



Pushing the Max Planck YouTube Channel With the Help of Influencers

Dominik Donhauser and Christina Beck*

Communication Department, Administrative Headquarters of the Max Planck Society, Max-Planck-Gesellschaft, Munich, Germany

We wanted to increase the number of subscriptions to the Max Planck YouTube Channel with the help of influencers. In recent years, we have published a video series called “Max Planck Cinema” to increase students’ interest in complex scientific content. The videos generated sometimes well over 100,000 views (aggregated over several years). But these figures fall far short of the number of views of German YouTube influencers in the field of science, whose videos range from several 100,000 views to over a million. Against this background, the Max Planck Society (MPG) in 2020 launched a video series in collaboration with two YouTube influencers. The new “WISSEN WAS” video series focuses on current topics and their underlying scientific facts. Although the “WISSEN WAS” videos have been online for only a relatively short time, it can be seen that the videos produced with the influencers have significantly increased the number of subscriptions. The evaluation also shows that high numbers of views do not necessarily go hand in hand with more subscriptions as other studies have previously assumed. While the basic videos of the Max Planck Cinema series prove to be real long runners, which students regularly (year by year) search for and find on YouTube (Germany) as well as Google (Germany), thereby continuously generating views, it is currently not yet possible to estimate whether the “WISSEN WAS” videos, will still generate as high a number of views per day after several years.

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*Correspondence:

Christina Beck
beck@gv.mpg.de

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INTRODUCTION

The Max Planck Society (MPG) is a publicly funded research organization. In the so-called “PUSH (Public Understanding of Science and Humanities) Memorandum” (Stifterverband, 1999), the German non-university research organizations, including the MPG, committed themselves to actively and intensively promoting science communication in Germany by establishing new formats and channels and preparing the content professionally and in a target-group-specific manner. Against this background, the past two decades have seen the emergence of numerous new communication channels within the organization, where Max Planck scientists can present their research with professional support, ranging from our own website (www.mpg.de), our own printed science magazine (MaxPlanckForschung) and various dialogue formats, including student labs, up to own channels on the popular social media platforms Facebook, Twitter, Instagram, and YouTube.

Among all these sites, YouTube occupies a special position. It is the world’s largest video platform today and the second most visited site after Google worldwide (Alexa, 2020). According to

YouTube, two billion viewers all over the world are logged in monthly (Statista, 2020). Its success is the result of increased user interest in video content combined with increasingly high-quality offers: while the very first video uploaded to YouTube in 2005 was only 18 s long, the first educational videos were published just 2 years later. According to YouTube, 500 h of video were uploaded to the site every minute in 2019 (Statista, 2020). Even though there is a great contrast between the video genres in terms of channels, uploads, and views, and a large majority of on average 85% of all views are accounted for by a small minority of 3% of all channels (Bärtl, 2018), it should not be overlooked that YouTube has become very popular for educational videos and has established itself among students as an alternative learning platform that promotes on-demand learning. According to a study from 2019, it is now the main information medium for 93% of 18- to 19-years-olds in Germany (Rat für Kulturelle Bildung, 2019).

Even beyond tutoring, the importance of YouTube for science communication is increasing, with science videos showing a wide variety of genres—from short documentaries to animations and reports (Morcillo et al., 2016). In 2016, Geipel already counted 2,000 channels and 140,000 videos on YouTube assigned to the German search term “Wissenschaft” (we cannot present more recent figures because YouTube no longer displays the number of videos and channels for a search term). Geipel writes that “even assuming that some non-scientific contributions are omitted when all hits are viewed, these figures show the large presence of scientific content on YouTube” (Geipel, 2018).

The MPG launched its own YouTube channel in 2010. Ten years later, the channel has 29,700 subscribers and almost 7.01 million views (as of August 17, 2020). A comparison with other national and international research organizations shows some variety in the number of visitors and subscribers (as of August 17, 2020): For example, since joining in 2008, the German Aerospace Center (DLR) has generated around 43,200 subscribers and 8.47 million views; the Japanese research organization RIKEN, although active on YouTube since 2009, has only 1.94 million views and 13,300 subscribers, while the French National Centre for Scientific Research (CNRS) did not join until 2016, but has already gained 20,300 subscribers and 1.69 million views. All the channels mentioned here publish their content in their national language. This also applies to the majority of the contributions on the Max Planck YouTube channel.

CONTEXT

Long Runners: Educational Videos

On YouTube, scientific topics compete with learning platforms specifically tailored toward classroom learning as well as with entertainment formats. The learning platforms all have high numbers of subscribers, such as “simpleclub Biologie” with 537,000 subscribers and 93 million views or “Die Merkhilfe” with 127,000 subscribers and almost 27 million views (as of August 17, 2020). The challenge is therefore not only to prepare content in a manner appropriate for the target group and media format, but also—due to the huge amount of content available—to label it in such a way that it can be easily found and listed.

