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Does Popularity Matter in a TV Song Competition? Evidence from a National Music Contest

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Abstract: There is a considerable amount of literature analyzing factors of success in music contests, in particular those where the audience votes for the winner. However, one factor that is highlighted by the economic theory of stardom is generally neglected in the literature. In this paper, we tackle this research gap by focusing on a national music contest in Germany and investigating how popularity of the participating artists influences the final voting results. We employ two different concepts of popularity. First, we collected data regarding the artist's former success (MacDonald-popularity) using music charts data. Second, we proxy the media presence of the artists (Adler-popularity) using hits in traditional and new media. In our analysis, we find empirical evidence that the artist's ex-ante popularity positively affects the outcome of voting results. Interestingly, media presence matters more than former success. Furthermore, displaying the characteristics of a one-hit wonder harms success in the contest.

Keywords: popularity, superstar effect, biased voting, Bundesvision Song Contest, cultural economics, media economics

JEL-Codes: L82, Z10, Z19

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1. Introduction

Music contests enjoy considerable relevance as means for detecting new talent as well as entertainment formats. Particularly, contests where the audience votes for the winner, like for instance Pop Idol, The X Factor, the Eurovision Song Contest and others have garnered interest from the sciences (Boorstin 1961; Glejser and Heyndels 2001; Ginsburgh and van Ours 2003; Franck and Nüesch 2007). The essential question is about what factors determine the outcome of popular vote music contests. Is it really talent or do other factors like, inter alia, appearance, geographic origin, ethnical and linguistic affinity, or previous/current popularity determine the outcome? Both theoretical and empirical economic literature has addressed this phenomenon. The latter has especially focused on the Eurovision Song Contest because it is often perceived as symbolic for preferences of countries or political and other non-talent dimensions rather than music preferences. These papers establish empirical evidence for biased voting behavior, which is based on geographical and cultural closeness as well as performance (e.g. order effects), linguistic and religious factors (inter alia Fenn et al. 2006; Ginsburgh and Noury 2008; Spierdijk and Vellekoop 2009; Budzinski and Pannicke 2016; Pannicke 2016; Haan et al. 2005[1]). However, one factor that is emphasized by the economic theory of stardom (see section 3) is generally neglected in the empirical literature – namely the previous and current popularity of the contestants, be it due to former success and fame or due to extensive media presence. The reason is that popularity is difficult to measure – either due to the format of the contest where (formerly unknown) everyday people compete (pop idol, X factor, etc.) or due to national differences in popularity and difficulties to obtain data in so many countries (Eurovision Song Contest). In this paper, we take advantage of a natural experiment in Germany, the so-called Bundesvision Song Contest (BSC), a national media event and music competition contest where newcomers compete with established artists for audience votes[2], in order to provide the – to our best knowledge – first empirical analysis of the influence of different types of popularity on the contest's out-

[1] Other relevant papers include, inter alia Clerides and Stengos (2006), Yair (1995) and Kokko and Tingvall (2012).

[2] See http://www.spiegel.de/kultur/tv/bundesvision-song-contest-2014-revolverheld-gewinnt-bei-stefan-raab-a-992865.html

come.[3] The BSC is held per annum and musicians, representing each of the 16 German states, compete with each other for audience votes according to rules otherwise very similar to the Eurovision Song Contest. Thus, our general research question is: Does popularity influence the outcome of popular vote music contests and how so?

In order to address our research question, we introduce a novel approach of measures for two different concepts of popularity. First, we collected data regarding the artist's former success, such as single charts and album top 40 hits and their total number of weeks in the charts. In doing so, we operationalize the popularity concept explained by MacDonald (1988) in extension of Rosen (1981). Second, in line with Adler (1985, 2006), we proxy an artist's popularity based on press publicity like traditional media coverage (newspapers and magazines) and new media coverage (websites).

In our analysis, we find empirical evidence that the artist's ex-ante popularity affect the outcome of voting results. While media coverage always positively and significantly results in voting bias, former success is less relevant, especially in a longer-time-period. Thus, we conclude that media presence (Adler-popularity) matters more than former success (MacDonald-popularity).
The paper is structured as follows. While section 2 briefly describes the Bundesvision Song Contest, its background and rules, section 3 reviews the relevant literature on the economic theories of superstars and outlines our hypotheses. Section 4 forms the main part, containing the econometric analyses and its data description, the estimation method and model and controlling variables. Section 5 discuss the results as well as summarizes and concludes.

[3] There is some literature that employs popularity measures like Google hits, Facebook-likes, LexisNexis-hits and others in order to analyze whether popularity influences the income of sports stars, for instance in the Deutsche Bundesliga (Brandes et al. 2008), National Football League NFL (Treme und Allen 2011) or National Basketball Association NBA (Prinz et al. 2012). However, this literature considerably differs as it does not aim to explain the outcome of the (in their cases sporting) contests (which would probably also not be sensible).

2. Bundesvision Song Contest: Background

The Bundesvision Song Contest is based on the model of the Eurovision Song Contest. It is made up of the prefix "Bundes" denoting the Bundesrepublik Deutschland and the "-vision Song Contest" in relation to the international Eurovision Song contest. The BSC is a national music competition contest where 16 German artists compete against each other, who represent the individual 16 German States. The BSC was launched by entertainer Stefan Raab, who was inspired by the Eurovision Song Contest, in which he also took part as a performer in 2000. The first BSC took place on 12 February 2005 in Oberhausen and has been broadcasted by the German commercial TV broadcasting company ProSiebenSat.1 since its introduction. The BSC ended when Stefan Raab retired from television at the end of 2015.

