In the media

U.S. GUN CULTURE ONLINE

Researching America's exposure to guns via YouTube and search as a first step towards high-impact firearm safety intervention.

HARMONYLABS

BROWN
Alpert Medical School

Guns: an all-American story

Americans are united in a desire to address gun injury and violence but are deeply divided on how to do so. Firearms exist as a cornerstone of American life. From news to entertainment to casual hobbies, there is no single American "gun culture" that will single-handedly change how Americans approach gun injury and safety—there are multiple cultures centering gun-related stories. Guns define heroes and villains, create and resolve conflict, and establish the stories we engage with every day. What remains unknown, however, as examined in this recent study, is how Americans approach firearms as a source of injury or safety.

Perhaps no other "social issue" is as baked into our collective consciousness, and reducing gun injury will take more than messaging; it will take rewriting the narratives of how guns play important roles. The Brown-Lifespan Center for Digital Health and Harmony Labs teamed up to produce this report to generate a comprehensive picture of how gun-related content presents itself in media as well as the ways Americans interact with gun-related content pathways to understand where (and how) Americans encounter stories about guns and gun injuries in their lives.

Four-in-ten U.S. adults say they live in a household with a gun.

A new report shows nearly 7.5 million Americans became new firearm owners during the 1st year of the COVID pandemic. Firearm injury rates are skyrocketing, and most Americans—gun owners or not—misidentify the most common reasons for gun injury and death.

We set out to find the story spaces we might use to seed new narratives to enhance firearm safety, reduce misinformation, and inspire agency for the millions of American gun owners.

Our approach

To generate a comprehensive understanding of what "gun culture" is, we started looking at Americans' conflicting perspectives on guns as a narrative problem, rather than a messaging problem. We wanted to know where in media Americans were encountering guns to understand how public narratives about guns were influencing peoples' private lives.

The goal wasn't to find out where the gun "problem" was but to find all the places in our culture where people were already telling stories about guns and where we could be telling stories about firearm injury and safety.

Searching for where people consume gun content in this pilot project, we looked to a microcosm of all American culture: YouTube. By dividing people's watch behavior into "gun ecosystems," we were able to more easily categorize people's search terms into similar patterns. These search terms clarified and supplemented our YouTube content categories, helping us understand how people's curiosity about guns connects to the stories they consume.

50% of all American adults see YouTube content every day – 7% of those viewers consume something that mentions guns.

We isolated a set of keywords for analysis: **gun, guns, firearms, shooting, ammo, ammunition, rifle, pistol, shotgun, revolver, autocannon, active shooter**.

This work also required us to isolate popular cultural icons like **Top Gun, GunsNRoses, Machine Gun Kelly, and YouTube creator God, Family, and Guns**—terms that are outside of our project aim of focusing on gun-related CONTENT as they act simply as metaphor or imagery. The isolation, however, reinforces the widespread influence that gun symbology has on our daily lives.

Terminology and scope

GUN VS FIREARM

"GUN" is an umbrella category of a shooting tube (barrel) used to launch projectiles (bullets, water, etc). "FIREARM" is a category within "GUN" that specifically utilizes explosive powder to propel a projectile. Colloquially (and by many of the storytellers whose work we studied here), these two are often used interchangeably. In this project, we utilized both terms during the research phase in exploring audience behavior. "FIREARM INJURY" is the problem we want to contribute to solving, but we consider any space in which stories about GUNS are told to be a space of rich, storytelling opportunity. Thus, we use the more general term here to talk about the cultural spaces in which firearm injury stories specifically could gain traction.

CULTURE

When we talk about culture, we are referring to the stories we create and share with each other to establish our collective identity. We study culture as it is reflected in media across news, music, sports and gaming, food and fashion, and TV and film. In this pilot study, we used YouTube as a starting point because all kinds of cultural storytelling unfolds on that platform.

GUN-RELATED VIDEOS

Videos with tags or descriptions containing any of the target keywords (i.e. gun, guns, firearms, shooting, ammo, ammunition, rifle, pistol, shotgun) but also *excluding* a set of suppression terms.

