

CONTENT WARNING: EATING DISORDERS, SELF-HARM, SUICIDE.

Look Like

# YOUTUBE'S ANOREXIA ALGORITHM

How YouTube recommends eating disorder videos to young girls in the EU





The Center for Countering Digital Hate works to stop the spread of online hate and disinformation through innovative research, public campaigns and policy advocacy.

Our mission is to protect human rights and civil liberties online.

Social media platforms have changed the way we communicate, build and maintain relationships, set social standards, and negotiate and assert our society's values. In the process, they have become safe spaces for the spread of hate, conspiracy theories and disinformation.

Social media companies erode basic human rights and civil liberties by enabling the spread of online hate and disinformation.

At CCDH, we have developed a deep understanding of the online harm landscape, showing how easily hate actors and disinformation spreaders exploit the digital platforms and search engines that promote and profit from their content.

We are fighting for better online spaces that promote truth, democracy, and are safe for all. Our goal is to increase the economic and reputational costs for the platforms that facilitate the spread of hate and disinformation.

If you appreciate this report, you can donate to CCDH at <u>counterhate.com/donate</u>. In the United States, Center for Countering Digital Hate Inc is a 501(c)(3) charity. In the United Kingdom, Center for Countering Digital Hate Ltd is a non-profit company limited by guarantee. This report investigates YouTube's video recommendation system to 13-year-olds based in the EU. It follows CCDH's earlier report, YouTube's Anorexia Algorithm, which investigated YouTube recommendations for 13-year-olds based in the US.<sup>1</sup>

Content Warning: Eating Disorders, self-harm, suicide

# **Table of Contents**

E	kecutive Summary	5
1.	YouTube claims it age restricts or removes eating disorder content	6
2.	YouTube recommends eating disorder videos to EU teens	7
3.	YouTube is only applying crisis resource panels in 2 out of 27 EU countries	8
	YouTube displayed crisis resource panels on searches in just two EU countries tested	9
	YouTube displayed crisis resource panels on videos in just two EU countries tested	10
	YouTube isn't showing eating disorder crisis panels to an estimated 224m EU users	11
4.	Examples of harmful content recommended to EU-based 13-year-olds	13
	Example 1: ED WIEIAD (Eating Disorder What I Eat in A Day)	13
	Example 2: Thinspo (Thinspiration)	14
	Example 3: ABC Diet (Anorexia Boot Camp Diet)	15
	Example 4: ED WIEIAD (Eating Disorder What I Eat In A Day)	16
5.	User comments on videos encourage disordered eating	17
6	YouTube profits from ads on harmful eating disorder content	19
	Example 1: Salesforce	19
	Example 2: Hydepark Environmental	20
7.	YouTube fails to act on 79% of harmful eating disorder videos	21
8.	Recommendations	22
A	opendix: Methodology	24
	How we set up ten simulations of YouTube's recommendation system	24
	How we ran the ten simulations of YouTube's recommendation system	24
	How we analyzed and categorized video recommendations	25
	How we tested YouTube's action on harmful content	27
R	eferences	. 29

# **Executive Summary**

# This study examines YouTube video recommendations to teenage girls in the EU

- For this study, researchers repeated the experiment of loading video recommendations shown to a fictional Ireland-based 13-year-old user watching a video about eating disorders for the first time.<sup>ii</sup>
- We analyzed a total of 100 recommendations collected using this approach.

# Harmful videos were recommended to teens despite breaching YouTube's own policies

- Instead of diverting 13-year-olds away from eating disorder content, our analysis shows that YouTube recommends harmful videos. Out of 100 recommendations:
  - o 1 in 3 (33) were for harmful eating disorder content<sup>™</sup>
  - Nearly 3 in 4 (72) were for content about eating disorders or weight loss<sup>iv</sup>
- Harmful recommended videos that breached YouTube's policies include thinspiration and vlogs on extreme diets such as the "Anorexia Boot Camp" diet.<sup>v</sup>
- YouTube failed to remove, age-restrict or label 22 of 28 videos (79%) reported with an EU account, despite claiming to do so in its DSA risk assessment.<sup>vi</sup>
- Ads for brands like Salesforce appeared next to harmful eating disorder content.vii

# YouTube is only applying crisis resource panels in 2 out of 27 EU countries

- In its DSA risk assessment, YouTube claims to add "crisis resource panels" next to eating disorder content to direct users to resources such as helplines.<sup>viii</sup>
- We found the panels are only displayed in 2 out of 27 EU countries, leaving 224m YouTube users without access to this feature.<sup>ix</sup>

# YouTube mitigation measures to protect minors must be improved

- YouTube must apply consistent and effective mitigation measures to protect minors from harmful content.
- The European Commission should consider these findings in light of its earlier request for information to YouTube in 2023 on protecting the health of minors.<sup>×</sup>

# Regulators must work with stakeholders to improve transparency reporting in the DSA

- Our findings expose a gap between YouTube's DSA risk assessment and reality.
- The European Commission should require platforms to submit more detailed DSA risk assessments and consider setting a clear standard to that effect.

# 1. YouTube claims it age restricts or removes eating disorder content

YouTube claims to remove or age-restrict eating disorder content that could be harmful.<sup>xi</sup> However, the platform's algorithm remains largely opaque, making it difficult to verify these policy claims without impact studies like this one. Our report shows that YouTube is not enforcing their policies effectively.

