Golden news?
Analysis of summarizing coverage of the Olympic Winter Games 2018 on German TV

Abstract
A maximum amount of media coverage is desirable for every sport to attract potential fans, new active members, and sponsors. The Olympic Games draw large audiences and are therefore a chance for niche sports to enter the big media stage. Large time differences between the hosting city and the audiences’ home countries sometimes limit the amount of live coverage viewers can consume – increasing the importance of summarizing coverage formats like bulletins and news shows. This study analyzes this type of coverage about the Olympic Games 2018 on German TV and tries to find predictors for variances in coverage time, with the help of news values theory. Results show that the success of national athletes is by far the strongest predictor, while simplicity, identification, and surprise play a lesser role and tradition and gender seem to make no significant difference in the amount of summarizing coverage a competition yields.

Zusammenfassung

Keywords: Olympic Games, sports communication, summarizing coverage, news values, content analysis
1 Introduction

Biathlon, Ski Jumping, and Alpine Skiing are among the most popular media sports in Germany (Rühle, 2017, p. 500). Other winter sports receive much less coverage, relying on mega sports events (Steinbrecher, 2009, p. 230) like the 24th Winter Olympics, held in Pyeongchang, to gain the media's focus. Here, ~3,000 athletes competed in 102 events, making up for the widest variety of competitions in (Winter) Olympic history (IOC, 2018).

For many sports, the Olympic Games are of existential importance, as they depend on the two week boost in media presence (~500h TV coverage in Germany, Sommer, 2018) to attract new athletes and fans, as well as financial support from sponsors and advertisers (Schierl, 2008, pp. 76–77). Breuer and Wicker (2010, pp. 21–22) show that winning Olympic gold is a strong predictor of individual athletes' income and far more important (approx. factor 3) than winning at national, European or even World Championships.

Due to a seven-hour time difference between South Korea and Germany, most events ended up airing at night or in early morning. Previous research shows that large time differences between the hosting country and the domestic audience of interest significantly decrease the size of the Olympic TV coverage's audience (Gscheidle & Gerhard, 2016). As a working assumption, we therefore expect a gain in importance of summarizing formats and the sports sections of evening news programs, as many viewers can no longer follow the games live. Those formats have limited time capacities, leading to journalists and program planners actively selecting if, and to what extent, the different competitions are covered. This raises the question which of the game's events pass this selection filter and get reported on (extensively) in the summarizing coverage and what influences determine these decisions.

2 Sports and mass media

(Live) sports are highly profitable and appealing to audiences and advertisers alike, while increasing the commercial earnings and image of the covering media/channels (Gleich, 2001, p. 168). Sports events produce content within themselves, keeping the production-related creative requirements for the media to a minimum (Dohle & Voowe, 2017, p. 35).

1) For examples of how media coverage resulting from Olympic success can improve athletes' marketing values, see the qualitative case study on Canadian triathlete Simon Whitfield (Darnell & Sparks, 2007) or the cases of German Ice Hockey (Sponsoor Redaktion, 2018) and Bobsleigh and Luge Association (Sponsors, 2017).

2) It has to be noted though, that especially for niche sports a (substantial) part of the income/funding is public (e.g. through direct funding or employing athletes in the Bundeswehr, police or Authority of Customs). For a detailed overview of public sports funding in Germany see Haring (2010) and Hockenjos (1995).

3) For that reason some sports events have been rescheduled in recent years to suit oversea audiences, like kickoff times in Spanish La Liga (Martin, 2017) or some Olympic disciplines held in early mornings (e.g. Swimming and Gymnastics in 2008, Figure Skating in 2018/US-market) or late at night (e.g. Ski Jumping and Biathlon in 2018/European market; for 2008 see Giannoulakis, Stotlar, & Chatziefstathiou, 2008, p. 17; for 2018 see Nohe, 2018).
Fixed timetables facilitate long-term program planning (Huber, Kircher, & Matthes, 2008, p. 11). However, due to weather-related delays (Sponsors, 2017) or specific rules (like overtimes), some sports are harder to fit into media schedules than others, resulting in a varying need of sports to adopt to the media logic.

To increase their media appeal, federations can engage in „medialization“ (Heinecke, 2016), for instance by changing the architecture of sports facilities and competition rules and formats. Examples are the mass start and pursuit competitions in Biathlon, that were mainly invented to increase on-screen attractiveness (Dohle & Vowe, 2017, p. 34). Heinecke (2016) studied whether those efforts to adapt to media logics increase screen time, finding that medialization plays a huge role in the development of all of the examined sports.

Furthermore, the sale of broadcasting rights has become a main source of income for many federations (Dohle & Vowe, 2017, p. 9). US-based Discovery Communications purchased the broadcasting rights of the Olympic Games between 2018 and 2024 for 1.3 billion Euro (Sommer, 2018). Additional income sources for sports (beside public funding, see footnote above) are the earnings from sponsors and merchandise sales, which depend on public visibility.

Those processes of economization (Dohle & Vowe, 2017, p. 34) lead to mutual dependencies between media and sports with strong influence of advertisers: „What is not present in the media does not exist, […] those who cannot prove media presence will not get any sponsors“ (Schaffrath, 2002, p. 23, authors’ translation). As successful youth development and professional competition events require vast financial resources, maximizing one’s media coverage is desirable for every sports federation (Huber et al., 2008, p. 9).

2.1 Winter (Olympic) sports on German television

According to recent survey data (Horizont, 2017), two thirds of all Germans are interested in winter sports on TV. Overall, viewers favor Ski Jumping, Biathlon and Alpine Skiing, with additional interest in Ice Hockey (14-29 years) and Nordic Combined (60+ years) in certain age segments. Winter sports coverage on German TV is extensive, but a few major sports receive most of it. These events potentially reach large audience segments (e.g. Four Hills Ski Jumping: 6.69 million viewers (Vierschzentournee, 2018), Olympic Biathlon sprint with market share of 44.2% (Welt, 2018)).

