1.252***	-0.875***	-1.250***	-0.860***
• 18+	-1.499***	-1.040***	-1.486***	-1.032***
Film budget (log-transformed)		0.635***		0.636***
Other (see note)				
ScrRU	-0.0001	0.0001	-0.0001	-0.0001
VacDays	0.308***	0.301***	0.308***	0.297***
Competitors	-0.037	-0.029	-0.036	-0.026
Threshold *(baseline: before 2015)*			-0.133	0.535
Threshold:ProdMaleShare			0.153	-0.396
Threshold:DirMaleShare			-0.034	-0.256
Threshold:ScrMaleShare			0.177	0.474
Constant	7.225***	-4.041***	7.438***	-3.765**
Observations	915	634	915	634
R^2	0.534	0.545	0.534	0.548
Adjusted R^2	0.527	0.536	0.526	0.535
Residual Std. Error	1.875 (df = 902)	1.786 (df = 620)	1.878 (df = 898)	1.787 (df = 616)
F Statistic	86.010*** (df = 12; 902)	57.148*** (df = 13; 620)	64.295*** (df = 16; 898)	43.873*** (df = 17; 616)

Note: *p<0.1; **p<0.05; ***p<0.01. ScrRU – the average number of screens in Russia for the month of release. VacDays – number of days off in a film release week. Competitors – number of competing films released during the same week. Threshold: date of release, either before 2015 (baseline) or after 2015. Interaction terms: interaction of threshold (before/after 2015) and the share of males in the crew in the positions of producers, directors, and screenwriters, respectively.

4.4. The representation of women on the screen

Based on the BWL test results of 243 Russian films it turns out that only 161 films or 61% pass it in terms of the binary approach – passed/not passed (Fig. 4 a): in these films, there were two women who talked to each other about something other than men (or such disqualified topics as beauty practices, housekeeping, children, and other women). Moreover, if we look at the proportion of conversations between women, the result is even more shocking: among those 61% that do pass the test, 69 films (28% of the

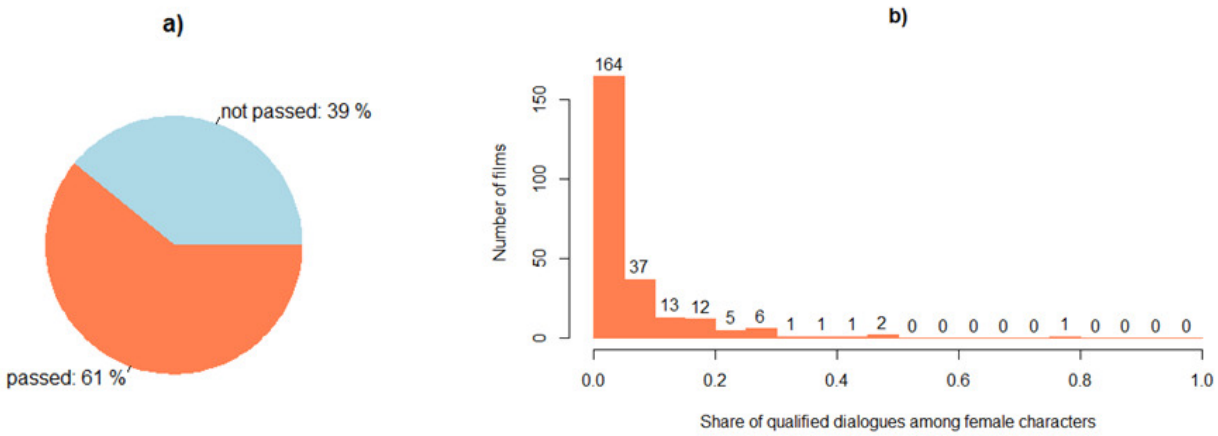

Figure 4. BWL test results for 243 Russian films: (a) classical approach and (b) test score based on the proportion of qualified dialogues.