Educational videos convey information in a multi-sensory way, engaging both the visual and auditory perception centers in the brain; this makes them more attractive to younger people. In fact, the use of educational videos on YouTube has almost doubled among 12- to 19-years olds in just a few years, from 10% in 2016 to 18% in 2019 (Feierabend et al., 2015, 2019). In a non-representative study conducted by the German Economic Institute 42% of high school students surveyed said that according to their own personal perception, videos and explanatory clips on the Internet were the best way to learn. Also interesting was the finding that female students tended to follow the recommendations of teachers when searching for learning videos online, while male students tended to be guided by the number of times a video is viewed (Engels and Schüler, 2020).

In 2011, the MPG launched its first major educational video series on its YouTube channel under the title “Max Planck Cinema” in addition to the already existing printed MAX series, which provides teaching materials for schools (Beck, 2017). Between 2011 and 2016, 28 video pairs (A small number of Max Planck Cinema videos were not published as a pair. Unlisted videos were not included in the calculation. For an overview please also see **Supplementary Material**.) with a clear reference to the school curriculum had been produced in total. The videos were aimed at increasing student’s interest in complex scientific content and therefore also in the STEM subjects. To find out whether this goal was achieved, the series was evaluated within the context of a qualifying thesis in the field of the didactics of chemistry (Willert, 2013). Seventy-two percent of the teachers surveyed confirmed that the videos increased student’s interest in the subjects and more than half said that the videos motivated students to tackle a difficult topic.

For each topic in Max Planck Cinema, there is an introductory video (length 8 min) which describes the research approach. One characteristic feature of these videos are their cartoon-like sequences, aimed at contributing to understanding processes in the non-visible area and overcoming the barrier when dealing with complex scientific topics. Each introductory video is accompanied by a short basic film (length 4 min), which illustrates the molecular processes in the form of a 3D animation. The basic videos, aggregated over the years, consistently achieve high viewing figures of well over 100,000 views or even more. For example, the German video “Synaptische Plastizität—wie das Gehirn lernt” (about synaptic plasticity) has received over 218,000 views since its release (as of August 18, 2020). For the search term “synaptische Plastizität” (“synaptic plasticity”) the two associated Max Planck videos are displayed in a preferred position directly after the first text link by Google.de (as of August 18, 2020). For the search term “Epigenetik” (“epigenetics”) the corresponding video from the “Max Planck Cinema” series is presented in a top position on YouTube amongst the search results displayed. With 97,793 views, it is only slightly behind the video on the same subject by “Die Merkhilfe” with 99,145 views (as of August 18, 2020). For the search term “Endosymbiontentheorie” (“endosymbiotic theory”), the corresponding video, which has so far received over 231,871 views, over 2,900 likes and over 100 comments, is in second place,

ahead of two classic student learning platforms (as of August 18, 2020). In order to obtain a search result that is as unpersonalized as possible, the search results on Google.de and YouTube.de were determined for the location Germany and in the language German in the incognito mode of the browser.

YouTube Influencers: A New Kind of Educational Videos

“Social Media Influencers” have been playing an increasing role in the marketing sector for some time now, since influencer marketing can now reach a larger target audience than many “classic” marketing measures. Influencers are online personalities who have built up a fan base on social media community on platforms like Instagram, Facebook, or YouTube. They utilize a blend of images and videos to share their views on products, services, or social trends. The key factor to their success is the high degree of credibility attributed to them (Connolly, 2018). People often follow them on their social media channels because they share the same interests and ways of thinking. While they are considered experts in their chosen niches by their followers, they are also seen as “real people” who connect to their audience on a personal level. Followers can thus relate to and identify with the respective influencer (Faltl and Freese, 2017).

For some time now, YouTube influencers have also been establishing themselves in the field of science communication. Science YouTubers often have a university degree in the natural sciences or humanities and the topics they present in their videos are mainly from the same field. However, they are no longer part of the institutionalized academic world. This distinguishes YouTube clearly from science blogs, for example, which are mainly run by scientists themselves (Geipel, 2018). It is noticeable that the channels of Science YouTubers have very high subscription numbers, as in Germany MrWissen2go, Doktor Whatson, or maiLab. MrWissen2go, who primarily explains political topics, now has more than 1.3 million subscribers, while maiLab and Doktor Whatson both of whom mainly deal with scientific topics, have 998,000 and 179,000 subscribers, respectively (as of August 18, 2020). Their videos generate several 100,000 to over a million views within just a few weeks.