The main goal of the contest is to select a musician winner. This is decided by a public audience (via telephone calls and SMS voting) at the end of the competition show. In contrast to the ESC, the audience is allowed for every artist including the one representing the resident state of the voter. The scoring system is based on the voters in every one of the 16 German State creating their own ranking of the top 10 performances. The artist who obtains the highest number of votes within an individual German State receives twelve points, the second place receives ten and the third place will be rewarded with eight points. The performers of the seven following ranks receive decreasingly seven to one points. Nine and eleven points are not distributed. Because there are more performers (16) than points to be allocated (10 times), six participants receive zero points. In the end, the winner of the contest is the artist (and the state she represents) who collected the highest number of points.[4]

Another goal of the program besides entertaining is to support German-language music. For this reason at least 50 % of the music lyrics must be sung in German. Against this background, the national contest enjoys a good reputation with regard to promoting German talents and German-language music as a cultural good. As

[4] See http://tvtotal.prosieben.de/tvtotal/specials/bundesvision-song-contest/.

mentioned in the introduction, the producers deliberately select artists so that popular stars compete against less well-known newcomers. Musically, there are no further restrictions for the participants.[5] Analogue to the ESC the winning German state of the contest hosts the next BSC.

3. Economic Theory of Superstars and Hypotheses

The contemporary economic theory of stardom usually refers back to *Rosen* (1981) as the seminal article. He identifies as the principal economic phenomenon of superstars that relatively small differences in talent generate grossly over-proportional big differences in income. According to his view, the underlying reason is the imperfect substitution of different levels of talent. Lesser talent is a poor substitute for greater talent, for instance, "hearing a succession of mediocre singers does not add up to a single outstanding performance" (Rosen 1981: 846). Due to the combination of imperfect substitution with scale effects, only superstars that dispose over superior talent can employ their exceptional talent to reap monopoly rents. Focusing on talent, Rosen (1981) remains silent on the role of popularity, which is why, for our purposes, the extension of his model by MacDonald (1988) as well as the alternative model by Adler (1985) are highly relevant.

MacDonald Approach

MacDonald (1988) presents a dynamic model version of Rosen (1981), which addresses the role of former success for current success. Outcomes are serial correlated for each artist, whereby first-period reviews enjoy predictive power for second-period performances. Consumers are risk adverse and prefer known qualities over unknown ones. Artists that have either been experienced in the first period or at least received positive reviews represent known qualities for further periods, whereas newcomers represent unknown qualities. Due to the risk adversity of consumers, past success predetermines future success.

[5] See http://www.motorvision.de/unterhaltung/tv/bundesvision-song-contest-online-schauen-wiederholung-prosieben-2013-bosse-gewinnt-niedersachsen-308363.html; http://tvtotal.prosieben.de/tvtotal/specials/bundesvision-song-contest/.

The driving-forces of the model dynamics are informational deficiencies on the side of the consumers. Due to the experience good character of the artists' products, consumers can assess music quality only after they have listened to it. The experience leads to an accumulation of artist-specific knowledge. The inherent dynamics of the model, however, imply that artists are not 'born to be stars' but instead 'rise to become stars'. Since past achievements gain importance due to the experience good character of the artistic goods and the risk adversity of the consumers, entry barriers for newcomers emerge. Even with the same level of talent, newcomers will yield less success than the well-established incumbent stars. They need extraordinary talent (in excess of the incumbents' talent) in order to capture the risk-adverse consumers' attention and enter the market.

In summary, we define MacDonald-popularity in terms of former success that promotes future success. One success characteristic that is clearly identifiable and measurable are the numbers of sales which reflect in the official music charts ranked by sales of singles and full albums, respectively. In our empirical study we, therefore, measure this popularity by counting the top 40 single charts hits and the top 40 album charts hits of the BSC contestants before the contest took place. Because past success predetermines future success, we chose to measure a long-term period (former success; 5 years before the contest) and a short-term period (current success; 6 month before the contest). Against this background, we formulate our first hypotheses as follows:

H1: MacDonald-popularity (former and current charts success) significantly and positively influences contest outcome.

Adler Approach

Rosen's (1981) seminal paper triggered Adler (1985) to develop a different perspective. Instead (only) due to the artist's talent superstars may predominantly attract fans by their high profile and celebrity status (see also Boorstin 1961; Franck and Nüesch 2007). Adler's theoretical approach is based on the 'consumption capital' model of Stigler and Becker (1977). For example, if consumers examined a certain

type of music very closely in the past, they are more likely to be in the position to value and appreciate this type of music in the present. They gained knowledge and accumulated 'consumption capital, that qualifies them to derive more enjoyment and utility by consuming this type of music: "[T] he more you know the more you enjoy" (Adler 1985, 208-209).

Adler (1985), therefore, emphasizes that the accumulation of star-specific 'consumption capital' is decisive: the more consumers know about the art and the artist, the more enjoyment they derive from consuming more art of this type or respectively more from this artist (also known as the bandwagon effect: Leibenstein 1950). The accumulation of star-specific knowledge increases the marginal utility of consumption, because consumers are able to appreciate the art and the artist. Adler (1985) explains three ways of accumulation 'consumption capital': First, exposure to the art itself (Stigler and Becker 1977), second, through discussions about the art with friends and acquaintances ('discussing consumption'), and third, through media coverage of the art/artist (Adler 2006). According to Adler, the only costs emerging for consumers by consuming the art is time. He divides the costs of time into 'actual time' (direct consumption and / or discussion with other individuals) and the time for searching suitable conversational partners (Adler 1985: 209). In order to minimize searching costs the consumer chooses the most famous artist, because there are more information available and more knowledgeable conversational partners to find. "When the artist is popular, it is easier to find discussants who are familiar with her or to find media coverage about her. This is why consumers prefer to consume what others also consume" (Adler 2006: 898). The results are positive network externalities that create path-dependency and snowball effects, since every consumer maximize its marginal utility by joining the majority and preferring the same artist. The more members the network has, the higher the probability of finding a suitable conversation partner. Media-driven presence support the artist's popularity by circulating and enhancing the flow of information (Adler 2006) as well as the so-called mere exposure effect, which is a psychological phenomenon by which individuals have a tendency to favour and positively value individuals or stimuli simply because they are exposed to it repetitively (inter alia

Bornstein 1989; Zajonc 1968, 2001; Moreland and Zajonc 1982; Olivola and Todorov 2010).[6]

In summary, while MacDonald-popularity relies on past success, popularity of the Adler-type predominantly rests on media presence, largely irrespective of its content. Accordingly, we define Adler-popularity in terms of presence in traditional and new media coverage. To identify the Adler-popularity effect, we measure a performer's popularity by counting their ex-ante presence in German newspapers, magazines as well as in websites. We formulate our second hypotheses as follows:
H2: Adler-popularity (traditional and new media coverage) significantly and positively influences contest outcome.