Rühle (2003, 2013, 2017) shows that the public broadcasters Das Erste, ZDF and the private sports channel Eurosport in particular heavily cover these sports (see Table 1). Despite being a seasonal attraction, winter sports make up for roughly one fifth of their annual sports coverage (Rühle, 2013, p. 428, 2017, p. 501). Distribution of allotted co-
average times among different sports is roughly equal across the channels. Biathlon, Ski Jumping and Alpine Skiing are covered the most, while Figure Skating, Bobsleigh and Luge receive far less coverage (see Table 1).

Table 1: Share of winter sports' screen times on German TV in 2016 within total annual sports coverage

<table>
<thead>
<tr>
<th>Sport</th>
<th>Das Erste</th>
<th>ZDF</th>
<th>Eurosport(5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biathlon</td>
<td>4.2%</td>
<td>5.2%</td>
<td>NA</td>
</tr>
<tr>
<td>Ski Jumping</td>
<td>3.5%</td>
<td>4.3%</td>
<td>5.5% (2010)</td>
</tr>
<tr>
<td>Alpine Skiing</td>
<td>4.9%</td>
<td>4.7%</td>
<td>NA</td>
</tr>
<tr>
<td>Nordic Skiing</td>
<td>3.4%</td>
<td>1.8%</td>
<td>NA</td>
</tr>
<tr>
<td>Figure Skating</td>
<td>0.1%</td>
<td>0.0%</td>
<td>NA</td>
</tr>
<tr>
<td>Bobsleigh and Luge</td>
<td>3.0%</td>
<td>1.0%</td>
<td>NA</td>
</tr>
<tr>
<td>Ice Hockey</td>
<td>0.0%</td>
<td>0.0%</td>
<td>NA</td>
</tr>
<tr>
<td>Other</td>
<td>2.2%</td>
<td>0.8%</td>
<td>NA</td>
</tr>
<tr>
<td>Overall coverage on winter sports among all sports coverage</td>
<td>21.3%</td>
<td>17.8%</td>
<td>11.4% (2004)</td>
</tr>
<tr>
<td>Share of all sports coverage on total program of the channel</td>
<td>9.2%</td>
<td>7.2%</td>
<td>92.5% (2012)</td>
</tr>
</tbody>
</table>

(Rühle, 2013, p. 426; 428, 2017, p. 494; 501)

Due to a spiral effect of popularization it is hard for niche sports to gain more media attention: The more TV coverage a sport receives, the higher its advertising revenues. The higher the resulting budget, the more top events can be staged that, in turn, generate even more TV coverage (Kühnert, 2004, pp. 18–19).

Due to little media coverage on those niche sports, viewers lack specific knowledge (e.g. on rules). Therefore, channels have to accept a reduced audience when introducing a new sport into their program (Schellhäs & Fritsch, 2007, p. 252). Thus, niche sports have a small chance to be covered on private TV stations (Schauerte, 2004, p. 50) and rely on mega sports events like the Olympic Games to gain public visibility (Heinecke, 2016, p. 43).

Therefore, the questions arise how screen-time during the Olympic Games is distributed between sports and which factors influence this distribution. Gerhard and colleagues (e.g. Geese & Gerhard, 2012; Gscheidle & Gerhard, 2016) find substantial variation in total coverage time per sport during Olympic Summer Games with Track and Field drawing the most media attention and Trampoline being covered the least. Steinbrecher (2009) studied the TV coverage of the Olympic Games (1996-2006), combining a content analysis with expert interviews of ZDF program planners, extracting predictors that influence journalists’ program planning decisions like personalization and patriotism. Beyond the German context, Billings and colleagues studied influence factors on Olympic coverage time per sport on US television (e.g. Angelini, MacArthur, & Billings, 2012; Billings, 2008; Billings, Angelini, & MacArthur, 2018) between 1996 and 2016, focusing mainly on patriotism and gender effects and showing that male

---

5) AGF stopped coding Eurosport in 2013, hence recent data is unavailable.
sports (Angelini et al., 2012; Billings, 2008; Billings et al., 2018) and athletes from the US (Billings, 2008; Billings et al., 2018) receive more TV coverage.

2.2 The Winter Games 2018 on German TV

In some respects, Winter Games are more attractive than their summer counterpart: Due to shorter days and colder weather, a higher overall TV viewing time can be assumed (Rott & Schmitt, 2000). According to Nieland (interviewed by Hummel, 2018), the Olympic Winter Games are also arranged more clearly and they are more attractive in Germany due to better chances of domestic athletes succeeding.

The 24th Olympic Winter Games (9th to 25th February 2018) were held in Pyeongchang (South Korea). The private (and in parts Pay-TV) channel Eurosport held the German broadcasting rights, issuing a sub-license to the public broadcasters ARD and ZDF, allowing them only limited live broadcasting opportunities of some events and prohibiting coverage during prime time (19:00-22:00), with an exception of summarizing formats embedded in news broadcasts (Eurosport, 2017b). Das Erste (9 days) and ZDF (8 days) took turns in covering the Olympic Games (combined total coverage of 230h; see Sommer, 2018) while Eurosport was showcasing the event 24h daily (Eurosport, 2017b).

Gscheidle and Gerhard (2016, p. 550) find that time differences between the host country of the (Summer) Olympic Games and the audience in Germany have an influence on overall viewing duration: While events hosted in Europe (Barcelona 1992, Athens 2004, London 2012) were watched for an average of ~11h per viewer, events staged in the Americas (Atlanta 1996, Rio de Janeiro 2016, coverage from afternoon to after midnight) were watched up to 10h, with viewing duration dropping to as low as 6.5-7.5h when coverage started in the night, and continued until about noon like from Australia (Sydney 2000) and Asia (Beijing 2008). This was again the case in South Korea in 2018. Therefore, TV stations scheduled daily summary bulletins in the late afternoon (Das Erste Olympia Telegramm, ZDF Olympia-Kompakt) and evening (Eurosport Dein Olympia @8). Additionally, coverage was also included into the public broadcasters’ main news shows ARD Tagesschau with an average 10.18 million daily viewers (36.0% market share) and ZDF heute (3.96 million daily viewers; 17.4%; Zubayr & Gerhard, 2018, p. 110), serving as their only outlet for Olympic coverage during evening prime time.  

