

Annex 2: Estimated TikTok users in the UK, under the age of 13

1. Introduction and summary of best estimates

- 1.1 This Annex to the Monetary Penalty Notice (MPN) provides analysis and estimates of the numbers of people using TikTok in the UK who were under the age of 13 during the Relevant Period of 25 May 2018 to 28 July 2020. It is an updated version of Annex 2 to the Notice of Intent (NoI)¹ and incorporates responses to relevant aspects of the representations that TikTok made in response to the NoI.²
- 1.2 The analysis has been produced by the ICO's Directorate of Economic Analysis in the context of the ICO's investigation into whether, *inter alia*, TikTok infringed Article 8 GDPR by processing the personal data of children under the age of 13 without the consent of their parents during this time (INV/0441/2020, RFA0826914). We include analysis of the numbers of registered users (i.e. those with accounts) as well as more general users, as defined in paragraph 16 of the MPN.
- 1.3 In response to ICO Information Notices³ TikTok has stated that it is not possible for it to provide an accurate number or an estimate of the number of underage users in the UK,⁴ and further that it has not previously considered or produced such an estimate.⁵ As a result of TikTok's inability to provide us with this information the ICO has found it necessary to produce its own estimates, exercising analytical judgment in the following way:
 - 1.3.1 We have carefully reviewed a wide range of sources including information provided by TikTok in response to requests from the ICO and publicly available information (such as surveys of online service use).
 - 1.3.2 In light of the evidence, we have exercised judgement in deriving our best estimates as a range, reflecting that there is an inevitable degree of uncertainty, as explained in detail below. Regardless of the sources used, or the estimation approaches employed, our analysis consistently shows that there were considerable numbers of UK children under the age of 13 using TikTok during the Relevant Period.
 - 1.3.3 In our judgment, our **best estimate of underage TikTok users who were accounts holders** is that there were **between 1.1 million and 1.4 million** TikTok users who were account holders, under the age of 13 in 2020. This amounts to between 11% and 14% of the total number of children under 13 years old in UK in 2020. This best estimate is unchanged from our analysis in the NoI. As explained in detail in Section 3 below the lower end of the range is

¹ See Notice of Intent of 23 September 2022.

² See TikTok's representations in response to NOI(35259995.1) of 14 November 2022.

³ See the ICO's letter dated 29 October 2021 and Information Notice dated 10 January 2022, which asked TikTok to provide its 'current best estimate of the total number of users below the age of 13 in the UK who had a TikTok account (i) at any point during the relevant period, and (ii) broken down for each month during the relevant period'. See also ICO Information Notice dated 10 January 2022, seeking: 'Confirmation whether TikTok has at any point previously considered or produced an estimate of the total number of TikTok users below the age of 13, in the UK or elsewhere, who had a TikTok account during the period 25.05.18 to 28.07.20 ("the relevant period") or during any part of the relevant period'.

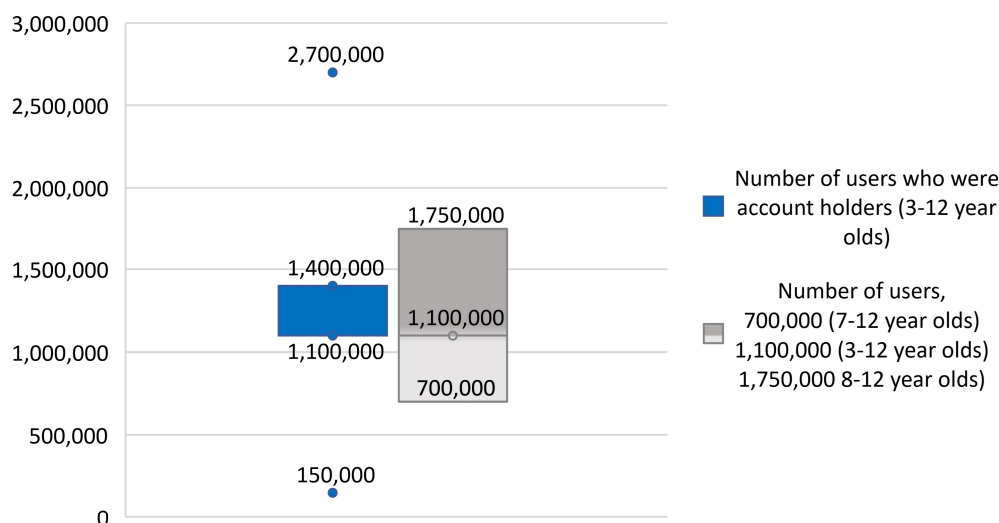
⁴ See TikTok's letter to the ICO, 8 November 2021.

⁵ See TikTok's Response to IN1, Part 2, 11 March 2022, response 1.

informed by evidence from TikTok in relation to 'badness scores', and the upper end by the Ofcom Media Literacy Tracker survey data.

- 1.3.4 Our starting point was to use data provided by TikTok on the numbers of accounts that it has deleted, in combination with survey data obtained by Ofcom, to estimate a range of between 150,000 and 1.4 million TikTok users who were account holders aged 3-12 years old in the UK. We consider that there are good reasons to believe that the lower end of this range is an underestimate, including TikTok's own internal commentary on this estimate. As to the 1.4m upper end of this range there are reasons to believe it might both understate and overstate the true position, but overall the figure is consistent with other estimates.
 - 1.3.5 We supplement this initial range with evidence from more structured sampling tests that TikTok performed during 2021 on accounts suspected to belong to children below 13 years old to produce what it termed the 'badness scores'. This suggests the number of children using TikTok below the age of 13 being in the range of 1.1 million to 2.7 million in the UK in 2020.
 - 1.3.6 This produces an overall range of between 150,000 and 2.7 million users, and a central range of between 1.1 million and 1.4 million TikTok users who were account holders, under the age of 13 in 2020, as shown in Figure 1 below.
- 1.4 Turning to the question of **underage TikTok users more generally**, our best estimate remains **between 1.1 million and 1.75 million TikTok users between 8 and 12 years old** as of March/April 2020.
- 1.4.1 As explained in detail in Section 4 below, this range is the result of the use of survey data combined with Office of National Statistics (ONS) population data. Our starting point is an estimate of between 700,000 users aged 7 to 12 in 2019, and 1.75 million users aged 8 to 12 in 2020.
 - 1.4.2 We consider that this underestimates the number of this type of TikTok users who are under 13 for the simple reason that it omits children below seven years old. Additionally, since the users group includes those who were account holders, it is reasonable to assume that the minimum number of users would be at least the same as those who were account holders. Our best estimate range therefore is 1.1 million to 1.75 million in 2020, which represents between 11% and 17% of UK children under 13 in that year.
- 1.5 These figures are also summarised for convenience in Figure 1 below.

Figure 1: Estimated number of TikTok users, below 13 years old



Source: ICO analysis, as explained in text above.

TikTok's representations

- 1.6 In its representations TikTok's central argument is that our estimates should not be adopted because the methodology and evidence that they are based on is flawed.⁶ We note that TikTok has not provided any new evidence, does not argue that our estimates are excessive, nor does it seek to deny that there were considerable numbers of TikTok users under the age of 13 during the Relevant Period.
- 1.7 TikTok reiterates its position that it is unable to provide a reliable estimate of its own, and makes a series of arguments seeking to cast doubt on our estimates. It makes specific criticisms of the sources of information that we have used, as well as more general points about the combination of information from the different sources, and the presentation of the results as a range.