# YouTube claims that it removes harmful eating disorder content

In April 2023, YouTube updated its policies to prohibit a wider range of eating disorder content.<sup>xii</sup> The platform now claims to remove the following content, which we refer to as "harmful eating disorder content" throughout this report:

- "Content promoting or glorifying...eating disorders" xiii
- "Instructions on how to... engage in eating disorders"xiv
- "Content about eating disorders that feature imitable behavior" including,
  "disordered eating behaviors, such as purging after eating or severely restricting calories" and "weight-based bullying in the context of eating disorders"<sup>xv</sup>

## YouTube claims it age-restricts eating disorder content

YouTube's updated policies also introduced age restrictions on videos relating to eating disorders.<sup>xvi</sup> Under the policy, certain videos about eating disorders that contain "educational, documentary, scientific or artistic context" or discuss "disordered eating behaviors in the context of recovery" will not be available to viewers under 18.<sup>xvii</sup>

# YouTube claims it promotes "responsible" and "authoritative" recommendations

Outside of its specific policies on eating disorder content, YouTube claims that its video recommendations are "responsible", and that the platform takes the "additional step" of recommending "authoritative" videos on themes such as medical and scientific information, with more authoritative videos receiving greater prominence in recommendations.<sup>xviii</sup>

#### YouTube recognizes that weight loss content can harm teens

YouTube claims it safeguards teen users against repeat recommendations for "content that compares physical features and [...] idealizes specific fitness levels or body weights".<sup>xix</sup> YouTube acknowledges that a single video may be harmless but "could be problematic for some teens if viewed in repetition".<sup>xx</sup> For these reasons, YouTube claims to have started limiting repeat recommendations for such videos in the US and promised to include more countries into 2024.<sup>xxi</sup>

# 2. YouTube recommends eating disorder videos to EU teens

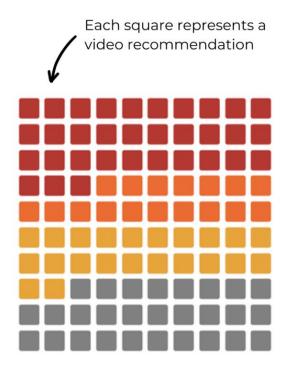
YouTube is recommending harmful eating disorder videos to accounts with a stated age of 13, according to our study simulating recommendations served to children in the EU.

To study YouTube's recommendation algorithm, we created a new YouTube account posing as a 13-year-old girl based in Ireland. We then analyzed the first ten videos that YouTube recommended to the account next to ten known eating disorder videos, placing each of the total 100 recommendations into one of the four following categories:

- Harmful eating disorder content
- Other eating disorder content
- Weight loss content
- Other content unrelated to eating disorders or weight loss

Our analysis of 100 recommendations made to a 13-year-old YouTube account found that:

- 1 in 3 (33) were for harmful eating disorder content breaching YouTube's policies
- Almost 3 in 4 (72) were for content related to eating disorders or weight loss.





# 3. YouTube is only applying crisis resource panels in 2 out of 27 EU countries

YouTube uses what it calls "crisis resource panels" to connect users who may be at risk to third party support services, such as eating disorder or suicide prevention charities.

YouTube says these panels "may" appear in two places:

- "When you watch videos on certain topics such as suicide, self-harm or eating disorders."xxii
- "In your search results, when you search for topics related to certain health crises or emotional distress."xxiii

This example of a crisis resource panel appeared on a video about eating disorders when YouTube was accessed from France. It states: "You are not alone" in French and goes on to include relevant details for an eating disorder hotline based in France.



We found that crisis resource panels only appeared when tests were carried out in 2 out of 27 EU countries: France and Germany. When accessed from the remaining 25 countries, the panels didn't appear at all: videos displayed no crisis panel and search terms did not prompt a crisis resource panel "Pause Page".

This is despite the fact that, in its first DSA mandated public transparency report, YouTube emphasized the platform's use of crisis resource panels to address health risks, describing them as an "important part of the suite of health products on YouTube". <sup>xxiv</sup>D

#### How we tested YouTube's use of crisis resource panels across the EU

In order to investigate YouTube's application of crisis resources panels to eating disorder videos and searches across the EU, we carried out 10 tests of the policy in each of the 27 EU countries, for a total of 270 tests of the policy.

In each country, these ten tests comprised of five tests of searches for eating disorder terms and accessing five known eating disorder videos, in each case recording whether or not a crisis resource panel was applied to the video or search results.<sup>xxv</sup>

The tests showed consistent results by country: in France and Germany, crisis panels showed up in all ten tests, whereas in the remaining 25 countries, the panels did not appear across all ten tests.

#### YouTube displayed crisis resource panels on searches in just two EU countries tested

In an example of a keyword search we tested, the following crisis resource panels appeared when searching for the term "thinspo" from France and Germany. In both instances, the user is directed towards local resources for eating disorders. YouTube describes this type of crisis resource panel as a "Pause Page", giving users the option to click through and view search results.<sup>xxvi</sup>

However, the same search term did not yield a "Pause page" with crisis resources when YouTube was accessed from any of the following countries: Austria, Belgium, Bulgaria, Croatia, Czechia, Denmark, Estonia, Finland, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Cyprus, Romania, Slovakia, Slovenia, Spain and Sweden. Instead, the results of the search were immediately visible.

thinspo		XQ	
	About these results (i)		
		Vous n'êtes pas seuls	
	Si	Si vous ou une personne de votre entourage traversez une période difficile, parlez-en à quelqu'un aujourd'hui.	
	Fédération Française Anorexie Boulimie (consultez		
		📞 Appeler 09 69 325 900	
		Appel non surtaxé - Service anonyme	
		Les résultats suivants peuvent concerner les troubles du comportement alimentaire. Afficher tout de même	
thinspo		XQ	
	About these results (i)		
		Du bist nicht allein	
		Hier kannst Du Hilfe finden.	
		BZgA - Essstörungen.de	
		Kostenlos · Vertraulich · Beratungsmöglichkeiten siehe Webseite	
		Die folgenden Ergebnisse könnten mit Essstörungen zusammenhängen. Trotzdem zeigen	

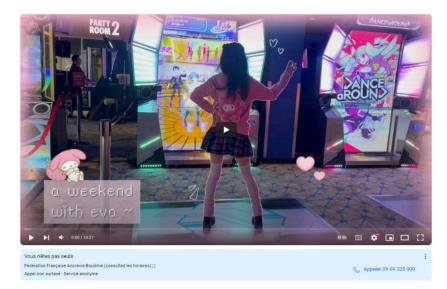
#### YouTube displayed crisis resource panels on videos in just two EU countries tested

The screenshots below display how crisis resource panels appeared on a video about an eating disorder diet when accessed when France and Germany. In both cases, a blue box is displayed beneath the video, diverting the user to local resources for eating disorders.