According to Geipel (2018), monetary gains rarely play a role in establishing a science channel on YouTube. This is not least because scientific topics are rarely suitable for placing products within the videos. Rather, Science YouTubers are first and foremost driven by a passion for a specific field or for science in general. Against this background, collaboration with Science YouTubers is also easier for a publicly funded research institution like the MPG. Nevertheless, if it wants to benefit from the authenticity of YouTubers, it must adopt their presentation style on YouTube.

In 2020, the MPG launched the video series “WISSEN WAS” with the YouTube influencers MrWissen2go and Doktor Whatson. In the familiar, successful YouTube moderation style in front of a green screen, Mirko Drotschmann and Cedric Engels, alias “MrWissen2go” and “Doktor Whatson,” present important basic information about a specific topic in each video (~10–15 min). Animations, infographics as well

as diagrams and sketches help to illustrate the facts. In interviews, Max Planck scientists explain how research comes to the presented results (Max-Planck-Gesellschaft, 2020). For this purpose, MrWissen2go and Doktor Whatson visit the scientists at their institutes (note: due to COVID-19, recent interviews were conducted via video conferencing).

The objective of the video series is to provide knowledge together with substantiated reporting on current topics, and supported by currently available scientific facts (unlike the Max Planck Cinema series, it is no longer curriculum-aligned). We asked ourselves whether it would be possible to attract new subscribers in the target group of 18- to 24-olds for the Max Planck YouTube channel through cooperation with these influencers, and whether the number of views could be increased significantly as a result. We want to build a larger community on our own channel by using the popularity of the YouTube influencers and their target group-oriented presentation.

The majority of the “WISSEN WAS” videos are published on the Max Planck channel. Since Doktor Whatson—unlike MrWissen2go—does not belong to the content network “funk” of ARD and ZDF (which excludes the playout of third-party productions), we were able to try out a video co-production within the series, in which one video was published on the Max Planck YouTube channel and a second, related video on Doktor Whatson’s own channel; both videos refer to each other.

DETAILS OF THE ANALYSIS

We compared both video series shown on the Max Planck YouTube Channel—“Max Planck Cinema” (start May 31, 2011) and “WISSEN WAS” (start January 29, 2020)—in terms of the number of views and the number of subscriptions generated by these videos (for all data see **Supplementary Table 1**). Since the “WISSEN WAS” series only started in January 2020, no final conclusions can yet be drawn on the basis of the figures available to date. However, the available data already provide some quite reliable indications as to whether the goals presented here can be achieved.

Table 1 shows the average number of views of all introductory videos and all basic videos of the Max Planck Cinema series as well as all “WISSEN WAS” videos. The basic videos achieve the highest number of views, while the number of views for the “WISSEN WAS” series are the lowest. These figures are not surprising, as the “WISSEN WAS” videos have only been online for a comparatively short time. Interestingly, despite these low viewing figures, the “WISSEN WAS” videos generate the most subscriptions on average.

In order to eliminate the distorting time factor, which considerably limits the comparability of the figures, a so-called subscription/viewing value was determined. The subscription/viewing value indicates how many subscriptions are generated per 1,000 views per video. The publication period is not included in this value anymore. Based on 1,000 views, the “WISSEN WAS” videos generate almost eight times as many subscriptions as the videos of the Max Planck Cinema Series (**Table 2**). This subscription/viewing value represents a measure

TABLE 1 | Comparison of the average views and the average number of new subscribers for all Max Planck Cinema introductory videos, all Max Planck Cinema basic videos and all “WISSEN WAS” videos.

Type of series (Language version: German)	Views (average per type)	Min. views (per type)	Max. views (per type)	Subscriptions (average per type)	Min. subscriptions (per type)	Max. subscriptions (per type)
Max-Planck-Cinema, Introductory video (31 videos)	13618.03	2,565	100,491	39.74	3	267
Max-Planck-Cinema, Basic video (27 videos)	71842.52	2,362	372,480	186.93	3	801
WISSEN WAS (7 videos)	8366.71	2,652	16,573	205.43	17	622

Time period: founding day YouTube channel of the MPG: 05/07/2010 up to and including Wednesday, 07/29/2020. Source of the data is the YouTube Analysis Tool. The table also includes the maximum and minimum values per type (views and subscriptions).

TABLE 2 | Comparison of the average number of subscriptions per 1,000 views of all Max Planck Cinema introductory videos, all Max Planck Cinema basic videos and all “WISSEN WAS” videos.