Hence, an increased relevance can be assumed for the above-mentioned formats, which we subsumed under the label of summarizing coverage. Lerche and Ulmer define the related term “TV short coverage” as

---

6) The final agreement followed intense and difficult negotiations after ARD and ZDF lost the exclusive German broadcasting rights of the Olympic Games for the first time in history (Friebe, 2015).

7) Summarizing coverage of the Olympic Games was also included into the public broadcasters’ late-night news shows ARD Tagesthemen and ZDF heute-journal. Those were excluded from our analysis as they have lower viewer and market share numbers (Zubayr & Gerhard, 2018, p. 110) and are not following a strict scheduling, complicating data collection.
“a news-style form of information, enriched by documental motion pictures whose overall length is based on the fact that it is embedded into the structure of daily news shows [...]. This type of coverage only displays short parts of the covered event, combined with verbal commentary, with no aim to reproduce the entertaining value of the event.” (Lerche & Ulmer, 1989, p. 52, authors’ translation)

To define summarizing coverage for this study, we add genuine sports bulletin coverage to the above definition and neglect the strict maximum 90s time limit of classic TV short coverage as defined in the German Interstate Broadcasting Treaty (§5(4) RStV).

Summarizing coverage only features a limited time budget and some events have to be selected by program planners for coverage, resulting in varying coverage times for different sports and competitions. From this two research questions arise:

RQ1: Which competitions are featured to what extent in the German TV summarizing coverage of the Olympic Winter Games 2018?
RQ2: Which news factors predict the amount of German TV summarizing coverage per competition in the Olympic Winter Games 2018?

3 News value theory and sports

News values theory deals with the question why certain events are selected for publications by journalists while others are not. First mentioned by Lippmann (1922), it was picked up by Galtung and Ruge (1965) in the context of coverage on foreign political crisis. They defined a catalogue of news factors (e.g. frequency, surprise, unambiguity) that has been further developed ever since (e.g. Harcup & O’Neill, 2017). According to the theory, each event features certain characteristics, called news factors. The number of news factors of an event increases its news value, and its chances to receive journalistic attention.

News values theory is transferable to sports communication and the selection of sports events for TV coverage: Becker (1983, p. 33, authors’ translation) speaks of „construction rules of the sports world“ and formulates five factors grounded in news values theory: 1) cultural, political, geographic and temporal proximity, 2) records/victories, 3) elite, 4) conflict/violence/action, and 5) personalization/human interest (e.g. athletes’ private lives). Hackforth (1987, p. 28) names performance, success, nationalism, identification, prominence, and conflict as important news factors of sport events. Providing one of the most extensive empirical studies on news values in sports coverage, Loosen (1998) finds that personalization, elite, geographic proximity, and ethnocentrism are the most important news factors in this field. Horky (2009) expands this line of research in a model arranging characteristics that add to the TV appeal of certain sports in the dimensions context, organization, and (interaction) structure, arguing that the more of these characteristics a sport exhibits, the more media coverage it will likely receive.
4 Formation of hypotheses

Based on the above findings, we formulate eleven hypotheses. For reasons of reliability and due to the mainly secondary analytical approach of this work, news factors were excluded from analysis if they required coders’ subjective interpretations (e.g. personalization). This is in accordance with Steinbrecher (2009, p. 237), stating the diminished role of personalization during Olympic Games compared to regular sports coverage. Some other factors were dropped due to practical implications of the research object: The geographic proximity between Germany and the competitions’ locations are roughly equal, and the overall event importance plays a lesser role as all competitions under study took place during the 2018 Olympic Games.

4.1 Simplicity

Sports journalists and audiences favor sports events with a simple and comprehensible structure of competition where winners are easily identifiable. Therefore, sports including direct matchups are assumed to be favored and more exciting (Horky, 2009, p. 304; Loosen, 1998, p. 67; Schellhaasß & Hafkemeyer, 2002, p. 59). Comprehensibility also potentially increases a sport’s news value, since viewers can directly evaluate the athlete’s performance while watching. This is the case if physical measures (length, time) are used, instead of performances being subjectively judged by experts (Horky, 2009, p. 304; Steinbrecher, 2009, p. 238).

H1: A simpler structure of competition will increase the summarizing coverage time of Olympic competitions.

H2: A more comprehensible form of performance evaluation will increase the summarizing coverage time of Olympic competitions.

4.2 Tradition

Tradition of a sport and the resulting societal knowledge about the competition potentially influence coverage times, as audiences have to invest less time to understand what is going on (Horky, 2009, p. 301; Zubayr & Gerhard, 2004, p. 42), lowering the risk of decreasing viewership numbers for broadcasters. Knowledge about and interest in a sport can also result from many people being engaged in a sport themselves as amateurs (Horky, 2009, p. 301; Steinbrecher, 2009, p. 238).

H3: The longer a sport has been included in the Olympic Winter Games historically, the more summarizing coverage its competitions will receive.

H4: The more active members a sports federation has, the more summarizing coverage its competitions will receive.

4.3 Identification

For international events it is easiest for national audiences to identify with athletes from their own country (Billings et al., 2018, p. 97; Schellhaasß & Hafkemeyer, 2002, p. 57).
Furthermore, identification with individual athletes seems to be easier and requires less information input than with multi-person teams (Schafmeister, 2007, pp. 54–56).

**H5:** The number of athletes working together in a competition will be negatively associated with the amount of its summarizing coverage.