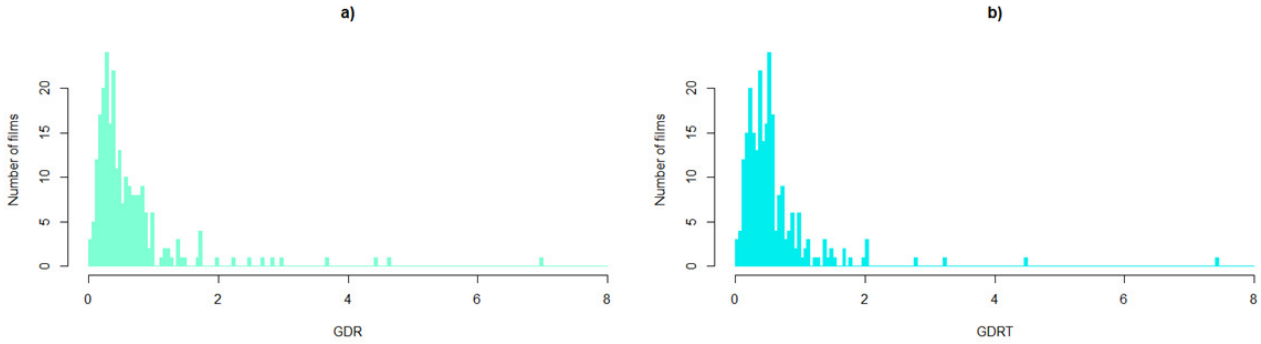

Figure 5. Gender ratio of character centralities (a) GDR – calculated by character dialogues, (b) GDRT – calculated by the total number of characters' communications, marked-up dataset (N=243).

marked-up dataset) yield a BWL score that does not exceed 5% of all dialogues (Fig. 4 b). This result shows that female characters in Russian films are represented quite stereotypically.

Likewise, in most of the films reviewed, both indicators of gender degree ratio (GDR & GDRT) are less than 0.8 (Fig. 5), which according to (Kagan et al.) indicates a prevalence of men among the most central characters. Thus, these two network indicators show that not only the speech of Russian women characters is represented stereotypically, but they are not at all at the center of narration in the majority of films.

4.5 Women crews and the representation of women on screen

The gender composition of the key crew members in the marked-up dataset is slightly skewed towards men, compared to the full dataset (see Table 6 vs Table 3). As this limitation may have affected the results presented below, they should be treated with a certain amount of caution.

Table 6. Unique people in key film crew positions, marked-up dataset (N=243)

	Number of people		Share of people in the position	
	male	female	male	female
Producers	775	142	84.5%	15.5%
Screenwriters	525	85	86.1%	13.9%
Directors	274	34	88.9%	11.0%
All three key positions	1574	261	85.8%	14.2%

Linear regression analysis results for three dimensions of women's representation, taken as the dependent variables are presented in Table 7. The strong and significant negative relationship between the proportion of males among the key crew members, on the one hand, and the BWL test, GDR, and GDRT, on the other (models 1, 5, and 9) is mostly explained by the contribution of screenwriters (models 4, 8 and 12). At the same time, the effects of the proportions of men among directors and producers are either insignificant or not as strong and not as significant. Nevertheless, the centrality of female characters is related to the gender composition of the filmmakers, in full agreement with H5 and in concordance with previous research that observed a correlation between the presence of women protagonists and the gender composition of the crew. This correlation was found to be significant not only for writers (Russian researchers have long noted the particular importance of female screenwriters for domestic women's cinema – to a greater extent than abroad (Turovskaya 148)), but also for directors and, to a lesser degree, for producers on TV (Linke and Prommer) and in family films (Smith and Choueiti).

4.6. Women's on-screen representation and film theatrical attendance

A key hypothesis for this study (H6) is that films in which women characters are more central and less stereotyped (measured by the BWL test and two indices of gender degree ratio) are more interesting for the audience. Additionally, we expected positive changes in the viewers' attitudes to the films with central female characters after 2015 (H7). Twelve linear regression models that test these hypotheses are presented in Table 8.

The table includes only those control variables from the initial theoretical model diagram (Fig. 1) that are significant in at least one model. Among them, the largest effects belong to the distributor type and film type. From the variety of aggregated genres, only comedy and family demonstrate a significant (and positive) relationship with film attendance and only in the models controlling for the movie's budget. The latter is always a significant predictor of attendance.