4. Econometric Analyses

4.1 Estimation Model and Dependent Variable

In order to test our hypothesis, we conduct an empirical study. We use the complete historical voting data set of the BSC voting data from its beginnings in 2005 until 2015[7]. The voting results are all published by the company ProSiebenSat.1 on an official website for every year. These voting results represent the number of points the voters in each German state awarded every artist of the contest each year. In each BSC, all German states compete. We tabulated the points given from each German State to each artist for every single year. In total we get 2,816 observations, which amount to 176 observations per German State.

We test our hypotheses of popularity affecting the outcome of voting results through our data model. Our data set consists of three dimensions, which are year = time (t), juries = state A and the performer/artist of another state B.

We define our dependent variable as the awarded $POINTS_{ABt}$ from state A to the artist B per year within the whole period from 2005-2015. We treat $POINTS_{ABt}$ as a

6 For example, Gaissmaier and Marewski (2011) showed in their study that those politicians with a high press coverage are more likely to win elections because they were made more familiar to their voters.

7 See http://tvtotal.prosieben.de/tvtotal/specials/bundesvision-song-contest/.

continuous dependent variable instead of a categorical one like the final ranking. For that reason, we estimate the equation by linear methods (OLS) (Haan et al. 2005) as well as taking into account state-fixed effects after running a Hausman test comparing fixed with random effects and against the background of Eurovision and Bundesvision Song Contest literature (inter alia Budzinski and Pannicke 2016; Ginsburgh and Noury 2008; Pannicke 2016).

Accordingly, we define $Points_{AB,t}$ as the dependent variable:

$Points_{AB,t} = a + \beta Popularity_{B,t} + X_{AB,t} + \varepsilon_{AB,t}$

where

$Points_{AB,t}$ = represents the number of points given by voters of state A to artist B in year t,

α = intercept

$\beta Popularity_{B,t}$ = the corresponding popularity by artist B in year t,

$\varepsilon_{AB,t}$ = error term

and $X_{AB,t}$ includes corresponding control variables.

4.2 Variable Description and Descriptive Statistics

The literature on media and cultural economics addresses a relevant number of empirical studies that have focused their research on voting behavior and voting biases in the Eurovision Song Contest (inter alia Fenn et al. 2006; Budzinski and Pannicke 2016; Haan et al. 2005; Ginsburgh and Noury 2008; Yair 1995). For that reason, we take into account control variables and divide our independent variables into 3 different categories (Schweiger and Brosius 2003):

I. Artist's popularity (press coverage, chart-positions, newcomers vs. incumbent artists in Germany)
II. Performance characteristics of the musical piece (inter alia, gender of the performer, order, type of formation) and

III. Relations between the federal German States (geographical and cultural closeness, confession).

I. Artist's Popularity

Because we define MacDonald-popularity in terms of former success that promotes future success, we collected the total number of official top 40 Charts ranked by single and full album sales as well as their total number of weeks within these charts[8] before the contest took place. We consider two periods of time. First, we collected every top 40 single (Hits lt) and album hits (Album lt) including their total number of weeks (weeks Hits lt and weeks Album lt) 5 years before the artists performed at the contest (long-term period). Second, we chose a short-term period of 6 month in order to measure short-term effects (st)[9].

In line with Adler (2006), popularity is strongly associated with media presence. In order to identify Adler-popularity, we include the performer's popularity as a proxy by counting how often all of the participants were mentioned with their band or stage name at least once in the media coverage. Due to the ambiguity of some of the band's names like "Blumentopf" ('flowerpot'), "TipTop", "Ich kann fliegen" ('I can fly'), "Duerer" and so on, we could not obtain reliable data for them since it was impossible to disentangle the results without looking into each single hit. Thus, we excluded these bands and, consequently, the number of observations drops from 2,816 to 2,576 (LexisNexis database) and 2,591 (Factiva database).

The data bases on traditional media publicity was collected by using both LexisNexis (e.g. Franck and Nüesch 2012; Brandes et al. 2008) and Factiva databases. The databases LexisNexis and Factiva provide worldwide press information and nationwide content of various daily and weekly German newspapers (such as *Frankfurter Allgemeine Zeitung*, *Die Welt am Sonntag*, *Hamburger Morgenpost*, *Mitteldeutsche Zeitung*, *Die Welt*, *Der Tagesspiegel*, *taz*, *Thüringer Allgemeine*, etc.) as well as German magazines and journals (including *Der Spiegel*, *Bild*, *Stern*, *Bunte*, etc.) and

[8] he data was collected on: https://www.offiziellecharts.de/.

[9] Regarding the top 40 album charts hits of the BSC contestants, the variable turns out to be de facto a dummy-variable, because the maximum number top 40 album charts hits is 1.

German web-based publications (for example *Echo online*, *rtl*, *tagesschau*, *Yahoo! Deutschland: Schlagzeilen*, etc.). Factiva has more than 500 German source titles in total; LexisNexis more than 240 in total. While LexisNexis mainly provides data in the range of traditional media coverage as magazines and newspapers, Factiva has predominantly, beside newspapers and magazines, web-based publications. We searched for the name of the participating band in a long- and short-term period right before broadcasting the contest. For the short-term period we chose the same time span of 6 month before the contest took place. For the long-term period a 5-year laps of time. Referring to Prinz et al. (2012) as well as Garcia-del-Barrio and Pujol (2007), we also collected Google-hits of every band as a third variable for popularity in order to measure only their entire internet presence. We gathered the total number of links counted by the search engine Google when searching for the band's name. Likewise, we separated into a long (5 years) and a short-term (6 month) period. We would have liked to include measures like Facebook-likes as well but, unfortunately, historical data was not available.