**H6:** Domestic summarizing coverage of a competition will be higher if national athletes participate in it.

### 4.4 Success

Success of national athletes may be even more important than mere participation. This may be true for (realistic) expectations of national athletes’ success (Horky, 2009, p. 302; Steinbrecher, 2009, p. 125; Zubayr & Gerhard, 2004, p. 42), as some recipients enjoy emotional arousal, hoping for their favorite athletes to win a close contest (Bölz, 2018, p. 191). In summarizing coverage formats, actual success may be more important than potential success. Steinbrecher (2009, p. 125) argues that this is especially true for Olympic Games, in which medals for the best three contestants clearly separate winners from losers.

**H7:** Expectation of national athletes’ success will be positively related to domestic summarizing coverage.

**H8:** Actual success of national athletes will be positively related to domestic summarizing coverage.

### 4.5 Surprise

Surprises play an important role in sports journalism (Bölz, 2018, p. 168), and audiences and journalists seem to prefer events with a surprising outcome (Loosen, 1998, p. 67; Woratschek & Schafmeister, 2004, p. 77). This is especially true for surprising underdog wins and losses of odds-on favorites (Bölz, 2018, p. 168).

**H9:** If an odds-on favorite loses surprisingly, summarizing coverage time will increase.

**H10:** If an underdog wins surprisingly, summarizing coverage time will increase.

### 4.6 Gender

Historically, sports coverage is biased towards male athletes. Reports on female athletes are shorter and positioned less prominently than those on their male counterparts (Gleich, 2001, p. 188). Although coverage of women increases during mega events like Olympic Games, they still receive less coverage than men (Hartmann-Tews & Rulofs, 2007, p. 141). Angelini et al. (2012, p. 261) show that 75 percent of the most mentioned athletes on US prime time television (Vancouver 2010) were male.

**H11:** Olympic summarizing coverage time will be biased towards competitions with male athletes.

Our assumptions are summarized in Figure 1.
5 Method and Measures

We employ quantitative content analysis paired with the analysis of objective secondary data to minimize coder subjectivity effects. We recorded the last edition of the daily summary bulletin shows of Das Erste (Olympia-Telegramm), ZDF (Olympia-Kompakt) and Eurosport (Dein Olympia @8) during each competition day of the 2018 Olympic Games (after competitions were finished for the day). We also recorded ARD’s (Tagesschau) and ZDF’s (heute) main evening news shows. The unit of analysis is the single competition (n = 102) instead of the sport (Biathlon women’ mass start instead of Biathlon), as this allows coding variables like gender and number of athletes.

Competitions were manually coded from a list of the n = 102 sports events. Coverage time was manually coded in seconds, independently for the five formats mentioned above. Only distinct stories clearly assignable to a competition were analyzed, while introductions by the anchor were excluded, as they mostly featured several competitions. One coder coded all of the material. To ensure intercoder reliability, a pretest with a second trained coder and a sample of one episode of each of the above-mentioned summarizing coverage formats was randomly drawn (n = 31 stories), satisfying common pretest requirements (e.g. Früh, 2017, p. 180). Coverage time was coded as a match if coders did not diverge by more than one second. Simple percent agreement (Holsti) and Krippendorf’s Alpha scores were perfect for the competition variable (1.0) and on an acceptable level for coverage time (.74/.77). In a next step, coverage times

---

8) Full list of competitions available online at bit.ly/2N1AmV.
per competition from different stories were added to a single index per competition and outlet.

Independent variables
Most IVs were coded with secondary data from documents (e.g. rule books) available on the sports federations’ websites (SFW) or directly from websites by the International Olympic Committee (IOC) connected to the 2018 Winter Games (IOCW), like start/result lists.

Gender of athletes: Male (n = 51), female (n = 44), or mixed (n = 7). [SFW]

Number of athletes working together per competition: Metric measure (M = 1.99; SD = 3.07). [SFW]

Form of competition: Athletes did either compete one after another (e.g. Ski Jumping, n = 45), simultaneously (e.g. Biathlon mass start, n = 46) or in a direct duel (e.g. Curling, n = 11). [SFW]

Comprehensibility of result rating: Results were either rated based on physical measures (length, time, e.g. Luge, n = 65), on subjective ratings of a judge (e.g. Figure Skating, n = 17), a mix of the above (e.g. Ski Jumping, n = 9) or a direct duel (e.g. Curling, n = 11). [SFW]

Tradition: Measured in times this event had been part of Olympic Winter Games (including 2018), both on the level of the competition (M = 9.68; SD = 7.24) and sport (M = 16.41; SD = 7.06). [SFW]

Number of active federation members: Metric measure (M = 279,586.83; SD = 269,100.13). [SFW]

German participation: Dummy (n = 80). [IOCW]

German expectations: Dummy coded if at least one participating German athlete was either the Olympic Champion of 2014, or in the top ten of the respective federation’s world ranking at the time of competition (n = 50). [SFW]

German success: Scale (M = .81, SD = 1.65) based on the IOC medal table, ranging from zero (no German medal) to seven (gold, silver and bronze for Germany). [IOCW]

Surprise loss: Dummy coded if the leader of the world ranking at the time of competition did not win any medal (n = 43). Separately coded for German world ranking leaders (n = 6). [IOCW]

Surprise win: Dummy coded if someone wins the gold medal that is neither in the top ten of the world ranking at the time of competition (top 5 for team sports), nor the reigning 2014 Olympic Champion (n = 13). [IOCW]

6 Results

In total the Olympic summarizing coverage lasted for 313.3 minutes with Eurosport Dein Olympia @8 accounting for the biggest share (see Table 2).

9) Full list or sources is available online at bit.ly/2NJ1AmV.
10) Top five in team events due to the smaller starter field.
For clarity reasons, the two daily bulletins of the public broadcasters will be analyzed together, as they were aired on alternating days, while the private Eurosport bulletin will be looked at separately as the single episodes were much longer. Furthermore, Tagesschau and heute will be analyzed together as news shows.