Table 7. Linear regression models of the key crew members' gender composition and female representation indexes

Dependent variables / Independent variables	**BWL** (log-transformed)				**GDR** (log-transformed)				**GDRT** (log-transformed)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Share of males in crew among:												
• **overall**	-5.829***				-1.763***				-1.699***			
• **directors**		-2.515*				-0.705*				-0.565		
• **producers**			-2.005				-0.905*				-0.876*	
• **screenwriters**				-5.066***				-1.067***				-1.040***
Constant	-3.040	-5.797***	-6.334***	-3.771***	0.513	-0.372	-0.231	-0.101	0.460	-0.493	-0.252	-0.119
Observations	243	243	243	243	242	242	242	242	243	243	243	243
R^2	0.029	0.014	0.006	0.053	0.032	0.013	0.014	0.029	0.031	0.009	0.013	0.028
Adjusted R^2	0.025	0.010	0.002	0.049	0.028	0.009	0.010	0.025	0.027	0.004	0.009	0.024
Residual Std. Error	6.453 (df = 241)	6.503 (df = 241)	6.529 (df = 241)	6.373 (df = 241)	1.844 (df = 240)	1.862 (df = 240)	1.861 (df = 240)	1.847 (df = 240)	1.820 (df = 241)	1.841 (df = 241)	1.836 (df = 241)	1.823 (df = 241)
F Statistic	7.150*** (df = 1; 241)	3.328* (df = 1; 241)	1.365 (df = 1; 241)	13.390*** (df = 1; 241)	8.011*** (df = 1; 240)	3.188* (df = 1; 240)	3.414* (df = 1; 240)	7.062*** (df = 1; 240)	7.630*** (df = 1; 241)	2.092 (df = 1; 241)	3.296* (df = 1; 241)	6.901*** (df = 1; 241)

Note: *p<0.1; **p<0.05; ***p<0.01.

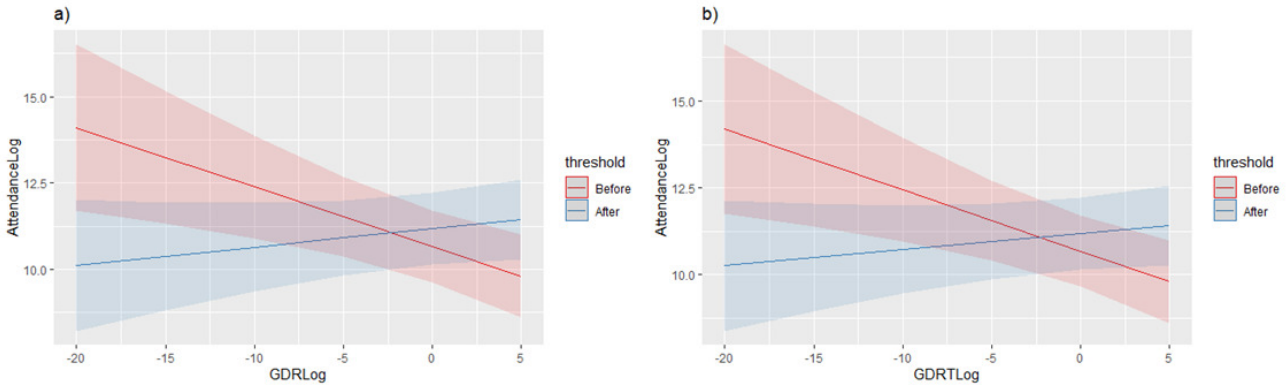

Figure 6. Effect of threshold (before/after 2015) on the relationship between log-transformed GDR (a) and GDRT (b) and log-transformed attendance.

Among independent variables of interest, the BWL test score is positively related to film attendance (model 1), but its significance is weak and the effect disappears when the budget is introduced into the model (2). GDR and GDRT are associated with attendance negatively but insignificantly (models 3-6). We can conclude that H6 has to be rejected. These results are in line with some previous research (Lindner et al., "Million Dollar Maybe?") and can be interpreted similarly, as the absence of evidence for the negative perception of strong female characters by the Russian viewers.