Data and methods

The Narrative Observatory @Harmony Labs works with two kinds of media data donated by our commercial partners: audience data from research panels of individuals who have opted in to share their browsing behavior donated by Nielsen, and content data recording the actual stories delivered in the media donated by PeakMetrics. For this project, we used the audience browsing behavior to identify which gun-related YouTube videos they watched and what gun-related searches they submitted to Google, Yahoo, Bing, and DuckDuckGo. The research in this report concerns YouTube viewing and internet search behavior by adults who live in the U.S. between January 2020 and September 2021.

REACH

The proportion of individual YouTube users who encounter the content. For this project, reach metrics include gun-related videos only. We typically report the mean of the daily reach over all days in the study period.

CHANNEL

Pages where an individual or brand uploads videos, creates playlists, and allows for subscribers.

ECOSYSTEM

Ecosystems are naturally occurring digital environments created by users who consume related content. We find ecosystems of YouTube channels by creating a network of channels watched by the same users and then partitioning that network using a community-detection algorithm.

"Gun Culture" is everywhere

A huge proportion of people in the U.S. consume gun-related media every day.

The top 5 YouTube channels that carry guns content to YouTube viewers include Movieclips, Forgotten Weapons, and NBC News—a diverse array of genres.

Watching top videos from each of these sources, it becomes clear that gun content is, above all, pervasive.