However, YouTube did not display a panel on the same video when the platform was accessed from any of the following countries: Austria, Belgium, Bulgaria, Croatia, Czechia, Denmark, Estonia, Finland, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Cyprus, Romania, Slovakia, Slovenia, Spain and Sweden.



Du bist nicht allein BZgA - Essstörungen.de 🖉 Kostenlos - Vertraulich - Beratungsmöglic



#### YouTube isn't showing eating disorder crisis panels to an estimated 224m EU users

YouTube's inconsistency in displaying crisis resource panels is leaving an estimated 224 million EU users without access to this safety feature, according to CCDH estimates.

To estimate the total number of YouTube users across the EU that aren't currently being served with crisis resource panels on eating disorder content, researchers combined user data by country with the results of our own tests on the presence of crisis resource panels. The figures on YouTube users were compiled by the analytics company Kepios based on YouTube's advertising audience of users aged 18 and over in each country.<sup>xxvii</sup> The data on crisis resource panels is based on our own tests, which showed that panels only appeared in 2 out of 27 EU countries. The following table displays this data for each EU country.

Country	Crisis resource panels displayed?	Number of YouTube
-		Users
Austria	No	7,320,000
Belgium	No	9,170,000
Bulgaria	No	4,440,000
Croatia	No	2,790,000
Czechia	No	8,050,000
Denmark	No	4,720,000
Estonia	No	1,040,000
Finland	No	4,460,000
France	Yes	50,700,000
Germany	Yes	67,800,000
Greece	No	7400000
Hungary	No	7,290,000
Ireland	No	4,010,000
Italy	No	42,800,000
Latvia	No	1,460,000
Lithuania	No	2,100,000
Luxembourg	No	No data
Malta	No	No data
Netherlands	No	15,000,000
Poland	No	27,900,000
Portugal	No	7,430,000
Cyprus	No	No data
Romania	No	13,300,000

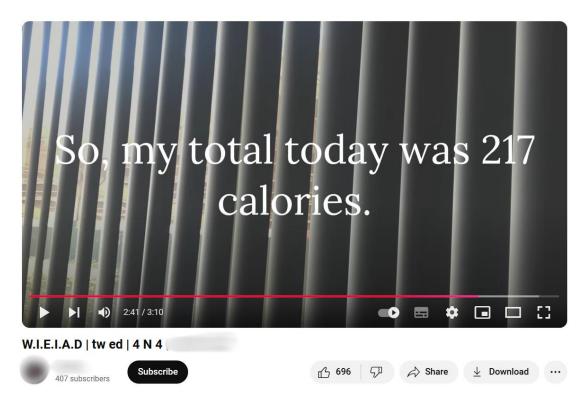
Slovakia	No		4,160,000
Slovenia	No		1,630,000
Spain	No		39,700,000
Sweden	No		8,530,000
TOTAL users without crisis resource panels			224,700,000
		TOTAL EU users	343,200,000

# 4. Examples of harmful content recommended to EU-based 13-year-olds

This section contains examples of videos classified as harmful eating disorder content that were recommended to an account appearing to belong to a 13-year-old girl based in Ireland during our testing. Videos classified this way were judged by researchers to breach YouTube's policies on eating disorder content.

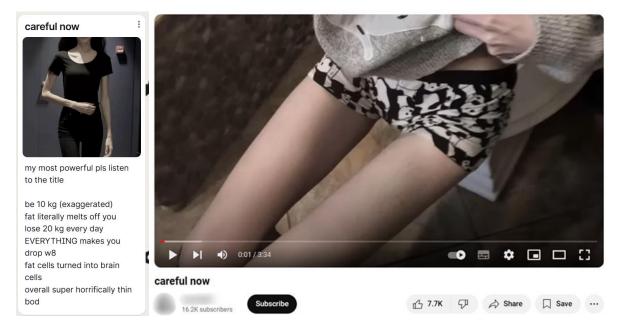
## Example 1: ED WIEIAD (Eating Disorder What I Eat in A Day)

This video contains the terms "W.I.E.I.A.D" and "ed" in its title, meaning "what I eat in a day" and "eating disorder".xxviii The user explains that they're going to show what they eat on a "high restriction day". They give themselves a "calorie budget" of 250 calories and at the end of the day, they have only had 217. General guidelines suggest calorie intake should not fall below 1,200 a day in women or 1,500 a day in men, nor should it dip below 1,200 in teens.<sup>xxix</sup>

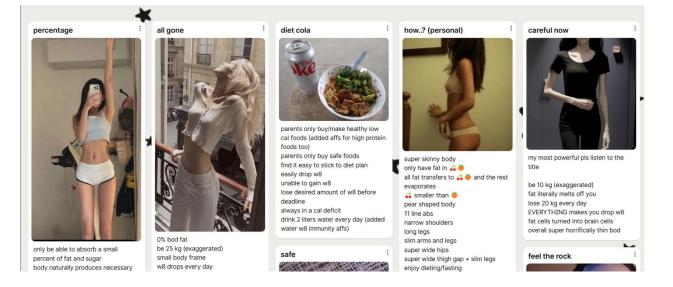


#### Example 2: Thinspo (Thinspiration)

This video showed a static image of extremely thin legs and provided a link to an external website called Padlet, pictured to the left of the screenshot of the YouTube video below. Clicking on the Padlet link shows a list of the alleged benefits of watching the video, one of which is a "super horrifically thin bod". It also displays an image of a skeletal body.