Type of series (Language version: German)	Subscriptions per 1,000 views (average per type)	Min. subscriptions per 1,000 views	Max. subscriptions per 1,000 views
Max-Planck-Cinema, Introductory video (31 videos)	2.95	0.75	6.51
Max-Planck-Cinema, Basic video (27 videos)	2.85	0.69	5.74
WISSEN WAS (7 videos)	23.08	6.07	90.74

Time period: founding day YouTube channel of the MPG: 05/07/2010 up to and including Wednesday, 07/29/2020. Source of the data is the YouTube Analysis Tool. The table also includes the maximum and minimum values per type.

for the effectiveness of viewer retention to the channel by the respective video series. The positive impact of the influencer videos on user loyalty toward the Max Planck YouTube channel is therefore actually significantly higher than of the videos of the Max Planck Cinema Series. However, given the small number of videos, the variance around the average value is also particularly large here. Especially the video “Klüger im Kollektiv” (the WISSEN WAS video about swarm intelligence) deviates considerably from the average value with 90.74 subscriptions per 1,000 views.

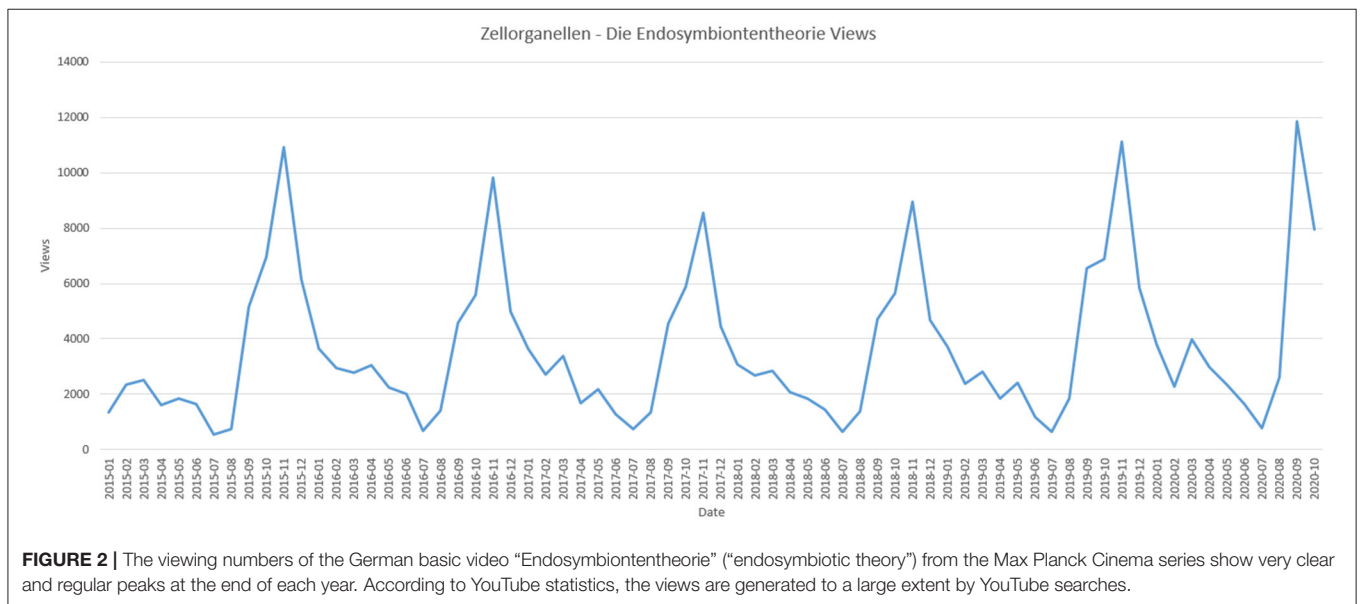
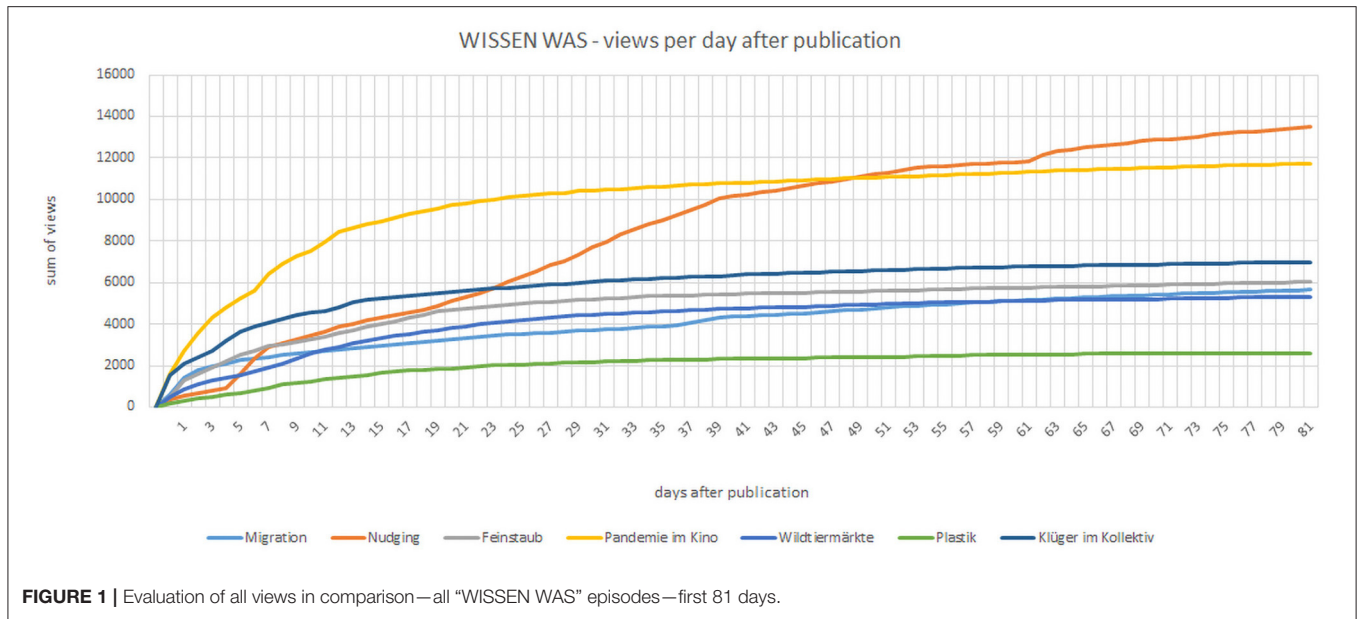
A comparison of the seven videos in the “WISSEN WAS” series shows that the three “WISSEN WAS” videos that generated the highest number of new subscriptions per 1,000 views [“Klüger im Kollektiv” (the WISSEN WAS video about swarm intelligence), “Nudging” and “Pandemie in Kinofilmen” (the WISSEN WAS video discussing the portrayal of a pandemic in the Hollywood thriller “Contagion”)], also achieved the highest number of views within the first weeks. In general, the number of views rise sharply in the first 14 days following their release, reaching an average of 4,000 views, after which growth slows down significantly (Figure 1). While the video on “Feinstaub” (about particulate matter) achieves around 15 views per day on average 7 months after it was released, the video on the topic “Nudging” still achieves around 20 views per day on average after 8 months.