ICO position

- 1.8 In Annex 2 to the Noi we explained in detail the challenges involved in estimating the number of underage TikTok account holders and users in UK, and acknowledged that, as is inherently the case with any estimate, there is a degree of uncertainty involved. However, we also explained that it is important to understand the scale of the issues and hence necessary and reasonable for us to make an estimate. The aim of our estimation was to inform our understanding of the scale rather than produce a definitive number of the number of TikTok users under the age of 13.
- 1.9 Overall, we are comfortable that our best estimate of between 1.1 million and 1.4 million TikTok users in 2020, who were children under the age of 13 and registered account holders⁷ remains reasonable. As noted above, in the absence of figures from TikTok itself, we have undertaken a wide-ranging review and expert assessment of the available evidence. The figures we have produced are our best estimates, having weighed the merits of each source, and are presented as a range to reflect the inevitable degree of uncertainty involved. Additionally, we have:

⁶ TikTok's representations, paragraphs 11.5 and 11.6.

⁷ See Noi paragraph 51.

- 1.9.1 Shared all sources considered, in order to ensure that we have transparently shared our thinking.
- 1.9.2 Set out our approach by providing detailed reasoning and, as TikTok mentions in paragraph 11.6 of its representations, by also making clear where we think findings might be over- or underestimated.
- 1.9.3 Included a list of the approaches we have considered using, and subsequently explained why we have discounted these.
- 1.10 We address TikTok’s specific points at the appropriate places in the analysis that follows, and overall **our findings demonstrate that regardless of the sources or approaches we have used, our analysis consistently shows that there were considerable numbers of UK children under the age of 13 using TikTok during the Relevant Period.**
- 1.11 The remainder of this annex is structured as follows:
- Section 2 provides background information;
 - Section 3 explains our methodology for estimating the number of TikTok account holders under 13 years old; and
 - Section 4 explains our methodology for estimating the number of more general TikTok users under 13 years old.

2. Background

Total user numbers, and appeal to children

- 2.1 It is apparent that TikTok’s total user numbers have grown very considerably in recent years, and in September 2021 it announced that it had 1 billion monthly active users worldwide.⁸ Focussing on the UK, in response to ICO Information Notices TikTok has provided figures showing that its UK user numbers grew from 2.1 million in 2018 to 17.7 million in 2020.⁹
- 2.2 The platform is also known for its appeal to children,¹⁰ and in the USA offers a ‘Kids Mode’ service to cater specifically to these users. Kids Mode is a separate service aimed at users under the age of 13 and not available in the UK, but its user numbers doubled from 10.4 million in December 2019 to 21.4 million in July 2020,¹¹ corroborating the appeal of TikTok’s services to children.
- 2.3 TikTok’s most recent Community Guidelines Enforcement Report shows that globally it has many users under the age of 13. TikTok’s own data show that between April and June 2022 it removed 20.6 million accounts for being ‘suspected to be under the age of 13’. Consistent with the growth in its user numbers there has been considerable growth in these removals over time, as shown in Figure 2 below.¹²

⁸ <https://newsroom.tiktok.com/en-us/1-billion-people-on-tiktok> (excluding the ‘Douyin’ platform offered in China).

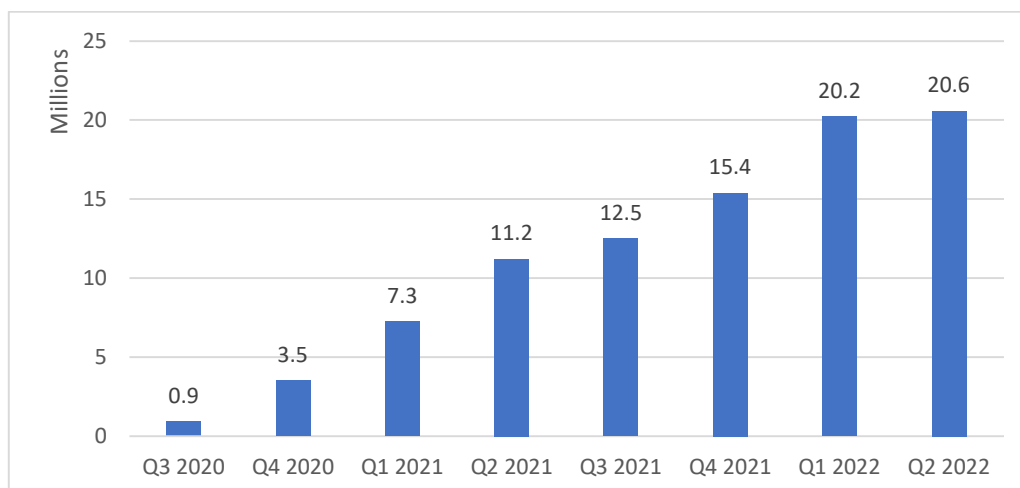
⁹ See TikTok’s response to ICO on 29 July 2022, question 5.

¹⁰ See NoI paragraph 25b.

¹¹ See TikTok response to Q4 of the ICO’s Information Notice of 1 July 2022.

¹² See <https://www.tiktok.com/transparency/en/community-guidelines-enforcement-2022-2/>

Figure 2: TikTok global account removals for being ‘suspected to be under the age of 13’



Source: ICO analysis of TikTok April 2022 Community Guidelines Enforcement Report data.

Types of users

- 2.4 As explained in paragraph 16 of the MPN, TikTok provides different features and levels of access for people using its platform, depending on whether they register and create an account. Any member of the public with online access to either TikTok or other social media platforms can view videos that have been shared publicly on TikTok. However, only users who have registered and are account holders can create and share their own videos, access features such as direct messaging and ‘following’ other account holders, and find friends through allowing TikTok access to their phonebook or Facebook account.
- 2.5 Given that TikTok users who are account holders are a subset of TikTok users more generally, we would expect the number of more general users to exceed the number of users who are account holders.¹³

Sources of evidence

- 2.6 Given the lack of specific evidence from TikTok noted above it has been necessary to supplement the information provided in TikTok’s responses to Commissioner’s Information Notices by carrying out extensive research to explore other potential sources. An appendix to this annex lists a wide range of potential sources that we have ruled out, which has left us primarily with survey evidence from Ofcom, the UK telecommunications regulator.
- 2.7 In a survey, information is gathered in relation to a sample of the population of interest. This is advantageous when it is impractical or unduly time consuming or costly to collect data in relation to the total population, and if the sample is representative then it can be used to generalise the findings from the sample to the population with a high degree of confidence. This is a commonly used approach and was, for example, relied upon in the investigation into TikTok by the Dutch Data Protection Authority.¹⁴

¹³ This expectation is to some extent confirmed in the summary estimates presented in Figure 1, bearing in mind that we consider the more general user numbers to be an underestimate.

¹⁴ See [decision to impose a fine on tiktok.pdf \(autoriteitpersoonsgegevens.nl\)](#).

2.8 In the present case, we have estimated the proportion of UK children under 13 who use TikTok, using a sample in combination with evidence on the number of UK children under 13 (the population of interest) to estimate the number of UK children under 13 using TikTok during the time period in question (25 May 2018 to 28 July 2020). We have done this in turn for TikTok users who are account holders (see Section 3), and users more generally (see Section 4).

Number of children in the UK, by age

2.9 The information on the number of children in the UK, in total, during the Relevant Period is available from the Office for National Statistics and is shown in Table 1 below.

Table 1: UK population by age in years, mid-year

	3	4	5	6	7	8	9	10	11	12	13	14	15
2018	797,183	804,654	823,204	848,681	836,008	819,824	810,807	816,988	790,130	774,368	744,924	732,484	712,733
2019	802,334	802,185	809,152	827,149	852,059	838,680	822,812	813,774	820,269	793,405	777,849	748,569	736,855
2020	783,321	807,539	806,745	813,073	830,700	855,000	841,895	826,080	817,287	823,732	796,700	781,315	752,712

Source: Office for National Statistics, series MYE2.¹⁵

Challenges in estimation

2.10 Estimating the numbers of UK TikTok users who are under the age of 13 is challenging for a number of reasons:

2.10.1 TikTok has experienced very rapid growth in usage (as the figures cited in paragraph 2.3 above show), so any estimate of TikTok user numbers can only be a snapshot at a specified point in time.