In order to get a first descriptive impression on a potential influence of popularity and received points, we display the top 5 artists with the highest and lowest total number of points within the whole period of 11 years in tables 1 and 2. While table 1 shows the top 5 and bottom 5 and their MacDonald-popularity variables (albums- and single-charts success), table 3 illustrates those top 5 and bottom 5 in combination with their Alder-popularity variables (media presence).

Table 1: Top and bottom 5 artists (MacDonald-popularity)

Artist	*Points*	*Hits st*	*Weeks Hits st*	*Album st*	*Weeks Album st*	*Hits lt*	*Weeks Hits lt*	*Album lt*	*Weeks Album lt*
Top 5 artists									
Revolverheld	180	1	11	1	9	1	11	1	9
Peter Fox	174	2	39	1	18	2	41	1	19
XAVAS	172	1	3	0	0	1	4	0	0
Mark Forster	170	2	30	1	25	4	126	1	57
Unheilig	164	2	43	1	25	2	52	3	71
Bottom 5 artists									
Mellow Mark feat. Nina Maleika	8	0	0	0	0	0	0	0	0
Guaia Guaia	8	0	0	0	0	0	0	0	0
AK4711	6	0	0	0	0	0	0	0	0
Bernd Begemann/ Dirk Darmstaedter	4	0	0	0	0	0	0	0	0
Wunderkynd	2	0	0	0	0	0	0	0	0

It can be seen that every artist of the top 5 performer had at least one top 40 single hit, while none of the bottom 5 has a top 40 hit before the respective contest took place. Similarly, in respect to full albums ranked within top 40 charts, only the band XAVAS had no album success among the top 5, while none of the artists of the bottom 5 had any top 40 album success before participating in the BSC.

Table 2: Top and bottom 5 artists (Adler-popularity)

Artist	*Points*	*Lexis Nexis lt*	*Lexis Nexis st*	*Factiva lt*	*Factiva st*	*Google lt*	*Google st*
Top 5 artists							
Revolverheld	180	151	45	185	102	3140	492
Peter Fox	174	186	168	183	166	36400	1940
XAVAS	172	1000	465	3685	587	4150	8670
Mark Forster	170	626	335	1015	544	203000	32300
Unheilig	164	495	342	512	337	24600	7020
Bottom 5 artists							
Mellow Mark feat. Nina Maleika	8	72	23	151	53	1550	203
Guaia Guaia	8	168	161	121	107	966	333
AK4711	6	22	17	35	31	95	37
Bernd Begemann & Dirk Darmstaed-ter	4	544	48	723	63	24	411
Wunderkynd	2	6	3	7	4	1500	410

Similarly, it can be seen that the top 5 artists were much more often mentioned in press and publicity than the bottom 5 performers before they appeared in the contest.

Our selection of control variables is based on intensive literature research concerning the ESC. First, we consider performance characteristics (II) and second, different relations between the German States (III).

II. Performance Characteristics (Control Variables)

We define control variables that characterize performance features such as gender (male, female) of the artist and the formation divided into a group, a (male-) soloist or a duo (male-male, male-female or female-female) formation. Because Haan et al. (2005) find evidence for a systematic order influence on the final results in the ESC, we include an opening-dummy-variable and an order-variable. These variables mirror the order of acts in which the participating states are viewed by the public audience and if the song was the first performed song. Moreover, we include a host-dummy for showing if the performing state is the host state of the contest. Besides, due to the fact that ten artists performed twice under the same stage name, we also include a dummy-variable for same artist if the artists have already participated in the contest years before.

III. Geographical and Cultural Distortions (Control Variables)

Lazarsfeld et al. (1948: 137) conclude in their research: "voting is essentially a group experience. People who work or live or play together are likely to vote for the same candidates". In line with this, literature on the Eurovision Song Contest found *geographical influence* on the voting behavior (Yair 1995; Gatherer 2004). At first sight, one may think that this should not be relevant for a national music contest. However, Budzinski and Pannicke (2016) found that geographical and cultural effects matter for the BSC as well. Thus, we gather data about geographical closeness of the Federal Republic of Germany. We include a dummy variable for neighboring German states by showing if state A and state of artist B share a common border (Spierdijk and Vellekoop 2009). Furthermore, we complement the geographical var-

iable by collecting the length of common border in km and the total distance between the capitals of each German State[10]. We also generate a dummy variable if the German State of artist B was a former Eastern part of Germany or not. Furthermore, we control for patriotic voting, i.e. voting for an artist from the voter's home state.

Ginsburgh and Noury (2008) used Hofstede's four cultural dimensions in order to find a relation between the cultural diversity among the participants representing different countries (Hofstede 1980, 1991). Because Hofstede's cultural dimensions are not available for the several German states, we consider the Big Five personality traits, based on the Five Factor Model (FFM) (Costa and McCrae 1992), which are correlated to the Hofstede's cultural dimensions (McCrae and Terracciano 2005; Migliore 2011; Hofstede and McCrae 2004; McCrae 2001). They are defined as "dimensions of individual differences in tendencies to show consistent patterns of thoughts, feelings, and actions" (McCrae and Costa 1990: 29) and consist of Neuroticism, Extraversion, and Openness to Experience, Agreeableness and Conscientiousness (McCrae and John 1992).[11] Consequently, we include the regional values of the personality traits for each German State and create 5 different variables as a proxy for cultural closeness.[12]

Research of behavioral economics emphasize a relationship of the religion and economic agents' decisions (Iannacconea 1998; Kuran 1994). Against this background, we generate a dummy variable for confession, if state A and state B share the same confession. We differentiate between Catholics, Protestants and those who have no religious affiliations. We consider those religious denominations, if the percentage of members is not less than 40 percent.