It must be emphasized, however, that all these figures were largely produced without additional advertising (SEA). Only in the period from March 5, 2020 to April 14, 2020, were digital advertisements placed on YouTube for three videos of the “WISSEN WAS” series. The “Nudging” video benefited from this measure. The goal was to increase the number of views in the group of 18- to 44-years-olds. We were able to generate a total of 9,637 views through the ads—costs in total: 262.95 euros (see Supplementary Table 3).

However, these figures do not allow a prediction as to whether the “WISSEN WAS” videos will be continually viewed over several years as it is the case for the basic videos from the Max Planck cinema series. Since these videos are closely aligned with the school curriculum, they are in fact regularly viewed. This can be seen particularly well in the example of the video on endosymbiotic theory—a topic that is almost exclusively called up in school lessons. Here we can see a sawtooth pattern of views with peaks at a certain point in time (Figure 2). Such a pattern can be expected if the views are triggered by the school curriculum and the respective topic is always dealt with in a certain period of time within the school year, in this case in the middle of the first half-year in grade 11 or 12 in Germany (November of each year—since the curricula do not indicate when a certain topic should be taken up, we cannot provide concrete evidence of this).

We have also compared the number of views and subscriptions generated by the two “WISSEN WAS” videos, for which Doktor Watson released a corresponding video on his channel. While “Klüger im Kollektiv” (the WISSEN WAS video about swarm intelligence) has reached 6,153 views 1 month after publication, the at the same time released corresponding video “Warum Schwärme besser entscheiden” (“Why swarms make better decisions”) on Doktor Watson’s own channel has received 44,797 views; 2 months after publication, the pandemic video on the Max Planck YouTube channel has reached 11,700 views, while the corresponding video on Doktor Watson’s channel has already received 112,692 views—10 times as many (as of June 26, 2020).