7% of all YouTube users or about 3.5% of all American adults consume gun-related content on YouTube daily.
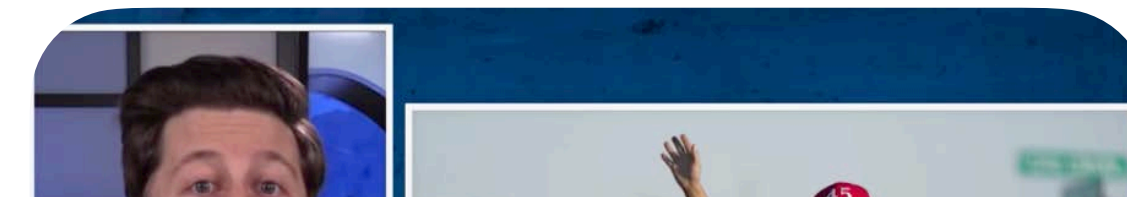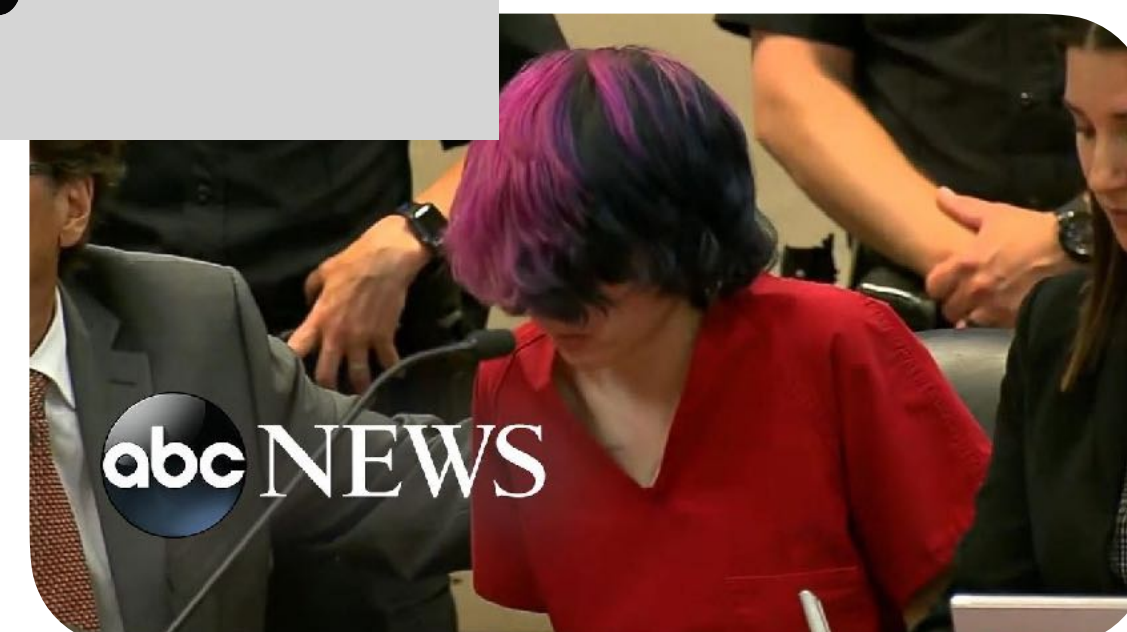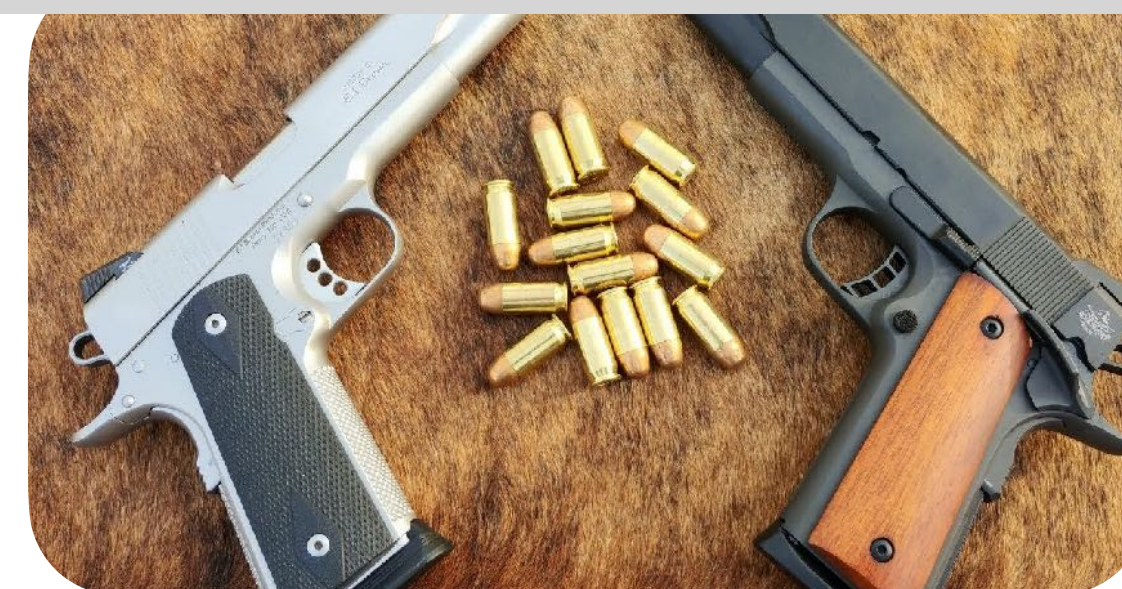
7 distinct ecosystems

The media people in the U.S. encounter serves as a backdrop for exposure to information about guns. We partitioned YouTube watch behavior into naturally-occurring ecosystems by looking at which channels were watched by the same users.

There were 7 naturally occurring "gun ecosystems" on YouTube, and, while specific to YouTube, they describe a wide arc of culture that might reflect how Americans encounter guns across platforms and cultural zones.

Methodology: We created a social network of channels watched by the same user on the same day, then found the ecosystems by using "fast-greedy" clustering. We like this algorithm for YouTube because it tends to produce very coherent, easily described clusters. Here, we included every ecosystem that reached at least 1 per 1,000 YouTube users per day in our sample.