2.10.2 In surveys and other publications the term ‘user’ is often used interchangeably to refer to both those who were account holders and more general users (as described in paragraph 2.4 above). It is therefore not always clear what the evidence refers to and this has to be identified by the context it is presented in.

3. Methodology for estimating the number of TikTok account holders under 13 years old

3.1 In the absence of good evidence from TikTok as to the number of account holders under the age of 13 during the Relevant Period we have considered a variety of sources and approaches in trying to estimate this.¹⁶ In particular, we have used the following sources to inform the estimate.

Source 1: TikTok’s submissions to the ICO

3.2 In a January 2022 submission to the ICO, TikTok explained that its moderation team had deleted 152,978 user accounts during the period 6 December 2018 to 28 July 2020, on suspicion of the account holders being underage, i.e. below the age of 13.¹⁷

¹⁵ Available at: <https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/datasets/populationestimatesforukenglandandwalesscotlandandnorthernireland>.

¹⁶ For a full list of the sources we have examined, please see Appendix.

¹⁷ TikTok response to Q30 of ICO IN dated 10 January 2022.

3.3 In Annex 2 to the NoI we explained that during the period 6 December 2018 to 31 January 2020, part of the moderation and review process involved receiving notifications of underage accounts via their 'Report' function.¹⁸ We anticipated that this would understate the true position because not all underage accounts might be reported.¹⁹ We also noted that although it was possible that some of these accounts might have later been reinstated after proof of age was provided, no evidence had been presented that this was the case.

3.4 More importantly, we pointed to TikTok documents relating to account removals and explained in the NoI,²⁰ stating amongst other things that 'some accounts of users under 13 years old...are not being banned', that they 'believe it is a much larger issue' and that 'a significant percentage of our users are underage'. As a result, we judged that the figure of 152,978 was likely to be a considerable underestimate.

TikTok's representations

3.5 TikTok argues that 'instead of taking this data into account in calculating or evaluating its estimate, the ICO entirely disregarded this number', and that 'it is notable that the ICO provides no evidentiary support whatsoever for this view.'²¹

ICO position

3.6 As explained above, in Annex 2 to the NoI we reviewed the evidence on 'account removals' alongside all of the other potential sources of evidence, and we included it in the summary which is reproduced in Figure 1 above. However we placed relatively less weight on this source for the reasons already set out in paragraphs 3.3 and 3.4 above.

Source 2: Ofcom's Media Literacy Tracker 2020

3.7 An alternative estimate of underage users who were TikTok account holders can be derived from survey evidence obtained by Ofcom's Media Literacy Tracker 2020 research. The Children's Media Literacy survey, where the data we have used comes from, is part of a well established and long running programme of research that Ofcom undertakes and publishes as part of meeting its statutory duty to promote media literacy. The Children's Media Literacy survey aims to provide detailed evidence on media use, attitudes and understanding among children,²² specifically, question 22AA asked: 'And which, if any, of these apps or sites does your child ever use to post videos online or use to share videos?'. On the basis that TikTok requires a registered account for videos to be posted or shared on the platform, this can be used to provide an estimate of the number of underage users who were account holders.

3.8 This survey was conducted using an online panel and it can thus only reflect TikTok use by children who have access to the internet and use it, which to a small extent is a potential source of sampling bias. In Annex 2 to the NoI we sought to correct for this by estimating the percentage of total

¹⁸ See TikTok response to ICO Information Notice, 19 February 2020, response 4.

¹⁹ In a further response in May 2022 TikTok explained that in 2020 the number of accounts proactively reviewed on suspicion of belonging to an underage user was 207,046. There is no further explanation of whether these accounts were subsequently deleted.

²⁰ See NoI, paras 67-82.

²¹ In paragraph 11.7 of the representations

²² Ofcom is the UK's regulator of communications services and has a statutory duty to promote media literacy. See https://www.ofcom.org.uk/data/assets/pdf_file/0021/214473/childrens-and-parents-media-use-and-attitudes-survey-2-technical-report-2020.pdf, for details of survey design and sampling approach.

children, by age, who are able to go online and are users of online services using other contemporaneous data from Ofcom, and used this to adjust the estimates. Table 2 shows these figures on internet access and use by age.

Table 2: Availability and use of online services by age in years

	3	4	5	6	7	8	9	10	11	12
Able to go online	220	216	219	220	219	213	213	217	213	216
Uses online services	176	180	199	208	209	209	211	212	211	211
Total respondents	222	222	222	222	222	221	217	220	221	216
% online and user	79%	81%	90%	94%	94%	95%	97%	96%	95%	98%

Source: Ofcom Media Literacy Tracker 2020, Survey 1, Table 13 (questions QP4a and QP23). Weighted base: 2,867.²³

- 3.9 We then estimated the number of users who were account holders by multiplying the ‘population’ by age (from Table 1) by the percentage of these children who can access and use online services (from Table 2) and applied the result to the survey responses on ‘% of TikTok share videos’. This is shown in Table 3 below.²⁴

Table 3: Estimated number of UK TikTok users who were account holders below 13 years old

	3	4	5	6	7	8	9	10	11	12	Total (3-12)
Population 2020 (Table 1)	783,321	807,539	806,745	813,073	830,700	855,000	841,895	826,080	817,287	823,732	
% access & use (Table 2)	79%	81%	90%	94%	94%	95%	97%	96%	95%	98%	
% TikTok share videos	6%	5%	15%	13%	14%	16%	15%	27%	36%	38%	
Estimated TikTok users (account holders)	35,235	29,956	110,850	99,581	108,763	130,240	124,204	218,093	279,434	303,859	1,440,216

Source: Ofcom Media Literacy Tracker Nov 2020 - Jan 2021 and sources as above.²⁵

- 3.10 Summing the estimated users across ages suggests an estimate of TikTok’s 3-12 year old users who were account holders of around 1.4 million in 2020. However, we explained that these estimates are subject to the following caveats:

3.10.1 The Media Literacy Tracker survey was conducted between Nov 2020 – Jan 2021, so four months after the end of the Relevant Period (Dec 2018 – July 2020). Given what we know about growth in TikTok’s user numbers over time it is therefore likely that the estimate somewhat overstates the true position.

3.10.2 The survey question that was used as a proxy to estimate the number of registered users refers to sharing videos. A TikTok account is required to share videos on the platform, but it

²³ https://www.ofcom.org.uk/data/assets/excel_doc/0022/214474/ofcom-media-literacy-tracker-2020-survey-1-aged-5-15-data-tables.xlsx.

²⁵ Please note that there was a minor typographical error in this table when it was presented in Annex 2 of the NoI. The percentage for sharing videos on TikTok for 5 year olds is corrected to 15% (previously shown as 16%). All of the other numbers continue to be correct, including the total of 1.4 million, so this has no bearing on our final estimates.

is also possible to share TikTok videos that are public or to other social media without a TikTok account. To the extent that this is captured in the survey responses it will result in overestimation. Conversely, the survey question is formed around active use of the app and results in omitting non-active or frequent TikTok users who were account holders, for the Relevant Period. This is likely to result in underestimation.