Accessing the Padlet for this video also shows the alleged benefits of all the other videos made by this user. They include wishes that "parents always buy safe foods", for "0% body fat", "super skinny body", and "body naturally produces necessary minerals".



# Example 3: ABC Diet (Anorexia Boot Camp Diet)

In the following video, a user details their second day on the anorexia boot camp diet (ABC diet), which is a 30-day food regime which imposes daily calorie limits of 0-500 calories and is intended to induce anorexia.<sup>xxx</sup> The ABC diet can lead to malnutrition, muscle loss, hair loss, a weakened immune system, and potential long-term damage to vital organs.<sup>xxxi</sup>In the video, the user says she ate under 500 calories that day. She also shows the camera extreme "thinspo" images and explains that she printed them out at home when her parents were not looking.



# Example 4: ED WIEIAD (Eating Disorder What I Eat In A Day)

The video contains the terms "WIEIAD" and "ed" in the title and shows a user with an eating disorder throughout a day of highly restricted eating.<sup>xxxii</sup> The user has tea and two crackers for breakfast and an egg with half a packet of ramen for dinner. Before eating one serving of ice cream and one low calorie popsicle tube, she estimated her calorie intake for the day was at 190. She also shares that she eats lifesaver mints to suppress her hunger.



## 5. User comments on videos encourage disordered eating

Videos recommended to the 13-year-old account we created for testing frequently carried comments that emphasized the role of the videos in worsening users' disordered eating as well as comments in which users romanticized disordered eating.

For example, on a 'thinspo' video compilation, multiple users commented that they were relapsing or that it was time to starve themselves again. One user said they had "just recovered" and then updated to say "nvm I literally relapsed".



On another video documenting an extreme "what I eat in a week" diet, a user who described themself as a 15-year-old trying to recover from an eating disorder commented to say that the video had upset them to the point of crying when it been recommended in a "For you" panel on YouTube. They also asked the uploader not to spread "harmful content".



#### 3 months ago (edited)

Please think about others when you are doing this content I am 15 and I am trying soo hard to recover, you chanel appared in my for you page and y spent all afternoon before my birthaday crying. Recovery is hard but at also is the best choice, you ed is not your friend and you need to realise that you deserve to be heald please try you life worth more than a skiny body. And if you dont want to recover please dont spread harmfull content. Please be strong

On another video compilation of "vent" TikToks that featured some clips glorifying eating disorders, several users shared in the comments that they wish they had anorexia, that they don't want to get better, or that they want to relapse.



I just wanna relapse, it might make no sense but I never got to the weight I wanted to be at and just limiting calories a smaller amount isn't working, I want to go back to being able to easily not eat for a week straight and loose weight fast

凸1 切 Reply

On a 217 calorie "what I eat in a day" video with a coded abbreviation for anorexia in the title, another user commented that they stopped starving themselves and recovered a year ago but that ever since they saw the video they've started purging again.

#### 2 months ago

I stopped starving myself and recovered for a year now but i wanna go back so bad

└── 125 🖓 Reply

#### ∧ 21 replies

2 months ago

same it's really addicting and people that have never had an eating disorder dont understand the rush you get when you're starving

佔 48 57 Reply

2 months ago

yess ever since I saw this video I've gone back into purging this is how my relapses always happen 😄 purging the n complete starvation

\_\_\_\_\_ 14 🖓 Reply

# 6. YouTube profits from ads on harmful eating disorder content

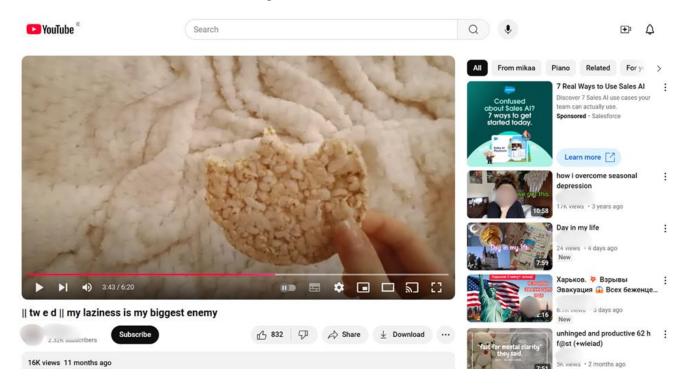
Our research also indicates that YouTube is profiting from ads displayed near harmful eating disorder content, including ads for brands such as Salesforce and Hydepark Environmental.

Accessing YouTube from Ireland, researchers loaded videos and captured examples of ads shown near them.<sup>xxxiii</sup> The example ads in this section were displayed near content that was assessed by researchers to breach YouTube's policies on eating disorders.

**Note on advertisers:** This section is not intended to criticize brands whose ads may be served on content without their knowledge or control.

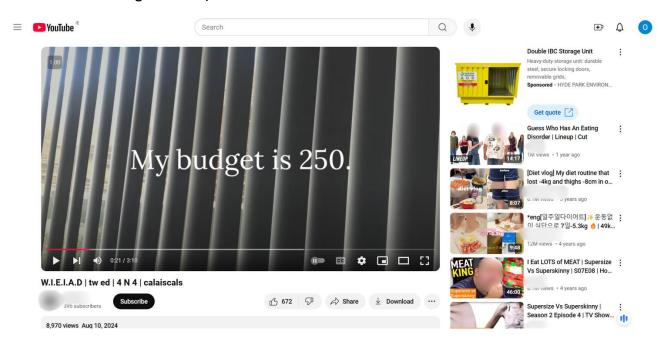
#### Example 1: Salesforce

This video features an ad by Salesforce.<sup>xxxiv</sup> The video, which has "tw e d" in the title, features imitable behavior from a Polish user who is eating zero and low-calorie foods such as coffee, tea, rice cakes, yogurt, fruit, and baby food.