However, the effects of interactive terms involving threshold (for which we took the 2015 year when gender in films started to be appreciated in Russia) are positive and significant when also involving GDR and GDRT, but not BWL. As shown by our more detailed post-hoc analysis (Fig. 6), female centrality measured both as GDR and GDRT has a negative effect on attendance only before 2015, while this effect ceases to exist after 2015 (the weak positive relationship is insignificant $p>0.2$). This suggests that while Russian viewers were skeptical about attending movies with strong female characters before gender equality was on the public agenda, their attitude has changed in favor of the propensity to attend films independently of female centrality. This coincides with the global trend (Lopez; Vainikka). Although formally H7 should be rejected based on the opposite direction of both GDR and GDRT found before 2015, conceptually, the change that occurs after 2015 is in line with our assumption (i.e. we did assume and did reveal the growth of tolerance towards strong female characters). However, this evidence is to be treated with caution due to the small effect size and large confidence intervals observed.

5. Limitations

Some factors related to cinema attendance and recommended by previous research were not introduced into the models due to their unavailability or irrelevance to the Russian cinema market. Only the binary gender of film crew members and on-screen characters is considered; the attribution of

Table 8. Linear regression models of the film attendance and female representation indices

	Dependent variable: Attendance (log-transformed)											
Independent variables	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**	**(9)**	**(10)**	**(11)**	**(12)**
Female representation & period												
BWL (log-transformed)	0.019*	0.013					0.014	0.003				
GDR (log-transformed)			-0.011	-0.035					-0.070	-0.171***		
GDRT (log-transformed)					-0.020	-0.040					-0.082	-0.176***
Threshold *(baseline: before 2015)*							0.588**	0.489**	0.492**	0.509***	0.476**	0.503***
BWL (log-transformed): Threshold							0.016	0.027				
GDR (log-transformed): Threshold									0.115	0.224***		
GDRT (log-transformed): Threshold											0.115	0.222***
Distributor type (baseline: self-distribution)												
• independent distributors	2.247***	1.177**	2.230***	1.115**	2.214***	1.114**	2.245***	1.132**	2.192***	0.946**	2.165***	0.935**
• leading Russian producers' representatives	2.699***	1.843***	2.669***	1.769***	2.661***	1.770***	2.729***	1.854***	2.696***	1.744***	2.673***	1.722***
• Hollywood representatives	3.086***	2.126***	3.028***	2.040***	3.023***	2.044***	3.129***	2.125***	3.043***	1.959***	3.023***	1.942***
Film type (baseline:												

Independent variables	Dependent variable: Attendance (log-transformed)											
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
moderately popular)												
• festival	-1.695***	-1.510***	-1.727***	-1.530***	-1.736***	-1.525***	-1.652***	-1.458***	-1.682***	-1.437***	-1.694***	-1.423***
• top	1.984***	1.835***	1.958***	1.799***	1.957***	1.796***	1.997***	1.819***	1.976***	1.778***	1.975***	1.780***
• undefined	-0.154	-0.539*	-0.185	-0.579*	-0.184	-0.580*	-0.147	-0.594*	-0.188	-0.660**	-0.192	-0.660**
Film budget (log-transformed)		0.191**		0.219***		0.219***		0.205***		0.267***		0.271***
Other (see note)												
ScrRU	-0.0001	0.0001	-0.00005	0.0001	-0.00005	0.0001	-0.0002**		-0.0002*		-0.0002*	
Comedy	0.337	0.557**	0.324	0.564**	0.322	0.567**	0.343	0.572**	0.350	0.634**	0.345	0.641**
Family	0.468	0.684*	0.400	0.638*	0.390	0.642*	0.461	0.746**	0.408	0.727**	0.393	0.729**
Constant	9.621***	6.594***	9.515***	5.988***	9.532***	5.970***	9.991***	6.332***	9.785***	5.120***	9.808***	5.540***
Observations	243	193	242	192	243	193	243	193	242	192	243	193
R^2	0.800	0.813	0.795	0.811	0.797	0.813	0.804	0.818	0.800	0.823	0.802	0.825
Adjusted R^2	0.784	0.793	0.778	0.790	0.780	0.792	0.786	0.796	0.782	0.803	0.784	0.805
Residual Std. Error	0.939 (df = 224)	0.942 (df = 173)	0.949 (df = 223)	0.946 (df = 172)	0.946 (df = 224)	0.943 (df = 173)	0.933 (df = 222)	0.934 (df = 172)	0.940 (df = 221)	0.917 (df = 171)	0.939 (df = 222)	0.915 (df = 172)
F Statistic	49.663*** (df = 18; 224)	39.642*** (df = 19; 173)	47.975*** (df = 18; 223)	38.776*** (df = 19; 172)	48.729*** (df = 18; 224)	39.584*** (df = 19; 173)	45.570*** (df = 20; 222)	38.525*** (df = 20; 172)	44.228*** (df = 20; 221)	39.808*** (df = 20; 171)	44.852*** (df = 20; 222)	40.542*** (df = 20; 172)