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10 www.worldatlas.com/aatlas/findlatlong.html.

11 A high value in Neuroticism refers to a high share of easily depressed and anxious individuals and a low share of extroverted personalities (which are very sociable and talkative), while Openness to Experience stands for creativity, artistic skills and unconventional human beings. The Agreeableness factor represents compassion, corporation, and trust, while Conscientiousness is characterized by planned and organized behavior (Atkinson et al. 2000).

12 We obtained the dataset from the German Socio-Economic Panel Study (SOEP).

Table 3: Descriptive Statistics and Description for all Variables

Variable	Description	Obs	Mean	Std. Dev.	Min	Max
Dependent Variable						
Points	Number of points given by voters of state A to artist B in year t	2816	3.617.898	385.551	0	12
Independent Variables						
MacDonald- popularity						
Hits st[13]	Number of Top 40 Hits, short term	2816	.2784091	.580845	0	2
weeks Hits st	Number of Weeks, Top 40 Hits, short term	2816	3.306.818	863.005	0	50
Albums st	Number Albums Top 40, short term	2816	.2553267	.4361221	0	1
weeks Albums st	Number of weeks, Album Top 40, short term	2816	2.861.506	6.943.619	0	49
Hits lt[14]	Number of Top 40 Hits, long term	2816	.6917614	1.340.773	0	7
weeks Hits lt	Number of Weeks, Top 40 Hits, long term	2816	1.052.876	2.344.238	0	132
Albums lt	Number Albums Top 40, long term	2816	.6352983	.9548328	0	5
weeks Albums lt	Number of weeks, Album Top 40, long term	2816	863.956	165.936	0	79
Adler- popularity						
LexisNexis lt	media presence by Lexis Nexis (mainly newspaper and magazines), long-term	2592	1.960.776	3.582.914	0	2952
LexisNexis st	media presence by Lexis Nexis (mainly newspaper and magazines), short-term	2592	5.444.869	9.773.384	0	750
Factiva lt	media presence by Factiva (mainly websites), long-term	2592	2.866.451	5.729.915	0	4377
Factiva st	media presence by Factiva (mainly websites), short-term	2592	8.129.861	1.331.388	0	900
GoogleHits lt	total number of links counted by the search engine Google. Long-term	2816	13181.47	52281.43	0	501000
GoogleHits st	total number of links counted by the search engine Google, short-term	2816	1.283.766	3.420.365	0	32300
Control Variables						
Performance characteristics						
$Opening_{Bt}$	If artist B was the first performance in year t = 1, Otherwise = 0	2816	.0625	.2421045	0	1
$Order_{Bt}$	Order of artists B in year *t* (one for the first performing song)	2816	8.501.065	4.611.361	1	16
$Group_{Bt}$	If artist B´s song was sung by a group in year t = 1, Otherwise = 0	2816	.5791903	.4937767	0	1
$Duet_{Bt}$	If artist B´s song was sung by a	2816	.0568182	.231536	0	1

[13] Short-term = 6 month.
[14] Long-term = 5 years.

	female-male, male-male or female-female duet in year t = 1					
$Male\_solo_{Bt}$	If artist B´s song was sung by a male soloist in year t = 1, Otherwise = 0	2816	.2677557	.4428682	0	1
$Host_{Bt}$	If artist B was from the host state in year t = 1, Otherwise = 0	2816	.0625	.2421045	0	1
Same Artist	If artists B already performed in the contest in year t-1 =1, Otherwise = 0	2816	.0564631	.2308547	0	1
Relations between States						
Geography						
$FormerGDR_B$	If artist B was performing for a former Eastern part of Germany = 1 Otherwise = 0	2816	.3125	.4635947	0	1
$Neighb_{AB}$	If state B and state A are neighbors = 1, Otherwise = 0	2816	.2151989	.4110332	0	1
$Length\_CB_{AB}$	Length of common border in km of state A and state B	2816	5.384.162	1.278.092	0	829
$Capital\_Dis_{AB}$	Distance between capitals of state A and state B in km	2816	3.057.785	1.654.468	0	694.82
$Home\_Bias_{AB}$	If states A and state represented by artists B are the same German States = 1, Otherwise = 0	2816	.0653409	.2471703	0	1
Religion						
Religion	If state A and state B share at the minimum one major religion = 1, Otherwise = 0	2816	.3512074	.4774324	0	1
Culture						
$Conscientiousness_{AB}$	Difference between indices of conscientiousness of states A and B	2816	.122491	.0918847	0	.39285
$Openness_{AB}$	Difference between indices of openness of states A and B	2816	.1710218	.1330512	0	.48104
$Agreeableness_{AB}$	Difference between indices of agreeableness of states A and B	2816	.0871271	.0877877	0	.37163
$Extraversion_{AB}$	Difference between indices of extraversion of states A and B	2816	.0900324	.0748044	0	.33745
$Neuroticism_{AB}$	Difference between indices of neuroticism of states A and B	2816	.1266097	.1117437	0	.516802

To avoid multicollinearity between our independent variables, a variance inflation factor (VIF) test was performed. Approximately, statistical estimation is assumed unreliable and their variables are highly collinear if the variance inflation factor exceeds 10. Our VIF tests are substantially lower than 10, except the variable weeks albums, which has a VIF value close to 10. For that reason, we separately estimate the influence of the variables weeks (albums and weeks hits) and the number of top 40 hits and albums. When separating them, all the independent variables have

VIF values of less than 10, so collinearity should not pose difficulties (Chaterjee and Price 1977). Because of their collinearity, we also put the databases LexisNexis and Factiva into separate estimations.