# Example 2: Hydepark Environmental

The video below featured an ad for an industrial equipment supplier in Ireland called Hydepark Environmental.<sup>xxxv</sup> The title includes "tw ed" in the title and the uploader sets themselves a budget of only 250 calories.



# 7. YouTube fails to act on 79% of harmful eating disorder videos

YouTube failed to act on 22 out of a sample of 28 harmful eating disorder videos (79%) within two weeks of them being reported to the platform. The videos in the sample were identified as part of our analysis of video recommendations for this study and were assessed by researchers to have violated YouTube's policies on eating disorders.

YouTube's policies claim to prohibit content glorifying eating disorders or featuring "imitable behavior," such as purging, severe calorie restriction, or weight-based bullying related to eating disorders.<sup>xxxvi</sup>

To test YouTube's response, researchers used the platform's own reporting tools to flag the harmful content using the Ireland-based account we created for this study. For each video, they flagged the video and submitted a short description explaining how it breached YouTube's policies.

One week after reporting, all the videos remained live, though one of the videos had been age-restricted, meaning YouTube had failed to act on 96% of the videos. Two weeks after reporting, five videos were unavailable: three were made private by their creator, and two were removed by YouTube. 22 videos remained live and accessible without restriction, leaving 79% of videos with no action taken.

Notably, YouTube's reporting tools do not have a specific option for eating disorder content, making it difficult to report this type of harmful content effectively.xxxvii When reporting videos, users are asked to choose from a list of categories and subcategories including "suicide and self-injury" and "misinformation", but no option addresses eating disorders directly.

YouTube's Response	One week after reporting	Two weeks after reporting
No Action	96%	79%
Removed	O%	18%
Age-Restricted	4%	4%
Crisis Panel Added	O%	O%

**Note:** Some of the videos in this report were flagged more than once to YouTube by CCDH. This is because there was some overlap in the samples of recommended videos across CCDH's separate studies on eating disorder video recommendations to teens in the US and UK.<sup>xxxviii</sup>

# 8. Recommendations

# YouTube's problem with eating disorder content in the context of the DSA

The Digital Services Act (DSA) obliges YouTube to undertake and publish regular reports assessing "systemic risks" to minors and the health of users and how these are mitigated.<sup>xxxix</sup> It also imposes a specific duty of care to ensure the safety of minors.<sup>xl</sup> These reports should therefore expose not only the risks present on YouTube, but the effectiveness of the platform's response through mitigation measures.

The first of Google's risk assessments for YouTube was published in November 2024.<sup>xli</sup> Here, recognition is given of the "critical inherent risk" posed by content promoting practices harmful to health and assess its response as "effective".<sup>xlii</sup> YouTube boasts a new approach to eating disorder content which expands its policies to prohibit a wider range of eating disorder content.<sup>xliii</sup> It cites a combination of automated and human moderation to ensure its policies are enforced.<sup>xliv</sup> Lastly, it points to the "surfacing of crisis resource panels with videos discussing eating disorders" which it describes as an "important part of the suite of health products on YouTube".<sup>xlv</sup>

We found these mitigation measures to be lacking and incomplete. Our researchers found that YouTube failed to remove, age-restrict or label most of the videos containing imitable eating disorder behavior which we reported from EU accounts. We also documented that harmful videos were actively recommended to child accounts by YouTube's algorithm, despite YouTube's heightened duty of care to these users under the DSA.<sup>xlvi</sup>

Meanwhile, the limited availability of crisis resource panels in our study calls into question whether YouTube's stated mitigation measures are consistently in force. For eating disorder content, we found these were only available in 2 out of 27 EU Member States (France and Germany), leaving out an estimated 224m EU YouTube users.<sup>xivii</sup> Crisis panels display information to users who may be at risk, connecting them to third party support and are in line with the awareness raising measures explicitly set out under the DSA.<sup>xiviii</sup>

# YouTube must implement improved mitigation measures to protect minors

For the safety of minors on its platform, YouTube must ensure consistent application of its Community Guidelines, actioning harmful reported content in violation of these policies. It must also ensure that recommender systems do not continue to recommend harmful content to minors. YouTube should also continue to roll out crisis resource panels with a view to making them available consistently throughout the EU.

For regulators, these findings must be considered in light of a 2023 European Commission request for information to YouTube in 2023 on protecting minors from eating disorders which has not resulted in further enforcement action.<sup>xlix</sup>

#### The Commission should set high standards for transparency reporting under the DSA

Transparency is the keystone of accountability and the first step towards improved governance of social media in the EU. DSA risk assessments are essential to this but are only effective if the information provided is accurate and, where possible, quantifiable. Qualitative claims made by the platform about the effectiveness of mitigation measures which must be sufficiently evidenced. The Commission must continue to communicate its high expectations of platforms for the transparency reporting processes under the DSA, relying on enforcement mechanisms where necessary and drafting guidelines setting best practices in consultation with stakeholders.

# Appendix: Methodology

This report builds on our investigation into YouTube's recommendation of eating disorder content to teen accounts in the US.<sup>1</sup> Following a similar methodology, we have found evidence that YouTube is similarly recommending eating disorder content to EU teens.

For this research, we carried out ten simulations of a teen account, based in the Republic of Ireland (a member state of the EU), encountering an eating disorder video for the first time. We then collected and analyzed the top ten recommendations from each of these simulations, allowing us to analyze a sample of 100 video recommendations.

# How we set up ten simulations of YouTube's recommendation system

YouTube's "Up Next" recommendation panel appears on the right-hand side of the screen when a video is playing.<sup>11</sup> Our experiment focused on identifying the type of videos that YouTube recommends in situations where the user has already started watching a video that might suggest an interest in eating disorders.