Regardless of the differences in the number of views, however, it can be seen that Doktor Watson’s reference to the corresponding video on the Max Planck YouTube channel not only attracts more views and new subscriptions, but also succeeds in attracting younger subscribers to the Max Planck

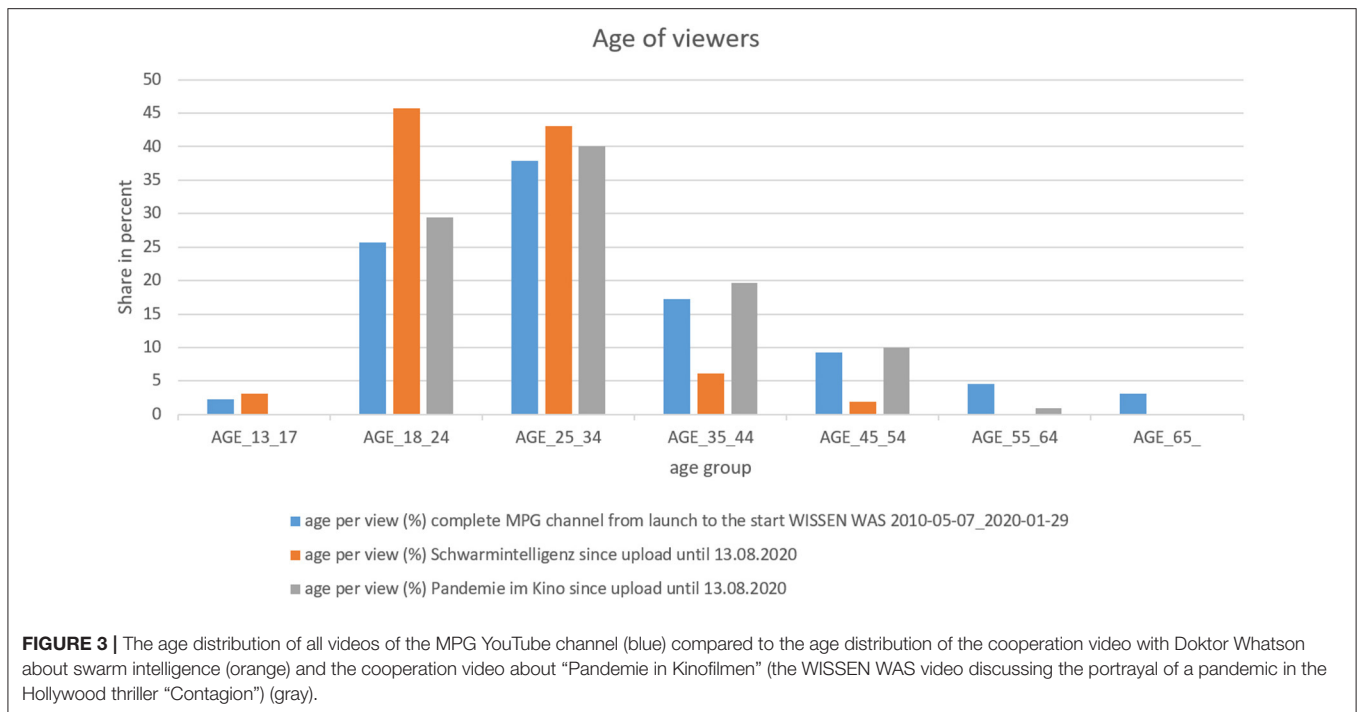


YouTube channel (**Figure 3**). Almost half (46%) of the viewers from “Klüger im Kollektiv” (the WISSEN WAS video about swarm intelligence) is between 18 and 24 years old. But if we look at the entire Max Planck YouTube channel, then only a quarter of the viewers (26%) are from this age group.

DISCUSSION

The present case study shows that cooperation with YouTube influencers has helped to significantly increase the number of subscribers to the Max Planck Society’s YouTube channel:

between January and July 2020, the number of subscribers increased by about 23% from 23,964 to 29,371 (from January 1, 2020 to July 29, 2020). A comparison between the “WISSEN WAS” videos and the basic videos of Max Planck Cinema shows that the latter generate a high number of views, but do not lead to more subscriptions to the Max Planck YouTube channel to the same extent. This means that a high number of views does not necessarily go hand in hand with more subscriptions, which is contrary to the findings of Welbourne and Grant (2015). However, the basic videos prove to be real long runners, which students search for and find on YouTube as well as Google



specifically for exam preparation. It is currently not yet possible to estimate whether the “WISSEN WAS” videos, which are strongly tailored toward topicality, will still generate as high a number of views per day as the classic educational videos after several years.