We find a substantial variation in total coverage times per competition (\(M = 184.31; SD = 244.14\)) with men's Ice Hockey being covered the most (2,108 seconds; 11.2% of total coverage time) followed by two-man Bobsleigh (620 seconds; 3.3%) and Nordic Combined team event (596 seconds; 3.2%), while three competitions (Snowboard parallel giant slalom, Skiathlon, Speed Skating mass start; all men's) were not covered at all. Table 3 presents coverage times aggregated on the level of sports by program while Table 4 displays the top five competitions by program.

All sports have been part of the summarizing coverage, but variation in coverage times is substantial. While Curling, Figure Skating, Short Track, Skeleton, Freestyle Skiing and Speed Skating each make up for less than 5% and mostly rank among the least covered sports in all sub-formats, some other sports are widely covered. Biathlon ranks first in overall coverage and in all summarizing coverage sub-formats, making up for more than 17% of the total coverage time. Ice Hockey also gets a substantial share of coverage (11.9% overall), especially in the news and on Eurosport, followed by Alpine Skiing and Luge with almost 10% each. At this level of aggregation, it has to be noted that some sports consist of far more competitions than others (14 in Speed Skating, compared to only 2 in Skeleton and Ice Hockey), so that these sports have a structural advantage to be covered more. But while the number of competitions and coverage time per sport is highly correlated (\(r = .671, p < .01\)) in the case of public broadcasters' bulletins, for news, Eurosport, and overall coverage the relation is not significant.

Table 2: Amount of Olympic summarizing coverage 2018 by station and program

<table>
<thead>
<tr>
<th>Station</th>
<th>Program</th>
<th>Number of episodes</th>
<th>Total coverage (in sec)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Das Erste</td>
<td>Olympia-Telegram</td>
<td>9</td>
<td>1741</td>
</tr>
<tr>
<td></td>
<td>Tagesschau</td>
<td>17</td>
<td>1104</td>
</tr>
<tr>
<td>ZDF</td>
<td>Olympia-Kompakt</td>
<td>8</td>
<td>1572</td>
</tr>
<tr>
<td></td>
<td>heute</td>
<td>17</td>
<td>1685</td>
</tr>
<tr>
<td>Eurosport</td>
<td>Dein Olympia @8</td>
<td>16</td>
<td>12,698</td>
</tr>
<tr>
<td>Public broadcast</td>
<td>Olympia-Telegram + Olympia-Kompakt</td>
<td>17</td>
<td>3313</td>
</tr>
<tr>
<td>bulletins only</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>News only</td>
<td>Tagesschau + heute</td>
<td>34</td>
<td>2789</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>67</td>
<td>18,800</td>
</tr>
</tbody>
</table>

The bulletins' coverage seems to be more versatile than the news shows. To assess this further, we calculated the entropy index (Bruns & Marcinkowski, 1997, pp. 138–140) ranging from zero (no variety) to one (perfect variety). As expected, the coverage of the news shows displays the least variety (Tagesschau: \(n = 32, \text{entropy} = .31\); heute: \(n = 42, \text{entropy} = .41\); combined: \(n = 46, \text{entropy} = .39\)). The public
broadcasters’ bulletins show the most variety (n = 88, entropy = .74), while Eurosport covers the most competitions (n = 95), but with less entropy (.57). Overall, 99 competitions get at least some coverage with an overall entropy of .60.

The men’s Ice Hockey competition was identified as an extreme outlier according to Field (2013, p. 179) with its z-score of 7.88 well above the proposed threshold of 3.29 and the value being more than 7.5 standard deviations bigger than the mean. This competition drew a lot of coverage as the German team, traditionally performing rather badly at Olympics, surprisingly reached the final, and won the first ever German silver medal in Ice Hockey. Although this points to the importance of some of the predictors (e.g. German success, surprise), the case was removed from the data set for further analysis to prevent bias as it can be seen as a singular outlier case.

Table 3: Aggregated coverage times per sport (by descending total coverage)

<table>
<thead>
<tr>
<th>Sport</th>
<th># of comp.</th>
<th>Das Erste/ ZDF bulletins sec</th>
<th>%</th>
<th>Eurosport bulletin sec</th>
<th>%</th>
<th>News shows Total coverage sec</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biathlon</td>
<td>11</td>
<td>383</td>
<td>11.6</td>
<td>2271</td>
<td>17.9</td>
<td>565</td>
<td>20.3</td>
</tr>
<tr>
<td>Ice Hockey</td>
<td>2</td>
<td>239</td>
<td>7.2</td>
<td>1633</td>
<td>12.9</td>
<td>363</td>
<td>13.0</td>
</tr>
<tr>
<td>Alpine Skiing</td>
<td>11</td>
<td>306</td>
<td>9.2</td>
<td>1251</td>
<td>9.9</td>
<td>217</td>
<td>7.8</td>
</tr>
<tr>
<td>Luge</td>
<td>4</td>
<td>180</td>
<td>5.4</td>
<td>1239</td>
<td>9.8</td>
<td>342</td>
<td>12.3</td>
</tr>
<tr>
<td>Bobsllegh</td>
<td>3</td>
<td>212</td>
<td>6.4</td>
<td>1080</td>
<td>8.5</td>
<td>265</td>
<td>9.5</td>
</tr>
<tr>
<td>Nordic Comb.</td>
<td>3</td>
<td>176</td>
<td>5.3</td>
<td>1075</td>
<td>8.5</td>
<td>271</td>
<td>9.7</td>
</tr>
<tr>
<td>Ski Jumping</td>
<td>4</td>
<td>111</td>
<td>3.4</td>
<td>965</td>
<td>7.6</td>
<td>250</td>
<td>9.0</td>
</tr>
<tr>
<td>Cross Country Skiing</td>
<td>12</td>
<td>215</td>
<td>6.5</td>
<td>730</td>
<td>5.7</td>
<td>65</td>
<td>2.3</td>
</tr>
<tr>
<td>Snowboard</td>
<td>10</td>
<td>250</td>
<td>7.5</td>
<td>616</td>
<td>4.9</td>
<td>137</td>
<td>4.9</td>
</tr>
<tr>
<td>Speed Skating</td>
<td>14</td>
<td>332</td>
<td>10.0</td>
<td>488</td>
<td>3.8</td>
<td>103</td>
<td>3.7</td>
</tr>
<tr>
<td>Ski Freestyle</td>
<td>10</td>
<td>312</td>
<td>9.4</td>
<td>317</td>
<td>2.5</td>
<td>24</td>
<td>0.9</td>
</tr>
<tr>
<td>Figure Skating</td>
<td>5</td>
<td>243</td>
<td>7.3</td>
<td>294</td>
<td>2.3</td>
<td>105</td>
<td>3.8</td>
</tr>
<tr>
<td>Curling</td>
<td>3</td>
<td>178</td>
<td>5.4</td>
<td>300</td>
<td>2.4</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Skeleton</td>
<td>2</td>
<td>64</td>
<td>1.9</td>
<td>256</td>
<td>2.0</td>
<td>82</td>
<td>2.9</td>
</tr>
<tr>
<td>Short Track</td>
<td>8</td>
<td>112</td>
<td>3.4</td>
<td>183</td>
<td>1.4</td>
<td>15</td>
<td>0.0</td>
</tr>
</tbody>
</table>