TikTok representations

3.11 In its representations TikTok makes a number of points in relation to the use and statistical properties of the Ofcom Media Literacy Tracker:

3.11.1 It notes that the survey took place after the Relevant Period and argues that we gave no real weight to this point. It further argues that this ‘substantially overestimated’ the number of TikTok users because it did not account for the effects of possible increased social media use during the Covid pandemic.²⁶

3.11.2 It argues that ‘a random sample less than the full population is not statistically meaningful without the associated precision measures...’ and concludes that in absence of these the outcome is subject to uncertainty and unreliability.²⁷ Relatedly, TikTok suggests that the small sample size for individual age groups used in Ofcom’s Media Literacy survey may result in a margin error of 8%.²⁸

3.11.3 It argues that the survey results are biased as a result of being conducted online, biased in favour of urban areas, and that the exclusion of ‘Super Output Areas’ results in statistical inaccuracy.²⁹

3.11.4 TikTok mentions that our assumption about children who use TikTok to post and share content on the platform being a proxy for account holders is flawed because children could have used their parents’ accounts in order to post or share content and this would lead to overestimating the number of children who were TikTok account holders in the Relevant Period.³⁰

3.11.5 TikTok suggests that the compounding of some of the errors it claims would lead to even larger confidence interval, casting further doubt on the statistical significance of the estimates.³¹

3.11.6 TikTok notes that it is unclear where the Ofcom Media Literacy results in response to Question 22AA for age groups 3 and 4 years old are sourced from, along with the other results disaggregated by age.³²

ICO position

²⁶ See paragraph 11.9.1 of the Representations and paragraphs 1.2.1. and 1.2.2 in Annex 2 to the Representations.

²⁷ See paragraph 11.9.2 of the Representations, and paragraph 1.3.3 in Annex 2 to the Representations.

²⁸ See paragraphs 1.3.8 and 1.3.9 of Annex 2 to the Representations.

²⁹ See paragraphs 1.2.5, 1.2.3 and 1.2.6 in Annex 2 to the Representations respectively.

³⁰ See paragraph 11.9.3 of the Representations, and paragraph 1.3.1 of Annex 2 to the Representations.

³¹ See paragraph 1.3.10 of Annex 2 to the Representations.

³² See paragraphs 1.2.4 and 1.3.9 of Annex 2 to the Representations.

3.12 Responding to TikTok's points from paragraph 3.11 in turn:

3.12.1 As we already explained in Annex 2 to the Nol it is correct that the Ofcom Media Literacy survey took place between November 2020 and January 2021 and, given the growth in TikTok's user numbers over time is likely to overstate the number of users at earlier points in time. Although TikTok has not provided any evidence it seems reasonable to assume that Covid lockdown restrictions impacting social interaction were likely to contribute to increased user numbers. However, since the end of the Relevant Period (28 July 2020) was also subject to these social restrictions it is unclear how much higher use might have been relative to the period we are interested in, or that there would be 'substantial overestimation'. In addition, and as noted in paragraph 3.10.2 above, we also highlighted in the Nol a reason to believe this estimate will understate the number of account holders.

3.12.2 As noted above, Ofcom's Media Literacy survey findings are part of well-established research programme, which has published results since 2006.³³ This includes publication of the technical details of the methodology used, and associated details of sample sizes and precision, as TikTok's own citation of the 8% example demonstrates. However, TikTok's point about the sample sizes for individual ages is misplaced because although we presented this information for transparency we only draw conclusions in relation to the total number of underage account holders. In any case, even if our estimates were 8% lower it would make no difference to the conclusion that there were considerable numbers of underage users with registered accounts.

3.12.3 On the claims of various sources of bias:

- The fact that Ofcom's research had been conducted online was recognised in Annex 2 to the Nol, and adjusted for as explained in paragraph 3.8 above using the figures shown in Table 2.
- In relation to bias towards urban areas, Ofcom's Technical Report explains how 'rim weighting' was used to align the sample profiles to the UK population, including by urbanity. As a result we consider that reasonable steps have been taken to avoid this bias.³⁴
- On Super Output Areas (SOAs³⁵) TikTok's point is unclear. It appears to claim that all of these households have been excluded, but the Technical Report for Ofcom's Survey 1 explains that the postal sample excluded households located in SOAs which had fewer than 15% of households with children, according to the 2011 Census.³⁶ So only some households were excluded, and Ofcom explains that this was done in order to achieve as many interviews as possible within the initial fixed cost of the mailouts. Bearing in mind the trade-offs in survey design noted in paragraph 2.7 above, and that there is no reason to think the excluded children would behave differently in relation to TikTok than other children in the UK, this appears reasonable.

³³ See <https://www.ofcom.org.uk/research-and-data/media-literacy-research/childrens>.

³⁴ See https://www.ofcom.org.uk/data/assets/pdf_file/0035/196379/adults-media-use-and-attitudes-2020-technical-report.pdf, page 3. Rim weighting is a standard approach to ensuring that the sample is representative of the population of interest.

³⁵ Super Output Areas are a geographic hierarchy designed to improve the reporting of small-area statistics.

³⁶ See https://www.ofcom.org.uk/data/assets/pdf_file/0020/214472/childrens-and-parents-media-use-and-attitudes-survey-1-technical-report-2020.pdf, page 4.

- 3.12.4 In response to our choice of proxy to identify users with registered accounts, we noted in Annex 2 to the Nol that children could use a parent's or a sibling's account to share material and that this may lead to some overestimation of account holders under the age of 13, as set out in paragraph 3.10.2 above. However, this is highly speculative as TikTok has not presented any evidence as to the extent to which this is true. We also noted that to the extent that inactive or infrequent users might not be captured then estimates of underage users would be understated, but have no evidence to quantify this either. On balance it is not clear whether the figures will be under- or over-stated as a result of this, and we do not consider it a reason to disregard the evidence.
- 3.12.5 In relation to error compounding, we have addressed the 'errors' that TikTok has raised above, many of which are points that we noted when assessing the evidence and already accounted for, or are otherwise unclear or of no merit. It is also unclear precisely how TikTok considers any 'errors' would be compounded, given that some relate to the magnitude of the figures and others to their certainty.
- 3.12.6 On the source of results in response to Question Q22AA for 3 and 4 year olds, these figures are available alongside the other published results of Ofcom's Children's and Parent's Media Literacy 2020 research.³⁷ All of the Q22AA results disaggregated by age are available from the underlying raw data files, and are consistent with the aggregated figures summarised in the data tables.

Source 3: TikTok 'badness scores'

- 3.13 In Annex 2 to the Nol we explained that we had carefully reviewed TikTok's response to question 2 in its letter dated 20 May 2022 regarding 'badness scores', to consider the feasibility of using them to estimate numbers of underage users who were account holders. This indicates that:

'from August 2021, as part of its ongoing assessment of TikTok's underage moderation processes, TikTok's Trust and Safety team undertook an exercise that involved sampling a subset of UK user accounts that satisfied a specific criteria ('target population') to then calculate a 'badness' score. Please note that 'badness' is a colloquial term used internally by TikTok's Trust and Safety team to denote content that potentially violates TikTok's Terms of Service or Community Guidelines, including but not limited to suspected underage accounts.'

- 3.14 The target population that was sampled by TikTok changed over time, consisting of:

- 3.14.1 In a first period from 24 August to 5 October 2021, users who either:
- Had their profile viewed at least once during the preceding seven days (one profile view in seven days); or
 - Had published at least one video that was visible to other users, which had been viewed at least once during the preceding seven days (one video view in seven days).
- 3.14.2 In a second period from 19 October 2021 to 28 December 2021, the target population was narrowed to only those users who had one video view in seven days (i.e. only point (b) above).

³⁷ See <https://www.ofcom.org.uk/research-and-data/media-literacy-research/childrens/children-and-parents-media-use-and-attitudes-report-2021> or equivalently <https://www.ofcom.org.uk/research-and-data/data/statistics/stats21>.

- 3.15 TikTok's response to question 2 of the ICO's Information Notice of 11 April 2022 shows 'badness scores' representing the percentage of UK accounts that were sampled which it labelled as underage. These figures vary over time, with figures between 6.4% and 7.9% in the first period, and 12.4% to 15.5% in the second period.³⁸
- 3.16 TikTok noted that this analysis should not be viewed as representative of all underage users in 2021, still less for the Relevant Period, but did not explain this further.