With the so-called subscription/viewing value, we have a measure of the effectiveness of viewer retention to the channel by the respective video series. We can see that the influencer videos reach higher subscription/viewing values. This connection can be traced back to the communicative effects of influencer videos (Diehl, 2018; von Rotz and Tokarski, 2020), which can also be seen in the “WISSEN WAS” videos. This includes the greeting and farewell formula, facial expressions, gestures, as well as the volume of speech and faster speaking rate. In addition, there is the activating effect (call for action) through the direct address of the audience as exemplified in the “Nudging” video by Doktor Whatson: *“Feel free to let me know your opinion in the comments below, but don’t feel in any way influenced by me. Otherwise, if you liked this video, just leave a thumbs up.”*

Nevertheless, the analysis of the co-operation videos on the same topic shows that the views on the Max Planck YouTube channel (29,700 subscribers; as of August, 2020) continue to be significantly lower than on Doktor Whatson’s own influencer channel. This is partly due to the larger community Doktor Whatson already has (179,000 subscribers; as of August 2020) and shows the value of building a larger community by subscriptions. On the other hand, there are still differences in the style of the videos. Also in terms of content, the videos set different priorities for the same topic. The entertainment factor on Doktor Whatson’s

own channel is noticeably higher, and the involvement of scientific experts in the Max Planck videos makes them more academic. A recently published study shows that videos featuring interviews are less popular, while animations tended to be more popular (Velho et al., 2020)—a result that is consistent with our study.

English-language channels are generally more successful internationally than German-language ones because the English-speaking audience is simply larger. Therefore, the English-language YouTube channel “In a Nutshell,” for example, has 13.3 million subscribers, its German-language counterpart, “Dinge erklärt—Kurzgesagt” 1.08 million subscribers—a significantly lower number (as of October 25, 2020). On the other hand, the German-language channel “Clixoom Science & Fiction” from the German TV presenter Christoph Krachten has 599,000 subscribers, but its counterpart in English has only ~13,300 subscribers (as of November 11, 2020). A similar situation applies to the English-language videos of the Max Planck Cinema series: the German-language videos achieve higher views on average—presumably because they are so closely aligned with the curricula of German high schools. But for individual topics, e.g., chaperones, the English-language video does not only achieve significantly higher view numbers than its German-language counterpart, but also consistently generates more subscriptions (for data see **Supplementary Table 2**). Against the background of the goals of the PUSH memorandum, however, the German audience is our focus.

In an information-rich world, the limiting factor in consuming content is the consumer’s attention (Davenport

and Beck, 2001). The challenge therefore is to identify the scientific topics of interest to our target group. This development is due to the fact that users rarely come across a topic by chance by casually browsing the internet—similar to leafing through a newspaper or magazine. Instead, in the majority of cases, they are specifically searching for a specific content. Precisely because the views of the “WISSEN WAS” videos are not triggered by the school curriculum, we try to better address the individual interests and preferences of the users. Against this background, the establishment of an own community gains particular importance, ensuring a certain independence from search algorithms. This could enable us, in the long run, to introduce scientific topics of relevance to our society where Max Planck scientists have achieved new insights and results, but which are not yet in the focus of our target group. In principle, however, the following must be stated: through the algorithmically determined infrastructure of the video platform, science communication has changed and is subject to new rules. As a research organization, we try to approach the role, production, and mediation logics (Geipel, 2018), which are shaped by the platform, with different concepts—and with different success, which has to be reviewed critically.

The analyzed period from January to August 2020 overlaps with a global pandemic, which may have influenced learning and online behavior. Nevertheless, we cannot see any major impact. However, we have not yet further investigated this topic.

We would also like to point out that we used YouTube's analysis software to collect the data for this paper. An external and completely independent tool with its own tracking snippet, as used on websites, is not possible for the visitor analysis on YouTube in this way.