Concerning our H1 (structure of competition), we found that overall coverage time significantly differs between the groups\(^{11}\): Competitions in which athletes competed one after another (M = 221.6, SD = 173.5) got significantly more coverage time\(^{12}\) than those where athletes competed directly. There was however no significant difference\(^{13}\) between duel (M = 115.1, SD = 79.6) and next to each other formats (M = 121.0, SD

\(^{11}\) F\(_{\text{Welch}}\)(2, 32.96) = 5.89, p < .01, \(\omega = .30\)

\(^{12}\) t(62.55) = -3.44, p < .001, d = -.871

\(^{13}\) t(19.05) = -.193, p = .425, d = -.088
Golden news?

Similar patterns can be detected for all sub-formats.\(^\text{14}\) H1 has to be rejected as direct matchups are less extensively covered than one-after-another formats.

Evaluation of H2 (performance evaluation) shows that competitions with a mixed format of result evaluation got the most overall coverage (M = 327.7, SD = 61.2), followed by physical evaluation (M = 168.3, SD = 155.0) and direct duels (M = 115.1, SD = 79.6), while subjective evaluation formats (M = 97.1, SD = 61.2) ranked last. This difference was significant.\(^\text{15}\) This pattern is consistent for all sub-formats except public broadcasters’ bulletins where no significant difference can be detected. Games-Howell’s post-hoc tests showed that in most cases subjective formats produced less coverage than physical and mixed formats, while mixed coverage also produced more coverage than duel formats, but not more than physical evaluation. This partly supports H2 showing that comprehensible formats of result evaluation through physical measures get more coverage than subjective forms that use judges. However, mixed formats perform surprisingly well while the potentially exciting duel formats get covered less extensively.

While the first correlation\(^\text{16}\) to test H3 (Olympic tradition of discipline) was not significant (overall coverage: \(r = .092 [-.090; .280], p = .181\)), the correlation based on the Olympic tradition of the sport itself was (\(r = .204 [.051; .343], p < .05\)). The same was true for news shows and the Eurosport bulletin. Therefore, our data supports H3 on the aggregated level of sports.

Testing H4 (active members in sports federation) we found no significant correlation (\(r = .141 [-.060; .345], p = .080\)) with overall coverage time. However, there was a significant correlation with the Eurosport bulletin’s coverage time (\(r = .173 [-.031; .379], p < .05\)), supporting H4 only for this sub-format.

**Table 4: Top 5 covered competitions by station and program**

<table>
<thead>
<tr>
<th>#</th>
<th>Total coverage</th>
<th>%</th>
<th>Das Erste/ZDF bulletins</th>
<th>%</th>
<th>Eurosport bulletin</th>
<th>%</th>
<th>News shows</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Ice Hockey (m)</td>
<td>11.2</td>
<td>Ice Hockey (m)</td>
<td>6.3</td>
<td>Ice Hockey (m)</td>
<td>12.1</td>
<td>Ice Hockey (m)</td>
<td>13.2</td>
</tr>
<tr>
<td>2</td>
<td>Bobsleigh</td>
<td>3.3</td>
<td>Bobsleigh four-man (m)</td>
<td>2.8</td>
<td>Bobsleigh two-man (m)</td>
<td>3.6</td>
<td>Luge (w)</td>
<td>4.6</td>
</tr>
<tr>
<td>3</td>
<td>Nordic Combined</td>
<td>3.2</td>
<td>Figure skating teams (mix)</td>
<td>2.7</td>
<td>Nordic Combined teams (m)</td>
<td>3.4</td>
<td>Figure skating pairs (mix)</td>
<td>3.8</td>
</tr>
<tr>
<td>4</td>
<td>Luge (w)</td>
<td>2.9</td>
<td>Snowboard half-pipe (m)</td>
<td>2.5</td>
<td>Bobsleigh (w)</td>
<td>3.0</td>
<td>Bobsleigh two-man (m)</td>
<td>3.6</td>
</tr>
<tr>
<td>5</td>
<td>Bobsleigh (w)</td>
<td>2.8</td>
<td>Curling (mix)</td>
<td>2.4</td>
<td>Luge (w)</td>
<td>2.9</td>
<td>Nordic Combined teams (m)</td>
<td>3.5</td>
</tr>
</tbody>
</table>

H5 (number of athletes per team) has to be rejected as we found no significant influence on overall coverage times (\(r = .047 [-.073; .338], p = .321\)). This finding is consistent across all formats.

\(\text{14}\) Due to space constraints only overall coverage results can be displayed in detail here. Full display of results for the sub-formats (bulletins, news shows) is available in an online appendix at bit.ly/2NJ1AmV.