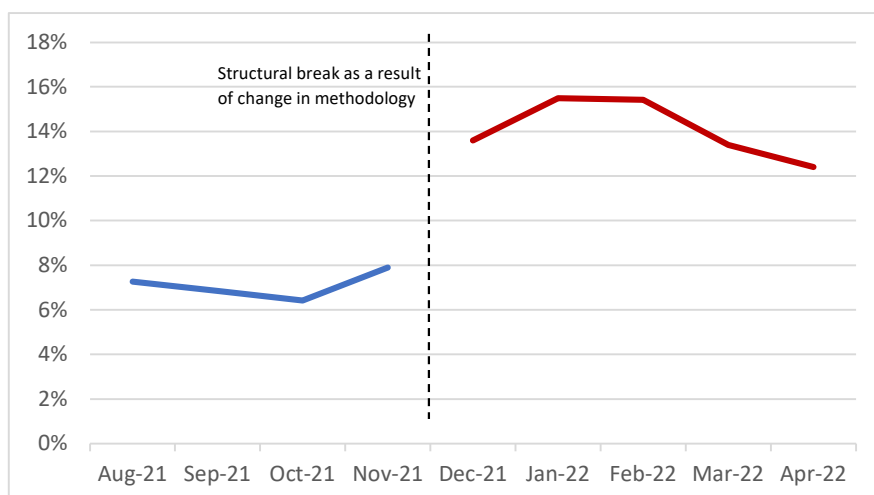
Analysis of 'badness scores' and comparability to other estimates

- 3.17 TikTok's analysis is not presented in terms of estimates of absolute numbers of underage users, but in Annex 2 to the NOI we explained that making an estimate is possible based on:
- The estimate of 17.7 million UK active users in 2020;³⁹
 - An assumption that the percentage of accounts held by underage users, as measured by the 'underage badness scores' are constant over the short-term; and
 - An assumption that the 'target population' for TikTok's sampling is representative of the more general UK population of TikTok users.
- 3.18 On this basis, taking the minimum figure of 6.4% and the maximum figure of 15.5% and applying these to the estimate of total UK account holders in 2020 of 17.7 million, the figures suggested between around 1.1 million and 2.7 million underage users who were account holders based on 2020 TikTok total account data. We noted that there were some limitations with this approach:
- 3.18.1 TikTok's sampling was conducted a year after the end of the Relevant Period, which was relevant to the assumption of underage badness scores being constant in the short term. Given what we know about the growth in the number of TikTok users who were account holders, in general the use of figures from after the Relevant Period to estimate usage during the Relevant Period would be expected to lead to overestimation. However, it is not obvious that the rate should vary over time, and while Figure 3 shows a step change between November and December 2021 (likely as a result of the change in methodology), apart from this, it is not clear that there is a trend upwards or downwards in either set of figures. In the absence of evidence to the contrary it therefore appears reasonable to assume that the underage badness scores are constant at least in the short term.

³⁸ We have considered why the results of the two sampling approaches, which represent two partially overlapping sets, differ. Based on the criteria in paragraph 3.14 above it appears that that it might be easier for TikTok to identify an account belonging to an underage child based on the content of videos posted compared to the content of profiles. This seems reasonable given that the child might provide limited profile information, or at least nothing suggesting that they are underage.

³⁹ See TikTok response to ICO Information Notice, 20 May 2022, response 3, and footnote **Error! Bookmark not defined.** above.

Figure 3: TikTok UK underage 'badness scores'



Source: TikTok's response to question 2 of the ICO's Information Notice of 11 April 2022.

- 3.18.2 As TikTok has explained, its sampling only considers accounts that are considered to be 'active' (either via profile views, publishing videos, or both, within the preceding seven days). It was unclear if this was representative of the wider underage population of TikTok accounts, and to the extent that it excludes less frequent users it could lead to underestimating the number of underage users who were account holders.
- 3.18.3 TikTok's figures show accounts that were labelled as being underage. As with previous estimates, it is possible that not all underage accounts were detected, leading the figures to be underestimates.
- 3.18.4 It is unclear what has happened with the accounts labelled as underage, but TikTok has previously argued that it is possible for labelling to happen in error and for accounts to subsequently be reinstated. We have no evidence to this effect but to the extent that it was the case it would lead to some overestimation.

TikTok's representations

- 3.19 In its Representations TikTok makes a number of points in relation to the use of the 'badness scores':
- 3.19.1 The exercise took place a year after the Relevant Period, and hence are not relevant, and in any case no consideration is given to the effects of the Covid pandemic.⁴⁰
- 3.19.2 In terms of the sampling, the 'badness scores' depended on the sampling criteria used, and the underlying sample was not nationally representative and was small, no percentages can be extrapolated and used on UK wide population.⁴¹
- 3.19.3 Individuals may have multiple accounts and this may lead to inaccurate estimates of users with registered accounts.⁴²

⁴⁰ See paragraph 11.8 of the Representations and paragraph 2.5 in Annex 2 to the Representations.

⁴¹ See paragraphs 2.2, 2.3 and 2.4 in Annex 2 to the Representations.

⁴² See paragraph 2.6 in Annex 2 to the Representations.

3.19.4 The resulting 1.1m figure is based on 2020 data not 2018 to 2020 data.⁴³

ICO response

3.20 Responding to TikTok's points in paragraph 3.19 in turn:

3.20.1 As noted in paragraph 3.18.1 above, in Annex 2 to the Nol we were clear that this evidence postdates the Relevant Period, but we demonstrated that the 'badness score' rates appear stable over time, and hence that it was reasonable to apply the rate to total account numbers from an earlier point in time. We also set out two methodological reasons as to why we would expect the overall findings to be underestimated, as noted in paragraphs 3.18.2 and 3.18.3 above. In relation to the Covid pandemic, as explained in the context of the Ofcom Media Literacy Tracker above, the Relevant period expands to July 2020 when the Covid pandemic was occurring and extended lockdowns were already in place. It follows that to the extent that social media user behaviour was driven by Covid this would also have been present in the latter part of the Relevant Period.

3.20.2 On the sampling points, it was clear from our explanation in Annex 2 to the Nol and Figure 3 above that the results depend on the approach used, and as a result we presented a range of between 1.1 and 2.7 million underage users. Turning to the representativeness of the sample, it is not clear precisely how TikTok's sampling exercise was not representative, or if it favoured a particular geographic location, or whether user behaviour would differ across different geographic locations. TikTok has explained that the sample size was 1,700-2,000 users for each of the 9 sampling exercises,⁴⁴ which is not unreasonable given the trade-off between sample size and cost noted in paragraph 2.7 above, and the lack of superior sources.

3.20.3 As to individuals having multiple accounts, this may be true to some degree, but we have no evidence as to its extent and TikTok has not provided any. We might also reasonably ask why children would have multiple accounts, such as wanting to hide content from parents and leading to potentially greater risk of harm.

3.20.4 In relation to the timing of the estimate the range of 1.1m to 2.7m is based on 2020 figures, as was made clear in Annex 2 to the Nol⁴⁵ and above.

TikTok's legacy age gate

3.21 In its responses to ICO Information Notices TikTok explains that prior to June 2017 it was possible to create an account without entering a date of birth, and that when an age gate was subsequently imposed, 5% of legacy users failed to pass through it. TikTok states that this cannot meaningfully be used to estimate the proportion of underage users more generally 'due to the very different context'.⁴⁶ In its response to ICO's Nol in May 2022 TikTok explains that the context for this particular exercise was 'age gating existing EU users, who had not previously gone through the age gate. In that context, 5% represented the approximate percentage of such existing EU users who were predicted to fail the age gate, based on a portion of UK users who had failed the age gate

⁴³ See paragraph 1.3.6 in Annex 2 to the Representations.