4.3 Results

The OLS-regression output from different model specifications are presented including a variety of combinations of explanatory and control variables in tables 4-7. Model I to IV estimate the long-term relationship between MacDonald-popularity, Adler-popularity and the number of points given by audience. Model I and II include the Adler-popularity searched via LexisNexis database, models III and IV via database Factiva. Model V to VIII estimate the current-success relationship between popularity variables and received points per artist. Likewise, we estimated separately per databases LexisNexis and Factiva (model V-VI and model VII-VIII). While models I, III, V and VII include the variable of top 40 hits and top 40 albums, model II, IV, VI and VIII include the variable of their total number of weeks (weeks hits and weeks album). Our regression output in tables 6 and 7 (appendix) takes into account state fixed effects with the same model specification as described before. The estimation results are remarkably consistent between our models, which underlies their robustness.

In general, the outcomes from our OLS-voting model confirm the results by literature like Budzinski and Pannicke (2016) and Pannicke (2016) to the extent that the BSC shows significantly biased voting patterns based on geographical and performance proximity (see tables 4-5 and appendix tables 6-7).

The first conclusion we can draw from the analysis for our research focus is that popularity *does* affect the outcome of the BSC. Both the MacDonald-popularity in terms of previous success and the Adler- popularity in terms of media presence in traditional and new media coverage significantly and positively influence the contest's outcome. In general terms, our hypotheses H1 and H2 are supported. Notwithstanding, a closer look reveals some interesting details.

Focusing on the model specifications that include short-term variables (table 5, models V – VIII), we find statistically significant support for our first hypotheses to the extent that the MacDonald-popularity in terms of current charts success significantly and positively influences the contest outcome. Every variable turns out to be positive and significant. An interesting case surfaces when looking at the long-term variables in terms of former charts success. While the number of former top 40 albums, their number of weeks in the charts (model I and III) and the number of top 40 hits (model III) significantly and positively influence the outcome, the total number of weeks of a single chart hit show a significant negative influence. In other words, while success in the last five years is generally boosting performance in the contest, this is significantly not true for artists that scored a low number of top 40 singles hits, which had a long duration in the charts, and low album success. Although this seems paradoxical, the phenomena of a so-called 'one-hit-wonder' may be a specific explanation, where an artist achieves (huge) temporary success and popularity solely for exactly one hit and quickly fades in popularity thereafter (and does not achieve any comparable success with follow-up songs). This phenomenon should indeed be more prevalent in the singles charts than in the album charts.

Moreover, we find strong support for our second hypotheses in every specification (except Google Hits lt, model I). Adler-popularity both in terms of current and former media presence significantly and positively influences the contest outcome. The variables Google Hits st, media presence by Lexis Nexis (mainly newspaper and magazines) and media presence by Factiva (mainly websites) turn out to be positive and significant in every single model.

Table 4: OLS-estimations Results, Long-term

Variables	*I Model*	*II Model*	*III Model*	*IV Model*
Opening	1.305***	1.199***	1.181***	1.069***
	(4.89)	(4.50)	(4.43)	(4.03)
Order	0.290***	0.274***	0.280***	0.264***
	(19.80)	(18.56)	(19.04)	(17.83)
Group	1.236***	0.911***	1.218***	0.882***
	(6.24)	(4.53)	(6.17)	(4.41)
Duet	0.831**	0.430	0.819**	0.406
	(2.81)	(1.46)	(2.78)	(1.39)
Male_solo	1.486***	1.254***	1.470***	1.231***
	(7.03)	(5.90)	(6.99)	(5.82)
FormerGDR	0.236	0.180	0.219	0.165
	(1.79)	(1.38)	(1.67)	(1.27)
Home_Bias	6.355***	6.412***	6.318***	6.378***
	(19.82)	(20.08)	(19.79)	(20.07)
Host	-0.643**	-0.554*	-0.557*	-0.473
	(-2.62)	(-2.27)	(-2.28)	(-1.95)
Religion	-0.00962	-0.00551	-0.0203	-0.0173
	(-0.07)	(-0.04)	(-0.14)	(-0.12)
Capital DisAB	-0.00397***	-0.00386***	-0.00407***	-0.00395***
	(-7.87)	(-7.67)	(-8.08)	(-7.89)
Neighb.	0.405	0.435	0.405	0.438
	(1.62)	(1.75)	(1.63)	(1.77)
Length_CB	-0.000656	-0.000641	-0.000751	-0.000739
	(-0.87)	(-0.85)	(-1.00)	(-0.99)
Same Artist	-0.806**	-0.466	-0.838**	-0.503
	(-3.00)	(-1.74)	(-3.13)	(-1.89)
Conscientiousness	0.530	0.940	0.436	0.849
	(0.74)	(1.31)	(0.61)	(1.19)
Openness	0.568	0.561	0.663	0.662
	(1.10)	(1.09)	(1.29)	(1.29)
Agreeableness	-1.663	-1.886*	-1.725	-1.943*
	(-1.76)	(-2.01)	(-1.83)	(-2.08)
Extraversion	-0.272	-0.428	-0.411	-0.578
	(-0.26)	(-0.41)	(-0.40)	(-0.56)
Neuroticism	0.118	0.0675	0.144	0.0968
	(0.22)	(0.12)	(0.26)	(0.18)

LexisNexis lt	0.00132*** (7.37)	0.00120*** (6.71)		
GoogleHits lt[15]	0.00500** (3.21)	0.00558*** (3.56)	0.00536*** (3.52)	0.00582*** (3.79)
Album lt	0.657*** (8.82)		0.657*** (8.88)	
Hits lt	0.0774 (1.51)		0.0726 (1.43)	
Weeks Album lt		0.0626*** (10.06)		0.0637*** (10.36)
Weeks Hits lt		-0.0184*** (-4.25)		-0.0197*** (-4.56)
Factiva lt			0.00115*** (8.72)	0.00111*** (8.42)
_cons	-0.0781 (-0.21)	0.409 (1.11)	0.0388 (0.11)	0.527 (1.44)
N	2592	2592	2592	2592