To test this, we collected an initial set of ten "seed" videos that are easily discoverable on the platform and that contain harmful eating disorder content. In doing so, the sample is intended to mimic the kinds of video that a user might easily come across if they displayed an initial interest in eating disorder content.

To identify the ten seed videos, researchers searched ten keywords or phrases relating to eating disorders, such as "ED inspo" and collected the first result that could be categorized as "harmful eating disorder content" that breaches YouTube's policies, meaning they either promoted or glamorized eating disorders, contained weight-based bullying in the context of eating disorders or showed imitable behavior. Included in the seed sample were both traditional videos and playlists of videos, which consist of a selection of separate videos that are arranged under a title and description.

# How we ran the ten simulations of YouTube's recommendation system

Since the experiment was designed to study the videos recommended to young users, we created a test account with its age set to 13 years old during the account set-up process. The account's gender was set to female and the location was set to the Republic of Ireland.

Using this account, we loaded up each of the ten "seed" videos and captured a screenshot of the top ten recommendations featured on YouTube's "Up Next"

recommendation panel. We then clicked through each of the top ten recommendations from the child's account, noting each video's name and URL, and whether the video was visible to the account.

To ensure that each of the ten simulations of the recommendation system were representative of what YouTube would show to someone with an initial interest in eating disorders, we set up the account to maintain a clear search and watch history, and to not use cookies. This means that each of the ten simulations can be seen as a separate test of what YouTube's algorithm might show to a brand-new account with no prior viewing history.

While carrying out this analysis, researchers used a VPN to locate the account in the Republic of Ireland, meaning the results of the analysis should be interpreted to apply in the EU context. Data collection on video recommendations took place between 26th November 2024 and 28th November 2024.

## How we analyzed and categorized video recommendations

Videos were categorized by two researchers, with disagreements on categorization carried forward into a discussion to arrive at a consensus and ensure consistent application of definitions. For each video, researchers collected a screenshot of the video and the number of views it had at the time the data collection took place.

Each of the 100 video recommendations was placed into one of the following categories:

Harmful eating disorder content: Content that we assess to have breached YouTube's policies on eating disorder content, meaning videos that promote or glorifying eating disorders, instructions on how to engage in eating disorders, videos that feature imitable behavior relating to eating disorders and weightbased bullying in the context of eating disorders.

**Other eating disorder content:** Content that mentions or references eating disorders but does not glamorize eating disorders or otherwise hit the definition of 'harmful' as specified above. This includes content that discusses weight loss in the context of eating disorders.

**Weight loss content:** Content that focuses on weight loss themes, routines or diets. This includes diets that advise calorie restriction to less extreme levels to those seen in eating disorder content.

**Unrelated content:** Content that isn't directly related to eating disorders or weight loss.

While analyzing each recommendation video, researchers also noted which videos carried ads. Researchers recorded the brand name, ad URL, and a screenshot of the page showing the video and ad in context. For the duration of this analysis, researchers accessed YouTube using a VPN with its location set to the Republic of Ireland.

## How we tested YouTube's action on harmful content

All of the videos categorized as harmful eating disorder content were reported to YouTube. Since there is no specific reporting category for eating disorder content, researchers chose the category "Harmful or Dangerous Acts" and the subcategory "Other Dangerous Acts." In the additional details box, they provided a one-sentence explanation of how each video violated YouTube's policies.

One week later, researchers manually checked whether the videos had been removed, restricted, or remained live. The same test was conducted again two weeks after reporting to see if any additional content had been removed or restricted.

#### How we tested crisis resource panels

To test where crisis resource panels appeared across the EU, researchers carried out 10 tests in each of the 27 EU countries, resulting in a total of 270 tests of the policy. The tests covered both contexts in which YouTube states that the panels appear: five search terms and five videos were tested in each country. For each test, researchers accessed YouTube from the relevant EU country using a VPN to see whether or not a crisis panel appeared.

The five videos chosen for analysis included a range of harmful eating disorder content including extreme diet videos and thinspo, and were all identified in prior research as holding crisis resource panel when accessed from the US. For each video, researchers loaded the video in all 27 EU countries and logged whether or not the video surfaced a crisis resource panel on the "Watch Page" while the video played. In each case, researchers captured a screenshot of the result.

The five search terms included "thinspo", "thinspiration", "bonespiration", "pro-ana" and "anorexia". For each search term, researchers searched the term from each EU country and logged whether or not a crisis resource panel appeared in the search results. Again, in each case, researchers captured a screenshot of the result.

The crisis panel analysis was designed to assess the coverage of crisis panels across the EU in the context of eating disorders. We did not test the extent to which they appear in other contexts, such as for suicide and self-harm content.

The coverage of crisis resource panels was tested in all 27 EU countries: France, Germany, Austria, Belgium, Bulgaria, Croatia, Czechia, Denmark, Estonia, Finland, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Cyprus, Romania, Slovakia, Slovenia, Spain and Sweden. All 270 tests of the crisis panels were carried out between 10<sup>th</sup> December 2024 and 23<sup>rd</sup> December 2024.

#### How we estimated YouTube users in the EU without access to crisis resource panels

To estimate the total number of YouTube users across the EU that aren't currently being served with crisis resource panels on eating disorder content, researchers combined user data by country with the results of our own tests on the presence of crisis resource panels.

The figures on YouTube users were compiled by the analytics company Kepios based on YouTube's advertising audience of users aged 18 and over in each country.<sup>III</sup> The data on crisis resource panels is based on our own tests, which showed that panels only appeared in 25 out of 27 EU countries.

All users were counted in the estimation for each country in which crisis resource panels failed to appear in any of our ten tests. This was the case for 25 out of 27 EU countries. The estimate is therefore based on the assumption that the results of our ten tests per country can be extrapolated to conclude that crisis resource panels are not being displayed at all in the context of eating disorder content in those countries.