⁴⁴ See TikTok's response to ICO, 20 May 2022, response 2.

⁴⁵ See paragraphs 1.3, 1.3.5, 1.3.6 and 3.25 of Annex 2 to the Nol.

⁴⁶ See TikTok's response to ICO Information Notice, 1 March 2022, 11 March 2022.

under the same exercise in the UK. In that context, the 5% represented the approximate percentage of UK users who had failed the age gate (i.e., entered an age under 13). The 5% figure therefore cannot be used to estimate the number of underage users who had already passed the age gate.⁴⁷

- 3.22 In Annex 2 to the Nol we chose not to use this evidence as an alternative source, due to the limitations indicated in TikTok’s letter and because it represents only underage users who either chose not to provide an age or provided an accurate date of birth upon being asked to self-certify and were found not to meet the age requirement. It is therefore likely that these figures significantly underestimate underage users, given the wider issue of children under 13 passing through the age gate by claiming they are older than they are.
- 3.23 We nonetheless used the 5% estimate to sense-check our alternative user estimates for the Relevant Period. This required us to assume that the 5% figure remained constant over time, and we apply it to the numbers of users estimated by the information provided in TikTok’s response to ICO Information Notice.⁴⁸

Table 4: Estimated number of UK TikTok account holders below 13 years old based on self-certification of existing account holders

	2018	2020
Number of UK TikTok users	2.1 million	17.7 million
Percentage of users who failed to pass the age gate	5%	5%
Estimated TikTok accounts under 13	103,000	900,000

Source: TikTok’s response to ICO Information Notice of 29 July 2022, response 5.

3.24 We explained that these estimates rely on the

assumption that the percentage of under 13 TikTok users remained constant over time, and moreover the 5% figure is likely to represent a material underestimate in this particular context, for the reasons explained above.

TikTok representations

- 3.25 TikTok suggests that the ‘legacy age gate’ percentage cannot be used to estimate the number of children who may have already have a registered account with TikTok, because this percentage only represents the group of children who provided their actual age and failed to meet the age requirements.⁴⁹

ICO position

- 3.26 As explained above, we acknowledged TikTok’s point in paragraph 3.16 of Annex 2 to the Nol, explaining that ‘we have not used this evidence as an alternative source’ and that we have included this for the sake of completeness to sense check the findings. It is not used to estimate the broad age range, nor does it form part of our best estimates range.

Best estimate of number of TikTok users who were account holders

- 3.27 In this section we have reviewed a range of sources in order to estimate the number of TikTok users who were account holders, as well as addressed TikTok’s representations on our analysis. Source 1

⁴⁷ See TikTok’s response to ICO Information Notice, 20 May 2022, response 7.

⁴⁸ See TikTok’s response to ICO Information Notice. 29 July 2022, response 5.

⁴⁹ See paragraph 11.10.1 of TikTok’s Representations.

on account deletions suggests an estimate of around 150,000 registered users, and we have set out the reasons we believe this is likely to be an underestimate, including the issue of underreporting which are reinforced by TikTok's own internal commentary on this. Source 2 based on Ofcom data indicates around 1.4 million users who were account holders between the ages of 3-12 years old, although there are reasons to believe that this might both understate and overstate the true position.

- 3.28 In 2021, TikTok appears to have employed a more structured approach to sampling for underage accounts, by using 'badness scores', which form our Source 3. Our estimates using badness scores result in a range of 1.1 million to 2.7 million users who were account holders, which is broadly consistent with the survey evidence from Source 2. While the 'badness scores' were measured after the end of the Relevant Period, to the extent that evidence is available it indicates rates of underage users that are constant over time, meaning that it appears reasonable to apply them to account numbers from during the Relevant Period.
- 3.29 On balance, our best estimate uses the core of the two ranges set out above, indicating that there were between 1.1 million and 1.4 million TikTok users who were account holders under the age of 13 in 2020. The lower end of this range is informed by the lower end of the 'badness scores' estimate and the upper end by the Ofcom Media Literacy Tracker survey data.

4. Methodology for estimating the number of more general TikTok users under 13 years old

- 4.1 The focus of our analysis so far has been on estimating the number of users who were account holders. For completeness, and to provide wider context for our findings, in Annex 2 to the Nol we also estimated the number of children who might have used TikTok without registering for an account. Our own research and a number of studies undertaken by Ofcom around the Relevant Period provided the following further comparators:
- 4.1.1 The Children and parents: Media use and attitudes report 2019.⁵⁰ This reports 13% of 12-15 year olds sampled using TikTok, up from 8% in the 2018 report.
- 4.1.2 The Children and parents: Media use and attitudes report 2020.⁵¹ This reports 47% of children between the ages of 5 and 15 sampled using TikTok to watch videos.
- 4.1.3 The Online Video Sharing Platforms – Children Research 2020.⁵² This shows 48% of 8 to 15 year olds sampled having used TikTok in the last 12 months.

⁵⁰ See https://www.ofcom.org.uk/data/assets/pdf_file/0023/190616/children-media-use-attitudes-2019-report.pdf, page 20.

⁵¹ This figure can be seen by using Ofcom's Online Nation [Online Nation interactive dashboard](#) and clicking on the 'Children Consumer Use' button, selecting 'Sites and apps' and option '6a. Social video sites/apps used by children (aged 5-15)'.

⁵² <https://www.ofcom.org.uk/data/assets/file/0022/196411/online-video-sharing-platforms-children-research-2020-data-tables.xlsx>.

4.1.4 The Children and Parents Media Use and Attitudes Report 2020/21.⁵³ The headline results of this study report 42% of the children aged between 3 and 15 sampled using TikTok to watch content, while 23% use it to post or share content.⁵⁴

4.1.5 Insights Family survey, Jan-Mar 2021. This report indicates that the use of TikTok amongst 7-12 year olds sampled increased from 14% in October 2019 to 23% in July 2020.⁵⁵

4.2 These sources indicated a range of estimates of the percentage of children using TikTok in the UK. We noted that there are differences in the age ranges being considered (only one specifically concerns under 13s), as well as the point in time when the research was conducted and the precise questions posed in the questionnaires. It was therefore necessary to examine the data underlying each source in more detail. This is repeated in respect of each of these five potential sources in turn below.

Source 1: Children and parents: Media use and attitudes report 2019

4.3 This report is based on Ofcom's Children and Parents' Media Literacy Tracker 2019, which involved 2,343 face-to-face in-home surveys with parents of 5-15 year olds and children aged 8-15, along with 900 interviews with parents of children aged 3-4 between April and July 2019 (so within our Relevant Period).⁵⁶

4.4 In addition to the figure noted above that 13% of 12-15 year olds are TikTok users, the published data tables show 22% of 8-11 year olds reporting use of TikTok, as shown in Table 5 below.

Table 5: Percentage of TikTok users by age range in years

	8-11	12-15
TikTok users	21	47
Total respondents	96	351
% TikTok users	22%	13%

Source: Ofcom Children and Parents' Media Literacy Tracker 2019, (question QP44).
Weighted base: 486.⁵⁷

4.5 On the basis of there having been 3,295,535 children aged 8-11 in the UK in 2019 (Table 1), 22% (Table 5) of this total would suggest around 725,000 TikTok users aged 8-11 in 2019.

Source 2: Children and parents: Media use and attitudes report 2020

⁵³ See <https://www.ofcom.org.uk/research-and-data/media-literacy-research/childrens/children-and-parents-media-use-and-attitudes-report-2021>.

⁵⁴ These figures can be seen by using Ofcom's [Media Literacy interactive dashboard](#) and clicking on the 'Video sharing platforms and live streaming' button. The breakdowns by age can then be selected via drop-down menus.