\(\text{15}\) \(F_{\text{Welch}}(3, 23.01) = 6.00, p < .01, \omega = .36\)

\(\text{16}\) All correlations presented in this section are bootstrapped and BCA-accelerated (95%, 5000 samples) for reasons of robustness towards potential bias of data.
Confirming H6, competitions with German participation (M = 192.9; SE = 17.8) yielded higher overall coverage times than competitions without Germans (M = 66.2; SE = 11.0). This difference was significant\textsuperscript{17} for all formats.

Supporting H7 (German expectations), the same was true when Germans were expected to do well (M = 244.1; SE = 173.53), in comparison to when they were not (M = 100.0; SE = 9.63). The difference was also significant\textsuperscript{18} and the finding holds true for all sub-categories.

H8 (German success) is fully supported: The more medals were won by Germans, the more a competition got covered, yielding high correlations of $r = .810 \ [.721; .876]$, $p < .001$. Correlation coefficients are equally high ($>.75$) for news shows and the Eurosport bulletin, while the public broadcasters’ bulletins correlation is weaker ($r = .419 \ [.225; .596]$, $p < .001$).

Analysis of H9 (surprise loss) showed mixed results: Competitions with a surprise loss of an odds-on favorite (M = 167.4; SE = 21.18) did not yield significantly\textsuperscript{19} higher overall coverage times compared to when the favorite won a medal (M = 163.7, SE = 21.11). This holds true for all formats. Yet, once nationality of the odds-on favorite is factored in and a German odds-on favorite failed to win a medal, those competitions (M = 293.8, SE = 59.00) were covered more often, than when this did not happen (M = 157.2, SE = 15.24) with a significant difference\textsuperscript{20}. This was also true for all formats.

H10 (surprise win) has to be rejected: We found no significant difference\textsuperscript{21} between competitions in which an underdog won the gold medal (M = 175.5; SE = 39.06) compared to those where this did not happen (M = 163.8; SE = 16.34). This was also true for all sub-formats. No German underdog did win a gold medal, so nationality could not be factored in here.

We did not find a significant influence of gender (H11): Male competitions (M = 169.0; SD = 171.5) were covered slightly more widely than female ones (M = 154.9; SD = 133.25), while mixed gender events (M = 203.6; SD = 133.3) also drew more media attention. However, the differences were not significant\textsuperscript{22} and the same was true for all formats of summarizing coverage.

In a last step, we looked at predictors simultaneously and conducted a series of multiple linear regression models, including the overall coverage time and each summarizing coverage sub-format as the DVs. All metric and dummy measures served as the independent variables but were excluded if they reduced the adjusted $R^2$ of the respective model. Results from the regression analysis are displayed in Table 5 and show that the predictors work especially well for news programs (adj. $R^2 = .781$), while public...
Table 5: Predictors of coverage by time per sport by sub-format (regression models)

<table>
<thead>
<tr>
<th></th>
<th>Total summarizing coverage</th>
<th>News only</th>
<th>Das Erste/ZDF bulletins</th>
<th>Eurosport bulletin</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>52.92</td>
<td>14.57</td>
<td>.005**</td>
<td>-1.12</td>
</tr>
<tr>
<td></td>
<td>(26.20; 81.67)</td>
<td>(-5.70; 5.23)</td>
<td>(17.95; 31.02)</td>
<td>(11.26; 59.01)</td>
</tr>
<tr>
<td>GER Success</td>
<td>69.53</td>
<td>8.26</td>
<td>&lt;.001***</td>
<td>17.21</td>
</tr>
<tr>
<td></td>
<td>(55.17; 92.00)</td>
<td>(13.39; 21.69)</td>
<td>(19.0; 7.20)</td>
<td>(3.77; 68.18)</td>
</tr>
<tr>
<td>GER Participation</td>
<td>25.96</td>
<td>17.39</td>
<td>.071</td>
<td>.261</td>
</tr>
<tr>
<td></td>
<td>(-11.02; 60.33)</td>
<td>(1.77; 12.52)</td>
<td>(37.75; 68.18)</td>
<td>(1.36; 73.58)</td>
</tr>
<tr>
<td>GER Expectation</td>
<td>24.51</td>
<td>19.48</td>
<td>&lt;.001***</td>
<td>1.44</td>
</tr>
<tr>
<td></td>
<td>(-8.67; 54.02)</td>
<td>(-7.60; 10.54)</td>
<td>(-7.93; 7.10)</td>
<td>(--; --)</td>
</tr>
<tr>
<td>Surprise Loss</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td></td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>GER Surprise Loss</td>
<td>68.44</td>
<td>60.93</td>
<td>.108.069</td>
<td>11.18</td>
</tr>
<tr>
<td></td>
<td>(-34.93; 184.41)</td>
<td>(-12.28; 36.61)</td>
<td>(69.5; 31.91)</td>
<td>(-50.90; 161.64)</td>
</tr>
<tr>
<td>Surprise Win</td>
<td>43.41</td>
<td>30.81</td>
<td>.097.099</td>
<td>29.54</td>
</tr>
<tr>
<td></td>
<td>(-8.50; 96.81)</td>
<td>(14.42; 46.72)</td>
<td>(-19.94; 2.80)</td>
<td>(1.36; 73.58)</td>
</tr>
<tr>
<td>Members (in 1,000)</td>
<td>.05</td>
<td>.03</td>
<td>.093.102</td>
<td>.01</td>
</tr>
<tr>
<td></td>
<td>(-0.1; .12)</td>
<td>(&gt;-0.00; .03)</td>
<td>(&gt;-0.02; .01)</td>
<td>(-0.1; .12)</td>
</tr>
<tr>
<td>Athletes per team</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td></td>
<td>(31; 744)</td>
<td>(-3; 744)</td>
<td>(31; 744)</td>
<td>(31; 744)</td>
</tr>
<tr>
<td>$R^2$</td>
<td>.722</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>adj. $R^2$</td>
<td>.704</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$F$</td>
<td>40.63</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$p$</td>
<td>&lt;.001***</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$n_{Bootstrap}$</td>
<td>999</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
broadcasters’ bulletins are much harder to predict (adj. R² = .199). German success is highly significant and the strongest predictor in all models, lending further support to H8. While it is also the only significant predictor of overall coverage times, public broadcasters’ bulletins are also positively influenced by surprise losses with German participation, and the number of active members in a federation significantly increases coverage times on Eurosport. If an underdog wins the gold medal it increases the likelihood of the event making the news, while coverage time decreases if the odds-on favorite does not win a medal, leaving the influence of the news factor surprise somewhat unclear.