#### References

<sup>i</sup> "YouTube's Anorexia Algorithm", Center for Countering Digital Hate, 10 December 2024, <u>https://counterhate.com/research/youtube-anorexia-algorithm/</u>

" "Recommended videos", YouTube, accessed 6 September 2024,

https://www.YouTube.com/howYouTubeworks/product-features/recommendations/

<sup>iii</sup> More details available in section 2

<sup>iv</sup> More details available in section 2

<sup>v</sup> More details available in section 4

<sup>vi</sup> The DSA is the EU's Digital Services Act. More details on this finding are available in section 7.

vii More details in section 6

viii "Report of Systemic Risk Assessments", Google Ireland Limited, 28 August 2024, p.121,

https://storage.googleapis.com/transparencyreport/report-downloads/dsa-risk-assessment\_2024-8-28\_2024-8-28\_en\_v1.pdf

"Crisis resource panels", YouTube Help, Accessed 20 December 2024, https://support.google.com/youtube/answer/10726080?hl=en-GB

<sup>ix</sup> More details available in section 3

<sup>x</sup> "Commission sends requests for information to TikTok and YouTube under the Digital Services Act", European Commission Press Release, 9 November 2023, <u>https://digital-</u>

strategy.ec.europa.eu/en/news/commission-sends-requests-information-tiktok-and-youtube-underdigital-services-act

<sup>xi</sup> "An updated approach to eating disorder-related content", Garth Graham, YouTube Official Blog, 18 April 2023, https:// blog.YouTube/news-and-events/an-updated-approach-toeating-disorder-related-content/

<sup>xii</sup> An updated approach to eating disorder-related content", Garth Graham, YouTube Official Blog, 18 April 2023, <u>https://blog.YouTube/news-and-events/an-updated-approach-to-eating-disorder-related-content/</u>

<sup>xiii</sup> "Suicide, self-harm and eating disorders policy", YouTube Help, accessed 10 July 2024, <u>https://support.google.com/YouTube/answer/2802245</u>

<sup>xiv</sup> "Suicide, self-harm and eating disorders policy", YouTube Help, accessed 10 July 2024, <u>https://support.google.com/YouTube/answer/2802245</u>

\*\* "An updated approach to eating disorder-related content", Garth Graham, YouTube Official Blog, 18 April 2023, <u>https://blog.YouTube/news-and-events/an-updated-approach-to-eating-disorder-related-content/</u>

<sup>xvi</sup> "An updated approach to eating disorder-related content", Garth Graham, YouTube Official Blog, 18 April 2023, <u>https://blog.YouTube/news-and-events/an-updated-approach-to-eating-disorder-related-content/</u>

<sup>xvii</sup> "An updated approach to eating disorder-related content", Garth Graham, YouTube Official Blog, 18 April 2023, <u>https://blog.YouTube/news-and-events/an-updated-approach-to-eating-disorder-related-content/</u>

<sup>xviii</sup> "An updated approach to eating disorder-related content", Garth Graham, YouTube Official Blog, 18 April 2023, <u>https://blog.YouTube/news-and-events/an-updated-approach-to-eating-disorder-related-</u> <u>content/</u>

<sup>xix</sup> "Continued support for teen wellbeing and mental health on YouTube", James Beser, YouTube, 2 November 2023, <u>https://blog.youtube/inside-youtube/continued-support-for-teen-wellbeing-and-mental-health-on-youtube/</u> <sup>xx</sup> "Continued support for teen wellbeing and mental health on YouTube", James Beser, YouTube, 2 November 2023, <u>https://blog.youtube/inside-youtube/continued-support-for-teen-wellbeing-and-mental-health-on-youtube/</u>

<sup>xxi</sup> "Continued support for teen wellbeing and mental health on YouTube", James Beser, YouTube, 2 November 2023, <u>https://blog.youtube/inside-youtube/continued-support-for-teen-wellbeing-and-mental-health-on-youtube/</u>

<sup>xxii</sup> "Crisis resource panels", Youtube Help, Accessed 20 December 2024,

https://support.google.com/youtube/answer/10726080?hl=en-GB

<sup>xxiii</sup> "Crisis resource panels", Youtube Help, Accessed 20 December 2024,

https://support.google.com/youtube/answer/10726080?hl=en-GB

<sup>xxiv</sup> "Report of Systemic Risk Assessments", Google Ireland Limited, 28 August 2024, p.121,

https://storage.googleapis.com/transparencyreport/report-downloads/dsa-risk-assessment\_2024-8-28\_2024-8-28\_en\_v1.pdf

<sup>xxv</sup> Researchers used a VPN to access YouTube from each country. More details can be found in the Methodology section.

<sup>xxvi</sup> "Crisis resource panels", YouTube Help Center, Accessed 7 January 2025,

https://support.google.com/youtube/answer/10726080?hl=en

<sup>xxvii</sup> These figures are based on YouTube's advertising audience in each country.

"Essential YouTube statistics and trends for 2023", Kepios, 11 May 2023,

https://datareportal.com/essential-youtube-stats

<sup>xxviii</sup> "One day of eating: Tracing misinformation in 'What I Eat In A Day' videos", Journal of Sociology, Justine Topham and Naomi Smith, 6 March 2023,

https://journals.sagepub.com/doi/10.1177/14407833231161369?icid=int.sj-abstract.citing-articles.5#bibr52-14407833231161369

"What Is Thinspo and Why Is It Dangerous?", Health Essentials, Cleveland Clinic, 29 March 2024, <u>https://health.clevelandclinic.org/what-is-thinspo-and-how-it-impacts-mental-health</u>

xxix "Calorie counting made easy", Harvard Health Publishing, 3 April 2024,

https://www.health.harvard.edu/staying-healthy/calorie-counting-made-easy

"Pediatric Medical Nutrition Therapy Protocol for Weight Management", East Carolina University