Note: *p<0.1; **p<0.05; ***p<0.01. ScrRU – the average number of screens in Russia for the month of release. Comedy, Family – genres categories (in percent of genres enlisted on Kinopoisk.ru). Only significant at least in one model variables are presented.

gender is based only on names and does not represent the self-identification of the crew. Similarly, while the terms "sex" and "gender" are used interchangeably in this paper the authors do not presume that women or men are biologically defined. The theatrical distribution data used has several shortcomings, but it is the only available dataset on the CIS market, and it is widely recognized as a reliable proxy for decision-making by commercial companies and public bodies.

6. Conclusions

In our study, we have proposed a continuous version of the Bechdel-Wallace test (BWL) calculated as a proportion of qualified dialogues between women in Russian films. Our results show that such a metric renders additional useful information about on-screen gender balance: in particular, we have shown that even among the films that do pass the test the proportion of non-stereotypical dialogues is strikingly low. This situation calls both for a wider use of more nuanced metrics and for more action towards gender equality in the film industry.

Our research contributes to the study of gender in global cinema industries by investigating a large non-Western market and by introducing a new marked-up dataset available for further independent scrutiny. Focusing on binary gender imbalance in the Russian film industry from 2008 to 2019, our study has considered seven hypotheses, of which four were partially or fully confirmed and three were rejected (see Table 9). We confirm several trends observed in other countries that point to the lack of women behind the camera and their stereotypical representation on the screen. The study shows the importance of female screenwriters for representing stronger female characters and, simultaneously, the dominance of male producers and directors in the access to resources which leads to higher popularity of their films. These two trends together result in preventing non-stereotypical female characters from reaching wider audiences. At the same time, Russian data demonstrates the absence of a relationship between the success of the film and indicators of gender bias towards the female characters, which does not support a prejudice of strong women as an unpopular image. This means that Russian audiences before 2020 were potentially ready to attend movies with non-stereotypical portrayals of women and that it was not viewers' biases that prevented strong women from being more widely represented on-screen. Finally, the analysis of the change in the Russian audience's attitude towards women on the screen provides suggestive evidence for the decrease of the negative effect of strong female characters on attendance: this effect, although weak, could be observed before 2015, but entirely disappeared after that.

Further research could enlarge the existing marked-up dataset which would allow testing our conceptual model with structural equation modeling in a single statistical framework.

Table 9. Summary of hypotheses testing

Hypothesis	Result
H1: The higher the proportion of women among filmmakers in key creative positions, the smaller the film budget is	Confirmed
H2: The higher the proportion of women among filmmakers in key creative positions, the lower a film distributor's power is	Partially confirmed (for producers)
H3: The higher the proportion of women among filmmakers in key creative positions, the lower the attendance of Russian films in the CIS is	Partially confirmed (for producers)
H4: After 2015, the (positive) effect of the proportion of men among filmmakers on theatrical attendance is smaller than before	Rejected
H5: The higher the proportion of women among filmmakers, (a) the higher the centrality of female characters and (b) the less stereotypical their representation are	Confirmed
H6: (a) The higher the centrality of female characters and (b) the lower their stereotyping in dialogues are, the higher the attendance of Russian films in the CIS is	Rejected
H7: After 2015, the (positive) effect of (a) female centrality and (b) female character non-stereotyping on attendance is higher than before 2015	Partially confirmed for GDR and GDRT, where the negative effect of (a) becomes insignificant after 2015. For BWL (b) it is insignificant.