7 Discussion and limitations

RQ1 asked for the degree of variety in the summarizing coverage of the Olympic Games on German TV. Findings show that all sports were covered, but with substantial variation. Next to the attractive media sports Biathlon, Ski Jumping and Alpine Skiing (Rühle, 2017, p. 500) some other sports also got much attention: Bobsleigh, Nordic Combined and Luge, all sports in which German athletes are historically strong, winning a combined 15 medals (9 gold) in Pyeongchang. This implies that sports federations and the National Olympic Committee (DOSB) ought to support top athletes who can win medals at the international stage, if they seek to increase their media presence. Having many active (amateur) federation members or even participants (but not contenders/winners) in the Olympic competitions seems less important here. An example of sport federations adapting to this logic is the German Ski Federation (DSV) ending financial support for the German Moguls team in 2014, due to limited success (Benkoff, 2018).

Further supporting the influence of success on the coverage time is the German men’s Ice Hockey team’s surprise entry into the final, resulting in extensive coverage. One limitation of this study is, however, that the length of the competition was not recorded, although some events only lasted a couple of minutes while others, like Ice Hockey, lasted for several days, potentially drawing repeated coverage.

In terms of events covered and entropy, formats with more available coverage time (like bulletins) include more events and show greater variety than news shows, which only have a few seconds to cover the Games every day.

RQ2 asked for predictors of the variation in coverage times during the summarizing coverage of the 2018 Olympic Games on German TV. The success of national athletes in winning medals was the most important influence factor, both in univariate and multivariate analysis. The mere participation and the anticipated success of national athletes were less influential (and only significant on a univariate level of analysis). This may be because summarizing coverage formats cover events in hindsight and with very limited time budgets, so that excitement plays less of a role than countable results.

Lars-Ole Wehden/Nathalie Schröer

Medien Journal 1/2019 • Wintersport und Medien
Surprise outcomes do however influence the amount of summarizing coverage per competition, especially in news shows or if national athletes are involved. Under the conditions of multivariate analysis, surprise losses even lead to less coverage in the news, probably because it is not interesting to introduce an unknown (foreign) athlete as the Olympic champion in contrast to a well-established sports superstar (news factor prominence). If a real underdog (like Czech Snowboarder Ledecka in Super-G) wins, however, the news factor surprise seems to outweigh prominence and news coverage increases. For the Eurosport bulletin, the number of active federation members also influences the amount of coverage. This is potentially due to the private nature of the network, based on commercial revenue with the network showing sports that a large number of people is engaged in. One limitation of this study is, however, that the membership numbers are somewhat inaccurate as multiple sports are governed by the same federation (e.g. Biathlon, Ski Jumping and Alpine Skiing are all governed by the DSV).

The most surprising finding of this study is that competitions that feature a more complex and a less comprehensible form of result evaluation (i.e. athletes starting one after another) yield greater coverage times. This is probably because it simply takes longer to cover the individual attempts of at least the three medalists in something like Ski Jumping, then showing the winners crossing the finish line almost simultaneously in Cross Country Skiing. It might also take longer to explain more complex competition and evaluation modes to the audience.

In contrast to the overall coverage of earlier editions of the Olympic Games in the US (Angelini et al., 2012; Billings, 2008), we did not find a supremacy of men’s competitions in the summarizing coverage of the 2018 Games. Additionally, mixed gender competitions were (although not significantly) covered more extensively. This speaks for an emancipation of women’s competitions within the Olympic coverage, at least in the German context.

Our study has some further limitations: We focus exclusively on the summarizing coverage in Germany and on TV, so that replication studies in other cultural contexts are needed in order to generalize the findings. Furthermore, we decided to use only secondary data that could be derived from online sources to rule out subjective coder decisions. Nonetheless, it is debatable if some of the news factors (like surprise) can be captured validly with this method while others (like use of emotions) have to be left out entirely. A study that uses human coders to manually code some of the independent variables could therefore enhance our knowledge on the matter.

8 Conclusion

Each sport desires to maximize screen time to attract fans and advertisers. Olympic Games draw large audiences and pose the possibility for niche sports to enter the media’s big stage. When the Games are hosted in Asia, as was the case in 2018 in South Korea...
and will be the case again in 2020 (Japan) and 2022 (China), big time differences between hosting city and domestic audience of interest decrease average viewing hours, potentially increasing the importance of news shows and bulletins. Therefore, we set out to investigate the degree to which each Olympic competition was covered in these summarizing coverage formats on German TV. We found that while all sports (but not all competitions) were covered to at least some degree, there is substantial variation, especially on news shows. We based our assumptions on news values theory adapted to the field of sports communication (Loosen, 1998) and analyzed the influence of the news factors simplicity, tradition, identification, success, surprise, and gender. While we found no significant influence of gender and tradition on coverage times, surprise, simplicity and identification all had a significant influence, although sometimes in unexpected ways. By far the strongest predictor of coverage times across all formats is national success, in the form of medals.

More content analytical studies as well as surveys, especially in other cultural contexts, are needed to assess whether the Olympic Games potentially suffer from interdependencies between sports and media, or whether they truly stand for variety in sports and continue to be an opportunity for niche sports to enter the big media stage.

**Literature**


Lars-Ole Wehden/Nathalie Schröer