Table 5: OLS-estimations Results, Short-term

Variables	*V Model*	*VI Model*	*VII Model*	*VIII Model*
Opening	1.052*** (4.00)	1.110*** (4.16)	1.028*** (3.89)	1.082*** (4.05)
Order	0.255*** (17.29)	0.255*** (16.83)	0.256*** (17.40)	0.256*** (16.93)
Group	1.332*** (6.76)	1.145*** (5.69)	1.361*** (6.93)	1.179*** (5.89)
Duet	0.838** (2.88)	0.498 (1.69)	0.861** (2.97)	0.525 (1.79)
Male_solo	1.349*** (6.36)	1.188*** (5.55)	1.356*** (6.40)	1.198*** (5.60)
FormerGDR	0.212 (1.65)	0.131 (1.00)	0.198 (1.54)	0.117 (0.90)
Home_Bias	6.408*** (20.31)	6.451*** (20.20)	6.387*** (20.24)	6.428*** (20.12)
Host	-0.233 (-0.96)	-0.423 (-1.73)	-0.194 (-0.80)	-0.381 (-1.56)

[15] For each 1000th Google-Hit.

Religion_Dummy	0.0302 (0.21)	0.00399 (0.03)	0.0262 (0.19)	-0.000630 (-0.00)
Capital_DisAB	-0.00388*** (-7.79)	-0.00390*** (-7.75)	-0.00389*** (-7.82)	-0.00392*** (-7.78)
Neighb	0.423 (1.72)	0.430 (1.73)	0.421 (1.72)	0.429 (1.72)
Length_CB	-0.000780 (-1.05)	-0.000611 (-0.81)	-0.000804 (-1.08)	-0.000638 (-0.85)
Same Artist	-0.251 (-1.00)	0.227 (0.93)	-0.364 (-1.43)	0.108 (0.44)
Conscientiousness	0.873 (1.24)	1.283 (1.79)	0.907 (1.28)	1.322 (1.85)
Openness	0.640 (1.26)	0.553 (1.08)	0.664 (1.31)	0.580 (1.13)
Agreeableness	-1.509 (-1.62)	-1.769 (-1.88)	-1.647 (-1.77)	-1.922* (-2.05)
Extraversion	-0.376 (-0.37)	-0.473 (-0.45)	-0.472 (-0.46)	-0.579 (-0.56)
Neuroticism	0.238 (0.44)	0.283 (0.52)	0.208 (0.39)	0.251 (0.46)
LexisNexis st	0.00341*** (4.03)	0.00373*** (4.33)		
GoogleHits st	0.0618** (2.75)	0.0701** (3.09)	0.0550* (2.32)	0.0618** (2.58)
Hits st	0.860*** (7.18)		0.855*** (7.14)	
Album st	0.939*** (5.63)		0.950*** (5.70)	
weeksHits st		0.0276* (2.04)		0.0287* (2.12)
weeksAlbum st		0.0548** (3.21)		0.0538** (3.16)
Factiva st			0.00265*** (3.98)	0.00292*** (4.33)
_cons	0.0834 (0.23)	0.461 (1.25)	0.0683 (0.19)	0.443 (1.20)
N	2592	2592	2592	2592

5. Discussion and Conclusion

Altogether, popularity matters for music contests where the audience votes for the winner. While this result may not come as a surprise, our paper is the first to provide empirical evidence on this hypothesis derived from the economic theory of stardom. Furthermore, looking into the details of our study reveals some interesting additional results and implications. In order to operationalize the concept of popularity, we distinguished two types of popularity (derived from theory): MacDonald-popularity as former musical success (charts hits) and Adler-popularity as media presence irrespective of whether it is music (success) related or otherwise. Our analysis shows that Adler-popularity is a more important success factor for music contests than MacDonald-popularity. In other words, for receiving audience votes, it is more important to present in the (traditional and new) media than to have been a successful hit artists before. On the one hand, this is good news for newcomers who enjoy better chances than MacDonald's star theory would suggest. On the other hand, it indicates that music quality (including musical talent) may not be that relevant compared to boulevard effects: radically phrased – being a "media-friendly" personality beats being a talented musician. However, this conclusion should be taken with some caution since (so far) none of the discussed studies, including our own, is able to include an independent variable measuring music quality in their estimations.

Our results also reveal an interesting phenomenon regarding the relevance of former charts success (MacDonald-popularity). Having enjoyed a huge but single (song) hit (low number of top 40 hits but long duration) without considerable album success actually negatively influences success in popular vote music contests in our sample. This may reflect the rise and fall of so-called one-hit wonders, artists that manage one huge hit but do not manage to follow-up on this single success nor to build a fan-base for sustainable success. In these cases, the popularity of the hit does not spill-over to the performing artist, so that it does not help her in a subsequent popular vote contest (years later). Quite the contrary, the audience apparently 'punishes' the newer efforts of the one-hit wonder.

Eventually, our analysis demonstrates that the different types of popularity should not be neglected when analyzing success factors of music – be it in contests or in more general contexts. This is particularly important, when the popularity of the contestants differs considerably among the competing participants. Note that popularity is likely to matter also for contests among newcomers only (like Pop Idol, The X Factor, etc.) since Adler-popularity does not require former success in music. Managing to maximize media presence will likely increase wining probabilities. If – like in the BSC – newcomers compete with incumbent artists, the media channel may actually provide an opportunity for talented newcomers to overcome the MacDonald-popularity deficit to (ceteris paribus) similar talented incumbents.