Data repository: https://doi.org/10.7910/DVN/ISVTB4
Peer reviewer: Daniel Schwartz

Submitted: December 11, 2023 EDT, Accepted: February 12, 2024 EDT

WORKS CITED

21st Century Fox and The Geena Davis Institute on Gender in Media, et al. "THE "SCULLY EFFECT": I WANT TO BELIEVE... ...IN STEM." *21st Century Fox, The Geena Davis Institute on Gender in Media, and J. Walter Thompson Intelligence*, 2018, https://seejane.org/wp-content/uploads/x-files-scully-effect-report-geena-davis-institute.pdf.

Agarwal, Apoorv, et al. "Key Female Characters in Film Have More to Talk About Besides Men: Automating the Bechdel Test." *Proceedings of the 2015 Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies, Association for Computational Linguistics*, 2015, pp. 830–40. *Crossref*, https://doi.org/10.3115/v1/n15-1084.

Aley, Melinda, and Lindsay Hahn. "The Powerful Male Hero: A Content Analysis of Gender Representation in Posters for Children's Animated Movies." *Sex Roles*, vol. 83, no. 7–8, Feb. 2020, pp. 499–509. *Crossref*, https://doi.org/10.1007/s11199-020-01127-z.

Attwood, Lynne. "Part 1. Women, Cinema and Society'." *Red Women on the Silver Screen*, Pandora Press, 1993, pp. 19–132.

---. *Red Women on the Silver Screen*. Pandora Press, 1993.

---. "'Some Interviews on Personal Questions...': Soviet Women Talk About Their Experiences in the Film Industry'." *Red Women on the Silver Screen*, Pandora Press, 1993, pp. 225–48.

Bechdel, Alison. *Dykes to Watch Out For*. Firebrand Books, 1986.

Bechdel Test Movie List. May 2021, https://bechdeltest.com/.

Bulgakova, Oksana. "The Hydra of the Soviet Cinema: The Metamorphoses of the Soviet Film Heroine'." *Red Women on the Silver Screen*, Pandora Press, 1993, pp. 149–74.

Conor, B. *Gender & Creativity: Progress on the Precipice, Special Edition*. UNESCO, 2021.

Dean, D. *Age, Gender and Performer Employment in Europe. Report on Research for the International Federation of Actor's (FIA) Project 'Changing Gender Portrayal: Promoting Employment Opportunities for Women in the Performing Arts.'* Industrial Relations Research Unit Warwick Business School University of Warwick, UK, 2008, p. 31.

Drozdova, Marina. "Sublimations from Socialism: New Images of Women in Soviet Cinematography in the Era of Perestroika'." *Red Women on the Silver Screen*, Pandora Press, 1993, pp. 198–214.

"Eurimages' Gender Equality Strategy (2021-2023): Equal Voices for Equal Talent." *Eurimage*, 2020, https://rm.coe.int/3rd-gender-equality-strategy-2021-2023-web-2781-1615-4114-2/1680a13a04.

Follows, S., et al. "Cut out of the Picture: A Study of Gender Inequality Amongst Film Directors in the UK Film Industry." *Commissioned by Directors UK*, 2016.

Fontaine, Gilles. "Female Audiovisual Professionals in European TV Fiction Production." *European Audiovisual Observatory*, 2022, p. 64, https://rm.coe.int/female-audiovisual-professionals-in-european-tv-fiction-production-202/1680a626dc.

Garcia, David, et al. "Gender Asymmetries in Reality and Fiction: The Bechdel Test of Social Media." *Proceedings of the 8th International AAAI Conference on Weblogs and Social Media (ICWSM '14). arXiv.org*, https://doi.org/10.1609/icwsm.v8i1.14522.

Hetherington Raveney, Francine, et al. "Gender Inequality for Directors in the European Film Industry: Focus on Austria." *Handbook of State Aid for Film*, Springer International Publishing, 2018, pp. 509–30. *Crossref*, https://doi.org/10.1007/978-3-319-71716-6_28.