Physicians, accessed 6 January 2024, https://ecuphysicians.ecu.edu/wp-content/pv-

uploads/sites/78/2020/06/mnt-weight-management.pdf

<sup>xxx</sup> "ABC Diet: Dangers & Alternatives (Ana Boot Camp Diet)", The Fork Clinic, accessed 2 September 2024, <u>https://www.theforkclinic.com/post/abc-diet-dangers-alternatives-ana-boot-camp-diet</u>

<sup>xxxi</sup> "ABC Diet: Dangers & Alternatives (Ana Boot Camp Diet)", The Fork Clinic, accessed 2 September 2024, <u>https://www.theforkclinic.com/post/abc-diet-dangers-alternatives-ana-boot-camp-diet</u>

<sup>xxxii</sup> "One day of eating: Tracing misinformation in 'What I Eat In A Day' videos", Journal of Sociology, Justine Topham and Naomi Smith, 6 March 2023,

https://journals.sagepub.com/doi/10.1177/14407833231161369?icid=int.sj-abstract.citing-articles.5#bibr52-14407833231161369

"What Is Thinspo and Why Is It Dangerous?", Health Essentials, Cleveland Clinic, 29 March 2024, https://health.clevelandclinic.org/what-is-thinspo-and-how-it-impacts-mental-health

xxxiii The platform was accessed from the Republic of Ireland using a VPN.

xxxiv "Sales Al Playbook", Salesforce, accessed 10 December 2024,

https://www.salesforce.com/uk/form/sales/sales-ai-

playbook/?d=701ed000006US0MAAW&nc=701ed000006USopAAG&utm\_source=dv360&utm\_medium =display&utm\_campaign=emea\_gb\_salescloud\_allindustries&utm\_content=commercial&enterprise\_pg\_ per-sal-slob-demo-per-consideration\_701ed000006US0MAAW\_english\_sales-aiplaybook&gclid=CjOKCQiAo5u6BhDJARIsAAVoDWu7Hrah68TNSMGaSx6ate16ggPMoAoDwKDHY9oXZ31FKedhyClxYlaAu-tEALw\_wcB

<sup>xxxv</sup> "Double IBC Storage Unit", Hydepark Environmental, accessed 10 December 2024, <u>https://hydepark-environmental.com/double-ibc-storage-unit?gclid=CjOKCQiAgJa6BhCOARIsAMiL7V9RvyQdtGkf-</u> YFvjSvXOtZdb9OLIHvgpmMBQ6u8WKOyCW2mzcoms88aAhXaEALw\_wcB

<sup>xxxvi</sup> "An updated approach to eating disorder-related content", Garth Graham, YouTube Official Blog, 18 April 2023, <u>https://blog.YouTube/news-and-events/an-updated-approach-to-eating-disorder-related-content/</u>

<sup>xxxvii</sup> "Suicide, self-harm and eating disorders policy", YouTube Help, accessed 10 July 2024, <u>https://support.google.com/YouTube/answer/2802245</u>

<sup>xxxviii</sup> "YouTube's Anorexia Algorithm", Center for Countering Digital Hate, 10 December 2024, <u>https://counterhate.com/research/youtube-anorexia-algorithm/</u>

xxxix Articles 42 (4), 34(1)(d), 35, Regulation (EU) 2022/2065 (Digital Services Act), http://data.europa.eu/eli/reg/2022/2065/oj

<sup>xl</sup> Article 28(1), Regulation (EU) 2022/2065 (Digital Services Act),

http://data.europa.eu/eli/reg/2022/2065/oj

x<sup>ii</sup> "Report of Systemic Risk Assessments", Google Ireland Limited, 28 August 2024,

https://storage.googleapis.com/transparencyreport/report-downloads/dsa-risk-assessment\_2024-8-28\_2024-8-28\_en\_v1.pdf

xiii "Report of Systemic Risk Assessments", Google Ireland Limited, 28 August 2024, p.121,

https://storage.googleapis.com/transparencyreport/report-downloads/dsa-risk-assessment\_2024-8-28\_2024-8-28\_en\_v1.pdf

x<sup>iiii</sup> "An updated approach to eating disorder-related content", Garth Graham, YouTube Official Blog, 18 April 2023, <u>https://blog.YouTube/news-and-events/an-updated-approach-toeating-disorder-related-content/</u>

x<sup>liv</sup> "Report of Systemic Risk Assessments", Google Ireland Limited, 28 August 2024, p.116,

https://storage.googleapis.com/transparencyreport/report-downloads/dsa-risk-assessment\_2024-8-28\_2024-8-28\_en\_v1.pdf

x<sup>lv</sup> "Report of Systemic Risk Assessments", Google Ireland Limited, 28 August 2024, p.121,

https://storage.googleapis.com/transparencyreport/report-downloads/dsa-risk-assessment\_2024-8-28\_2024-8-28\_en\_v1.pdf

x<sup>lvi</sup> Article 28(1), Regulation (EU) 2022/2065 (Digital Services Act),

http://data.europa.eu/eli/reg/2022/2065/oj

xivii See section 3 of this report

xtviii Article 35(1)(i), Regulation (EU) 2022/2065 (Digital Services Act),

http://data.europa.eu/eli/reg/2022/2065/oj

<sup>xiix</sup> Commission sends requests for information to TikTok and YouTube under the Digital Services Act, European Commission Press Release, 9 November 2023, https://digital-

strategy.ec.europa.eu/en/news/commission-sends-requests-information-tiktok-and-youtube-underdigital-services-act

""YouTube's Anorexia Algorithm", Center for Countering Digital Hate, 10 December 2024,

https://counterhate.com/research/youtube-anorexia-algorithm/

<sup>ii</sup> "Recommended videos", YouTube, Accessed 6 September 2024,

https://www.YouTube.com/howYouTubeworks/product-features/recommendations/

<sup>iii</sup> "Essential YouTube statistics and trends for 2023", Kepios, 11 May 2023,

https://datareportal.com/essential-youtube-stats