⁵⁵ [Online Nation: interactive report](#) - Ofcom

⁵⁶ See detail at https://www.ofcom.org.uk/data/assets/pdf_file/0028/190576/children-media-use-attitudes-2019-annex.pdf.

⁵⁷ <https://www.ofcom.org.uk/data/assets/file/0018/161712/childrens-media-literacy-tracker-2019-aged-5-15-data-tables.csv>.

4.6 In the corresponding report the following year, Ofcom explains that its survey work was complicated by the Covid-19 pandemic and consequently split into two separate surveys, both conducted after the end of our period of interest:⁵⁸

4.6.1 Fieldwork for the first survey was completed between 6 October 2020 and 15 January 2021, and used a ‘post to web’ approach⁵⁹ with top-ups using an online panel. This survey asked questions of all children, and hence captures access to and use of the internet.

4.6.2 Fieldwork for the second survey was completed between 27 November 2020 and 15 January 2021 used an online panel and looked at how children use the internet, including use of different social media platforms. For children aged 3 to 7, their parents were recruited to answer about and on behalf of the children. For children aged 8 to 15, both the parent and child were invited to take part.

4.7 Starting with the second survey, Ofcom has published the detailed data tables that underpin its reports, with information on TikTok users by age shown in Table 6 below.

Table 6: Percentage of TikTok users by age in years

	3	4	5	6	7	8	9	10	11	12	13	14	15
TikTok users	22	24	43	43	52	48	46	78	84	95	100	90	104
Total respondents	141	153	137	153	151	149	145	146	148	143	148	148	150
% TikTok users	16%	16%	31%	28%	34%	32%	32%	53%	57%	66%	68%	61%	69%

Source: Ofcom Media Literacy Tracker 2020, Survey 2, Table 13 (question QP22a).

Weighted base: 1,912.⁶⁰

4.8 Combining the results of Table 6 with the population data from Table 1 and the internet access and use from Table 2 allowed us to derive an estimate of the number of TikTok users, as shown in Table 7 below.

⁵⁸ See https://www.ofcom.org.uk/data/assets/pdf_file/0025/217825/children-and-parents-media-use-and-attitudes-report-2020-21.pdf, page 5.

⁵⁹ This involves letters sent at random to UK households, inviting parents of children aged 3-15 to conduct the survey online.

⁶⁰ https://www.ofcom.org.uk/data/assets/excel_doc/0025/214477/ofcom-media-literacy-tracker-2020-survey-2-aged-5-15-data-tables.xlsx

Table 7: TikTok users by age in years

	3	4	5	6	7	8	9	10	11	12	Total (3-12)
% TikTok users (Table 6)	16%	16%	31%	28%	34%	32%	32%	53%	57%	66%	
Population 2020 (Table 1)	783,321	807,539	806,745	813,073	830,700	855,000	841,895	826,080	817,287	823,732	
% access & use (Table 2)	79%	81%	90%	94%	94%	95%	97%	96%	95%	98%	
Estimated TikTok users	96,895	102,708	226,978	214,100	269,317	260,480	259,699	425,282	442,876	534,567	2,832,903

Sources as above.

- 4.9 Summing these figures suggests around 2.83 million UK TikTok users between the ages of 3 and 12 in 2020, albeit on the basis of some evidence postdating the Relevant Period.

Source 3: Online Video Sharing Platforms – Children Research 2020

- 4.10 Ofcom’s Online Video Sharing Platform research for children was conducted between 30 March 2020 and 2 April 2020, so within the Relevant Period, and made use of an online panel. Its findings in relation to TikTok users by age are shown in Table 8 below.

Table 8: TikTok users by age in years

	8	9	10	11	12	13	14	15
TikTok users	28	45	60	68	79	73	63	67
Total respondents	125	130	130	128	126	127	123	117
% TikTok users	22%	35%	46%	53%	63%	57%	51%	57%

Source: Ofcom Online VSP Children’s Research 2020, Table 8. Weighted base: 1,006. Question: ‘In the last 12 months, have you visited or used any of the following websites or apps that you can upload videos to and watch what others have uploaded too?’⁶¹

- 4.11 As with the previous source, since these figures were derived from an online panel, in order to inform an estimate use of TikTok amongst the general population they require adjustment to account for internet access and use. In the absence of other data we again used the figures shown in Table 2 above to do this.⁶²

⁶¹ [Ofcom Video-Sharing Platforms children research March 2020 – data tables](#)

⁶² It is worth noting that there is a discrepancy in the timing of the fieldwork between Sources 3 and 4, with the former conducted between 6 October 2020 and 15 January 2021 (after our period of interest), and the latter between 30 March 2020 and 2 April 2020 (within our period of interest). It would be desirable to have internet availability and use figures from the same point in time as TikTok usage, but these are not available. In the absence of other evidence this assumption appears reasonable given that more general evidence indicates that internet use is stable over time amongst younger users and has been for some years. While overall internet use is growing, this is driven by the 55+ age group. See https://www.ofcom.org.uk/_data/assets/pdf_file/0013/220414/online-nation-2021-report.pdf, page 11.

Table 9: TikTok users by age in years

	8	9	10	11	12	Total (8-12)
% TikTok users (Table 8)	22%	35%	46%	53%	63%	
Population 2020 (Table 1)	855,000	841,895	826,080	817,287	823,732	
% access & use (Table 2)	95%	97%	96%	95%	98%	
Estimated TikTok users	181,121	283,367	367,403	414,537	504,512	1,750,941

Sources as above.

- 4.12 Summing these figures suggests around 1.75 million UK TikTok users between the ages of 8 and 12 during 2020.

Source 4: Children and Parents Media Use and Attitudes Report 2020/21

- 4.13 This report is based on a number of sources, and examination reveals that the source of the figures on TikTok use is the Children's and Parents' and Media Literacy Tracker 2020 (Source 2 above). The difference between the headline results in the two studies is simply the difference in the age ranges reported.⁶³ The same source shows that 42% of children aged between 3 and 15 watch videos on TikTok, whereas for children aged between 5 and 15 the figure is 47%. As a result, this report was not considered further as a source of information.

Source 5: Insights Family survey, Jan-Mar 2021

- 4.14 The Insights Family Jan – Mar 2021 report provides evidence for 7-12 year olds. It provides monthly percentage use of TikTok by the sample surveyed. We multiplied these percentages with the ONS total 7-12 year old population data for 2019 and 2020 respectively, as shown in Table 10 below.

Table 10: Estimated number of TikTok users 7-12 years old

Month/Year	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20
Number of 7-12 year olds	4,940,999	4,940,999	4,940,999	4,994,694	4,994,694	4,994,694	4,994,694	4,994,694	4,994,694	4,994,694
% TikTok users	14%	17%	15%	16%	15%	17%	18%	21%	19%	23%
Estimated TikTok users	691,740	839,970	741,150	799,151	749,204	849,098	899,045	1,048,886	948,992	1,148,780

Source: *Online Nation: Interactive Report 2021, Insights Family Survey, Question 7. Use of TikTok, Snapchat and Instagram by month (7-12 year olds)*.⁶⁴

- 4.15 This indicates that the total number of 7-12 year old TikTok users has been growing over the period reported in the survey, from around 700,000 in October 2019 to around 1.1 million in July 2020 (the end of the Relevant Period).

Best estimate of TikTok user numbers

⁶³ <https://www.ofcom.org.uk/data/assets/file/0022/196411/online-video-sharing-platforms-children-research-2020-data-tables.xlsx>.