Johnston, C. "Women's Cinema as Counter- Cinema'." *Feminism and Film*, edited by A. Kaplan, Oxford University Press, 1973, pp. 22–23.

Jones, Pete. *A Social Network Analysis Approach to Examining Gendered Character Positions in Popular Film Narratives*. 2020. The University of Manchester, A thesis submitted to the University of Manchester for the degree of Doctor of Philosophy in the Faculty of Humanities, https://www.proquest.com/openview/23017fdb68cce9a406d5b2ceee30a9d6/1?pq-origsite=gscholar&cbl=18750&diss=y.

---. "Measuring Centrality in Film Narratives Using Dynamic Character Interaction Networks." *Social Networks*, vol. 63, Oct. 2020, pp. 21–37. *Crossref*, https://doi.org/10.1016/j.socnet.2020.03.003.

Kagan, Dima, et al. "Using Data Science to Understand the Film Industry's Gender Gap." *Palgrave Communications*, vol. 6, no. 1, May 2020, p. 92. *Crossref*, https://doi.org/10.1057/s41599-020-0436-1.

Kanzler, Martin, et al. "Focus 2018. World Film Market Trends." *European Audiovisual Observatory*, 2018, p. 64, https://doi.org/10.1016/j.fos.2018.11.030.

Kanzler, Martin, and Patrizia Simone. "Focus 2020 World Film Market Trends." *European Audiovisual Observatory*, 2021, p. 66, https://doi.org/10.1016/j.fos.2018.11.030.

---. "Focus 2022 World Film Market Trends." *European Audiovisual Observatory*, 2022, p. 64.

Kapoor, Hansika, et al. "The Bechdel in India: Gendered Depictions in Contemporary Hindi Cinema." *Journal of Gender Studies*, vol. 26, no. 2, Oct. 2015, pp. 212–26. *Crossref*, https://doi.org/10.1080/09589236.2015.1102128.

Lauzen, Martha M. *It's a Man's (Celluloid) World, Even in a Pandemic Year: Portrayals of Female Characters in the Top U.S. Films of 2021*. 2022.

Leontyeva, Xenia, et al. "Key Trends in Russian Cinema." *European Audiovisual Observatory*, 2018, p. 58, https://rm.coe.int/ru-2018-key-trends-of-russian-cinema/16808d7212.

Leontyeva, Xenia, and Pavel Danilov. "Employment Issues in the Russian Film Industry'." *KinoKultura*, no. 62, 2018, http://www.kinokultura.com/2018/62-leontyeva-danilov.shtml.

Liddy, Stella, editor. *Women in the International Film Industry: Policy, Practice and Power*. Palgrave MacMillan, 2020, https://doi.org/10.1007/978-3-030-39070-9.

Lindner, Andrew M., et al. "Million Dollar Maybe? The Effect of Female Presence in Movies on Box Office Returns." *Sociological Inquiry*, vol. 85, no. 3, 2015, pp. 407–28, https://doi.org/10.1111/soin.12081.

---. "Million Dollar Maybe? The Effect of Female Presence in Movies on Box Office Returns." *Sociological Inquiry*, vol. 85, no. 3, 2015, pp. 407–28. *Crossref*, https://doi.org/10.1111/soin.12081.

Lindner, Andrew M., and Ziggy Schulting. "How Movies with a Female Presence Fare with Critics." *Socius: Sociological Research for a Dynamic World*, vol. 3, no. 3, Jan. 2017, pp. 1–6. *Crossref*, https://doi.org/10.1177/2378023117727636.

Linke, Christine, and Elizabeth Prommer. "From Fade-out into Spotlight: An Audio-Visual Character Analysis (ACIS) on the Diversity of Media Representation and Production Culture." *Studies in Communication Sciences*, Mar. 2021, pp. 1–17, https://doi.org/10.24434/j.scoms.2021.01.010.

Lopez, Ricardo. "Women and Non-White Characters Are Speaking More in Recent Star Wars Movies'." *Variety*, 2017, https://variety.com/2017/film/news/star-wars-diversity-dialogue-bechdel-test-rogue-one-1202633473/.