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Appendix:

Table 6: OLS by fixed effects (states), long-term

Variables	*I Model*	*II Model*	*III Model*	*IV Model*
Opening	1.343***	1.258***	1.181***	1.094***
	(4.88)	(4.58)	(4.30)	(4.00)
Order	0.261***	0.247***	0.249***	0.235***
	(17.35)	(16.33)	(16.53)	(15.53)
Group	1.185***	0.907***	1.147***	0.860***
	(6.01)	(4.54)	(5.85)	(4.33)
Duet	0.729*	0.423	0.712*	0.395
	(2.46)	(1.44)	(2.42)	(1.35)
Male_solo	1.592***	1.381***	1.559***	1.345***
	(7.49)	(6.47)	(7.38)	(6.35)
FormerGDR	0	0	0	0
	(.)	(.)	(.)	(.)
Home_Bias	6.423***	6.440***	6.431***	6.449***
	(20.08)	(20.22)	(20.24)	(20.39)
Host	-1.087***	-1.084***	-1.000***	-1.006***
	(-4.30)	(-4.31)	(-3.99)	(-4.04)
Religion	0.0934	0.0930	0.0916	0.0911
	(0.66)	(0.66)	(0.65)	(0.65)
Capital_DisAB	-0.00303***	-0.00301***	-0.00302***	-0.00300***
	(-5.75)	(-5.74)	(-5.77)	(-5.76)
Neighb	0.435	0.439	0.438	0.442
	(1.73)	(1.75)	(1.75)	(1.78)
Length_CB	-0.000377	-0.000372	-0.000380	-0.000375
	(-0.50)	(-0.50)	(-0.51)	(-0.50)
Same Artist	-0.554*	-0.253	-0.597*	-0.286
	(-2.06)	(-0.95)	(-2.23)	(-1.08)
Conscientiousness	1.068	1.078	1.073	1.085
	(1.42)	(1.44)	(1.44)	(1.46)
Openness	-0.0562	-0.0510	-0.0530	-0.0474
	(-0.11)	(-0.10)	(-0.10)	(-0.09)
Agreeableness	-1.019	-1.018	-1.015	-1.015
	(-0.99)	(-0.99)	(-0.99)	(-0.99)
Extraversion	0.484	0.493	0.485	0.494
	(0.45)	(0.46)	(0.45)	(0.46)

Neuroticism	-2.066** (-3.29)	-2.063*** (-3.30)	-2.065*** (-3.31)	-2.062*** (-3.32)
LexisNexis lt	0.00154*** (8.58)	0.00141*** (7.87)		
GoogleHits lt	0.00686*** (4.32)	0.00728*** (4.55)	0.00716*** (4.61)	0.00749*** (4.81)
Album lt	0.637*** (8.33)		0.638*** (8.41)	
Hits lt	0.0340 (0.65)		0.0359 (0.70)	
Weeks Album lt		0.0585*** (9.36)		0.0597*** (9.69)
Weeks Hits lt		-0.0179*** (-4.11)		-0.0193*** (-4.44)
Factiva lt			0.00138*** (10.40)	0.00132*** (9.96)
_cons	0.0845 (0.23)	0.543 (1.51)	0.157 (0.44)	0.620 (1.74)
N	2592	2592	2592	2592

Table 7: OLS by fixed effects (states), short-term

Variables	*V Model*	*VI Model*	*VII Model*	*VIII Model*
Opening	0.907*** (3.34)	0.934*** (3.42)	0.856** (3.15)	0.877** (3.21)
Order	0.214*** (14.01)	0.209*** (13.50)	0.214*** (14.09)	0.209*** (13.57)
Group	1.186*** (6.02)	1.073*** (5.41)	1.193*** (6.08)	1.082*** (5.48)
Duet	0.655* (2.25)	0.387 (1.33)	0.648* (2.23)	0.384 (1.32)
Male_solo	1.228*** (5.77)	1.115*** (5.22)	1.215*** (5.72)	1.105*** (5.19)
FormerGDR	0 (.)	0 (.)	0 (.)	0 (.)
Home_Bias	6.378*** (20.33)	6.406*** (20.33)	6.386*** (20.37)	6.415*** (20.38)
Host	-0.682** (-2.72)	-0.956*** (-3.85)	-0.665** (-2.66)	-0.935*** (-3.77)

Religion	0.0898 (0.64)	0.0882 (0.63)	0.0884 (0.63)	0.0867 (0.62)
Capital_DisAB	-0.00304*** (-5.89)	-0.00302*** (-5.83)	-0.00303*** (-5.88)	-0.00301*** (-5.82)
Neighb	0.434 (1.76)	0.440 (1.78)	0.437 (1.77)	0.442 (1.79)
Length_CB	-0.000406 (-0.55)	-0.000400 (-0.54)	-0.000408 (-0.55)	-0.000403 (-0.54)
Same Artist	-0.0698 (-0.27)	0.395 (1.64)	-0.220 (-0.86)	0.237 (0.97)
Conscientiousness	1.027 (1.40)	1.050 (1.42)	1.035 (1.41)	1.059 (1.43)
Openness	-0.0606 (-0.12)	-0.0530 (-0.10)	-0.0575 (-0.11)	-0.0495 (-0.10)
Agreeableness	-0.985 (-0.97)	-0.989 (-0.97)	-0.986 (-0.98)	-0.990 (-0.98)
Extraversion	0.427 (0.40)	0.444 (0.42)	0.431 (0.41)	0.448 (0.42)
Neuroticism	-2.100*** (-3.41)	-2.089*** (-3.38)	-2.097*** (-3.41)	-2.085*** (-3.38)
LexisNexis st	0.00382*** (4.50)	0.00385*** (4.48)		
GoogleHits st	0.0960*** (4.24)	0.111*** (4.91)	0.0760** (3.15)	0.0883*** (3.66)
Hits st	0.683*** (5.60)		0.661*** (5.41)	
Album st	1.071*** (6.08)		1.070*** (6.09)	
weeksHits st		0.00345 (0.26)		0.00318 (0.24)
weeksAlbum st		0.0878*** (5.21)		0.0867*** (5.15)
Factiva st			0.00347*** (5.10)	0.00357*** (5.19)
_cons	0.590 (1.67)	0.892* (2.50)	0.552 (1.56)	0.848* (2.38)
N	2592	2592	2592	2592

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