⁶⁴ <https://www.ofcom.org.uk/research-and-data/internet-and-on-demand-research/online-nation/interactive>, see 'Children', 'Consumer use', 'Sites and apps' '7-12 year olds', '7. Use of TikTok, Snapchat and Instagram by month (7-17 year olds)'. Kids Insights survey collects data via an online survey, including at least 410 responses of kids aged 3-18 every single week, and 21,300 annually. The sample is nationally representative of age and gender.

4.16 In Annex 2 to the NOI we explained that in deciding how much weight to place on the different sources of evidence it was relevant to consider:

- The robustness of the evidence;
- The appropriate time period; and
- The appropriate age range.

4.17 Applying the first of these criteria the most robust source of evidence appeared to be Source 2, Ofcom's *Children and parents: Media use and attitudes report 2020*, which is based on nearly 2,000 individuals. However, the fieldwork underpinning these figures was conducted after the Relevant Period. Conversely Source 1, the *Children and parents: Media use and attitudes report 2019* is based on fieldwork within the Relevant Period but is based on a relatively small sample of 486 individuals. It also only presents results as age groupings, that do not correspond to the particular age range in issue.

4.18 Source 3, the *Online Video Sharing Platforms – Children Research 2020*, uses a smaller sample size of just over 1,000, so not as large as Source 2 but more than twice that of Source 1. The fieldwork was conducted within the Relevant Period, and the results are presented by age, although only from 8 years upwards. Source 5, the *Insights Family survey* offers the benefit of focusing on 7-12 year olds, within the age band of interest, while it covers late 2019 and 2020, it does not cover the whole Relevant Period.

4.19 On balance we considered that Source 3 and Source 5 were likely to be the most reliable and informative. Source 3 is derived from a larger sample and hence more robust than Source 1, although not as robust as Source 2 it relates to the Relevant Period. This resulted in an estimate of the number of UK TikTok users under the age of 13 during the Relevant Period of around 1.75 million, which is a conservative estimate as it omits children below 8 years old. Source 5 also covers the Relevant Period and results in a range of 700,000 to 1.1 million children between 7-12 years old for the period of October 2019 to July 2020. Overall we considered that our best estimate was a range of 700,000 to 1.75m more general underage users of TikTok in the UK during the Relevant Period, although both the lower and upper ends of this range will be understates by virtue of omitting children under seven and eight years respectively.

4.20 We can further inform our estimate of user numbers by considering the findings around users who were account holders from Section 3. To the extent that the latter is a subgroup of the former, we explained that we could reasonably assume that the lower end of user numbers would be at least at the same level as that of users who were account holders. Therefore, we revised our best estimate of users in 2020 to 1.1 million to 1.75 million.

TikTok representations

4.21 In its representations TikTok made some limited points about this estimate, as follows:

4.21.1 It notes that the estimated 1.7m users relates to the latter part of the Relevant Period.⁶⁵

⁶⁵ See paragraph 1.3.7 in Annex 2 to the Representations.

4.21.2 It suggest that the Online Video sharing Platforms – Children Research 2020 cannot be relied upon because the sample size is small.⁶⁶

4.21.3 It suggests that one of the interpretations of Question 7 in the Insights Family survey may have prompted children who casually view videos or content on others’ accounts to respond they also ‘use’ TikTok and therefore concludes that this data is ‘meaningless’.⁶⁷

ICO position

4.22 Responding to these points in turn:

4.22.1 We agree that the estimated 1.7m users refers to 2020, as we explained in Annex 2 to the Nol and have repeated in paragraph 4.20 above.

4.22.2 As set out above and in Annex 2 to the Nol the Online Video sharing Platforms – Children Research 2020 sample size is smaller than some of the other available surveys at 1,000 respondents. However, as we have explained this source has other merits relative to the others and in the absence of other evidence we consider it reasonable to use as a source.

4.22.3 We agree that some children may have responded ‘yes’ to whether they use TikTok, meaning that they use it on others’ accounts. However, since we have included this source in considering the number of users of TikTok rather than the number of account holders (which we addressed in Section 3 above) the relevance of TikTok’s point is unclear.

⁶⁶ See paragraph 3.3 in Annex 2 to the Representations.

⁶⁷ See paragraph 3.4 in Annex 2 to the Representations.

Appendix: Further sources examined to inform number of UK TikTok account holders under 13 years old

Below we list further sources we have researched, in addition to the ones discussed above, in order to source evidence that would help us estimate the number of TikTok users and TikTok users who were account holders for the Relevant Period. We have not identified robust or usable evidence in any of these sources, therefore we have not included them in the analysis.

Organisations focused on children

NSPCC

- Provides advice to parents on protecting their children on TikTok but does not have any data on users under 13 years.

The Children's Society

- Produces 'The Good Childhood report' every year. For our purposes, the relevant reports are the 2018 and 2019 ones. Neither mention TikTok.⁶⁸

Childline

- Provides advice on staying safe on TikTok but does not have any data on under 13 users.

Qustodio (parental control tool)

- Produced a 2020 annual report on children's digital habits,⁶⁹ looking at children aged 4-15 years old, including in the UK and mostly within our Relevant Period.
- Finds that 17.7% of the sample use TikTok in the UK. However, since this includes 14 to 15-year-olds, less relevant than other sources used.

Academic papers and surveys

JSTOR

- No papers found with data on TikTok users under 13.
- One research report covering data and privacy concerns with TikTok that affect all users, not just those under 13.⁷⁰

Google Scholar

- No papers found with data on TikTok users under 13 in the UK.
- Papers using sample of households in Melbourne⁷¹ and pre-teens in Australia and Uruguay.⁷²

Market research companies

- The Insights Family UK; Family, Kids and Youth; CHILDWISE.
- These are market research companies focusing on children that Ofcom has used in the past.
- There was no research on under 13 users of TikTok available publicly from them, other than what has fed into Ofcom reports.

Surveys of parents

- There is data on parents' concerns and other thoughts about their children's use of the internet,⁷³ but no data specifically on the use of TikTok by under 13s.

Other public sector organisations

- Ofcom: No information on complaints about use of social media.
- Citizens Advice: No information on children under 13 having accounts on TikTok.

Alternative approaches - statistics on other social media

⁶⁸ https://www.basw.co.uk/system/files/resources/thegood_childhood_report_2018_0.pdf.

⁶⁹ [Qustodio annual report on children's digital habits | Qustodio](https://www.qustodio.com/annual-report).

⁷⁰ <https://www.jstor.org/stable/resrep26120.7>.

⁷¹ [Research Perspectives on TikTok & Its Legacy Apps | From Musical.ly to TikTok: Social Construction of 2020's Most Downloaded Short-Video App | Savic | International Journal of Communication \(ijoc.org\)](#).

⁷² [Microsoft Word - 30533-74090-1-LE.docx \(semantic scholar.org\)](#).

⁷³ [Parents struggle to handle children's tech habits - BBC News](#).

- In the absence of the data we are interested in, we've considered utilising data that shows how TikTok users also use other social media platforms, primarily YouTube and Facebook. If we could source user data for children under 13 years old for other platforms, we could then estimate the number of accounts for Tik Tok. We were not able to find number of accounts data for other platforms either.
- Searches were carried out for data on under 13 users of YouTube, Facebook, Instagram and Musical.ly – no better data sources were found than for TikTok.
- There was a report by the British Phonographic Industry, which found that 73% of 8–11-year-olds used YouTube per week in 2017.⁷⁴ This is outside our Relevant Period.
- Searched UK longitudinal studies
 - Avon Longitudinal Study of Parents and Children had a question on whether respondent has page or profile on YouTube / frequency of usage. However, respondents were 19+ and study was carried out in the 1990s.
 - Understanding Society COVID-19 Study 2020 had questions on Instagram and Facebook, but the youngest participant was 16.

⁷⁴ <https://www.bpi.co.uk/media/2857/bpi-era-insight-session-gen-z-meet-the-young-millennials-jun-2017.pdf>.