Mulvey, Laura. "Visual Pleasure and Narrative Cinema." *Visual and Other Pleasures*, by Laura Mulvey, Palgrave Macmillan UK, 1989, pp. 14–26. *Crossref*, https://doi.org/10.1007/978-1-349-19798-9_3.

Perrone, J. J. *Gender Inequality in Film Infographic*. 2018, https://www.nyfa.edu/film-school-blog/gender-inequality-in-film-infographic-updated-in-2018.

Piccon, I., et al. "La Place Des Femmes Dans l'industrie Cinématographique et Audiovisuelle." *CNC*, 2019, p. 122.

Rojavin, Marina, and Tim Harte, editors. *Women in Soviet Film: The Thaw and Post-Thaw Periods*. Routledge, 2017, https://doi.org/10.4324/9781315409856.

Shift7 and CAA. *Female-Led Films Outperform at Box Office for 2014-2017*. 2018, https://shift7.com/media-research.

Simone, Patrizia. "Female Professionals in European Film Production." *European Audiovisual Observatory*, 2021, p. 67.

Smith, S.L., et al. "Inequality in 1 ,300 Popular Films : Examining Portrayals of Gender." *Race / Ethnicity, LGBTQ & Disability from 2007 to 2019. Annenberg Foundation*, 2020.

---. "Inequality in 1,100 Popular Films: Examining Portrayals of Gender, Race/Ethnicity." *LGBT & Disability from 2007 to 2017. Annenberg Foundation*, 2018.

---. "Inequality in 1,200 Popular Films: Examining Portrayals of Gender, Race/Ethnicity." *LGBTQ & Disability from 2007 to 2018. Annenberg Foundation, Sept*, 2019.

Smith, Stacy L., and Marc Choueiti. *Gender Disparity On Screen and Behind the Camera in Family Films: An Executive Summary*. 2009. University of Southern California Annenberg School for Communication & Journalism, https://annenberg.usc.edu/sites/default/files/2015/04/28/Gender%20Disparity%20On%20Screen%20and%20Behind%20the%20Camera%20in%20Family%20Films-%20An%20Executive%20Summary%20key%20findings.pdf.

Smith, Stacy L., et al. "Gender Bias Without Borders." *Geena Davis Institute on Gender in Media*, 2014, https://seejane.org/wp-content/uploads/gender-bias-without-borders-full-report.pdf.

Treme, Julianne, et al. "Gender and Box Office Performance." *Applied Economics Letters*, vol. 26, no. 9, July 2018, pp. 781–85, https://doi.org/10.1080/13504851.2018.1495818.

Turovskaya, Maya. ""Women's Cinema" in the USSR." *Red Women on the Silver Screen*, Pandora Press, 1993, pp. 141–48.

Vainikka, Vilma. *The Portrayal of Female Characters in the Star Wars Film Saga*. 2018. University of Eastern Finland, Pro gradu thesis, https://erepo.uef.fi/bitstream/handle/123456789/19480/urn_nbn_fi_uef-20180653.pdf?sequence=-1.

Verhoeven, Deb, et al. "Re-Distributing Gender in the Global Film Industry: Beyond #MeToo and #MeThree." *Media Industries Journal*, vol. 6, no. 1, June 2019, https://doi.org/10.3998/mij.15031809.0006.108.

Vizitei, Maria. "From Film School to Film Studio: Women and Cinematography in the Era of Perestroika'." *Red Women on the Silver Screen*, Pandora Press, 1993, pp. 215–24.

Wikstrand, J. "The Money Issue. Gender Equality Report 2018." *The Swedish Film Institute*, 2018.

А Бабы Здесь Тихие. Тестом Бехдель По Нашему Кино. https://bechdelru.wordpress.com. Accessed 20 Feb. 2021.

Артюх, Анжелика. *Кинорежиссерки в Современном Мире*. Новое Литературное Обозрение, 2021.

КиноПоиск. https://www.kinopoisk.ru/.

Леонтьева, Ксения, et al. "Формирование Базы Данных Российского Кинопроизводства 2019-2020 Годов и Оценка Последствий Пандемии." *Санкт-Петербургский Государственный Институт Кино и Телевидения*, 2022, p. 115.