REFERENCES

- Alexa (2020). *The Top 500 Sites on the Web*. Available online at: <https://www.alexa.com/topsites> (accessed November 11, 2020).
- Bärtl, M. (2018). YouTube channels, uploads and views: a statistical analysis of the past 10 years. *Convergence* 24, 16–32. doi: 10.1177/1354856517736979
- Beck, C. (2017). *Wissen für die Schule—die MAX-Hefte und www.maxwissen.de*. 24, 16–32. Available online at: <https://www.wissenschaftskommunikation.de/wissen-fuer-die-schule-die-max-hefte-und-www-maxwissen-de-6749/> (accessed August 26, 2020).
- Connolly, B. (2018). *Why Consumers Follow, Listen To, and Trust Influencers*. Available online at: http://www.olapic.com/resources/consumers-follow-listen-trust-influencers_article/ (accessed: October 25, 2020).
- Davenport, T. H., and Beck, J. C. (2001). *The Attention Economy: Understanding the New Currency of Business*. Watertown, NY: Harvard Business Review Press.
- Diehl, J. (2018). *Parasoziale Beziehung: Das Verhältnis zur Community*. Available online at: <https://luckyshareman.com/blog/parasoziale-beziehung-das-verhaeltnis-zur-community/> (accessed August 26, 2020).
- Engels, B., and Schüler, R. M. (2020). *Bildung Digital?—Wie Jugendliche lernen und Schulen lehren*. Available online at: https://www.iwkoeln.de/fileadmin/user_upload/Studien/IW-Trends/PDF/2020/IW-Trends_2020-02-05_Engels-Sch%C3%BCler.pdf
- Faltl, M., and Freese, J. (2017). *Influencer Marketing—Evolution, Chancen und Herausforderungen der neuen Komponente im Kommunikationsmix*. Available online at: https://issuu.com/gfm-swiss-marketing/docs/a17-1202_forschungsbrosch_re_4-17 (accessed October 25, 2018).
- Feierabend, S., Plankenhorn, T., and Rathgeb, T. (2015). *JIM 2015—Jugend, Information, (Multi-) Media*. Available online at: https://www.mpfs.de/fileadmin/files/Studien/JIM/2015/JIM_Studie_2015.pdf (accessed October 25, 2020).
- Feierabend, S., Rathgeb, T., and Reutter, T. (2019). *JIM 2019—Jugend, Information, (Multi-) Media*. Available online at: https://www.mpfs.de/fileadmin/files/Studien/JIM/2019/JIM_2019.pdf (accessed October 25, 2020).
- Geipel, A. (2018). “Wissenschaft@YouTube,” in *Knowledge in Action—Neue Formen der Kommunikation in der Wissensgesellschaft*, eds E. Lettkemann, R. Wilke, and H. Knoblauch (Wiesbaden: Springer), 137–163.
- Max-Planck-Gesellschaft (2020). *WISSEN WAS: Aktuelle Themen erklärt und wissenschaftlich beleuchtet*. Available online at: <https://www.mpg.de/wissen-was-aktuelle-themen-erklart-und-wissenschaftlich-beleuchtet> (accessed August 26, 2020).
- Morcillo, J. M., Czurda, K., and Robertson-von Trotha, C. (2016). Typologies of the popular science web video. *J. Sci. Commun.* 15, A02. doi: 10.22323/2.15040202
- Rat für Kulturelle Bildung (2019). *Jugend/YouTube/Kulturelle Bildung*. Available online at: https://www.rat-kulturelle-bildung.de/fileadmin/user_upload/pdf/Studie_YouTube_Webversion_final_2.pdf (accessed October 25, 2020).
- Statista (2020). *YouTube—Statistics & Facts*. Available online at: <https://de.statista.com/statistik/studie/id/12089/dokument/YouTube-statista-dossier/>
- Stifterverband (1999). *Memorandum zu “Public Understanding of Sciences and Humanities”*. Available online at: <https://www.stifterverband.org/download/file/fid/7574>
- Velho, R. M., Mendes, A. M. F., and Azevedo, C. L. N. (2020). Communicating science with YouTube videos: how nine factors relate to and affect video views. *Front. Commun.* 5:567606. doi: 10.3389/comm.2020.567606

DATA AVAILABILITY STATEMENT

The original contributions presented in the study are included in the article/**Supplementary Material**, further inquiries can be directed to the corresponding author/s.

AUTHOR CONTRIBUTIONS

DD carried out the statistical analysis and formulated the first text modules. CB supplemented the information on Max Planck cinema and on this basis wrote the final manuscript. Both authors contributed to the revision of the manuscript, read, and approved the submitted version.

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SUPPLEMENTARY MATERIAL

The Supplementary Material for this article can be found online at: <https://www.frontiersin.org/articles/10.3389/fcomm.2020.601168/full#supplementary-material>

- von Rotz, J., and Tokarski, K. O. (2020). "Social influencer," in *Digitale Transformation und Unternehmensführung*, eds J. Schellinger, K. Tokarski, and I. Kissling-Näf (Wiesbaden: Springer Gabler). 407–434. doi: 10.1007/978-3-658-26960-9_15
- Welbourne, D. J., and Grant, W. J. (2015). Science communication on YouTube: factors that affect channel and video popularity. *Public Understand. Sci.* 25, 1–14. doi: 10.1177/0963662515572068
- Willert, M. (2013). *Evaluation und Unterrichtseinsatz von Schulfilmen der Max-Planck-Gesellschaft. Qualifikationsarbeit für das erste Staatsexamen für Lehrerinnen und Lehrer.* Würzburg: Julius-Maximilians-Universität.

Conflict of Interest: The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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