1. **Hunting & Fishing**
special interest lifestyle

2. **Guns & Gear**
device-focused emphasis on safety & responsibility

3. **Guns 4 Fun**
recreational and simulation "battle" games

4. **News & Hot Takes**
centralized around shootings and gun control

5. **Music**
primarily metaphorical and referential

6. **Movies**
huge reach, representative of "mainstream" imagination

7. **Games**
highly-social, collaborative, humorous

Reach by ecosystem

Average Daily Reach per 1,000 YouTube Users
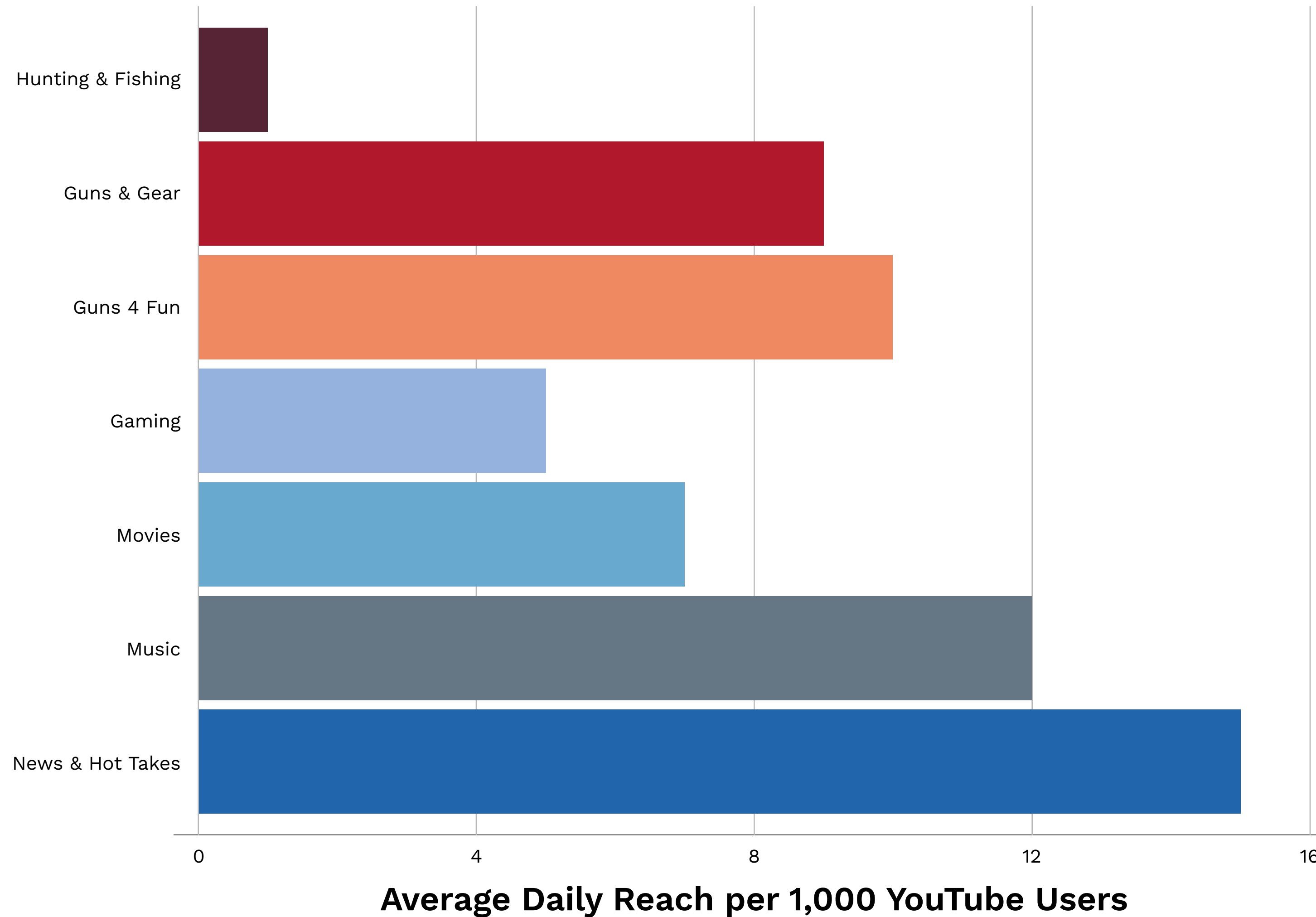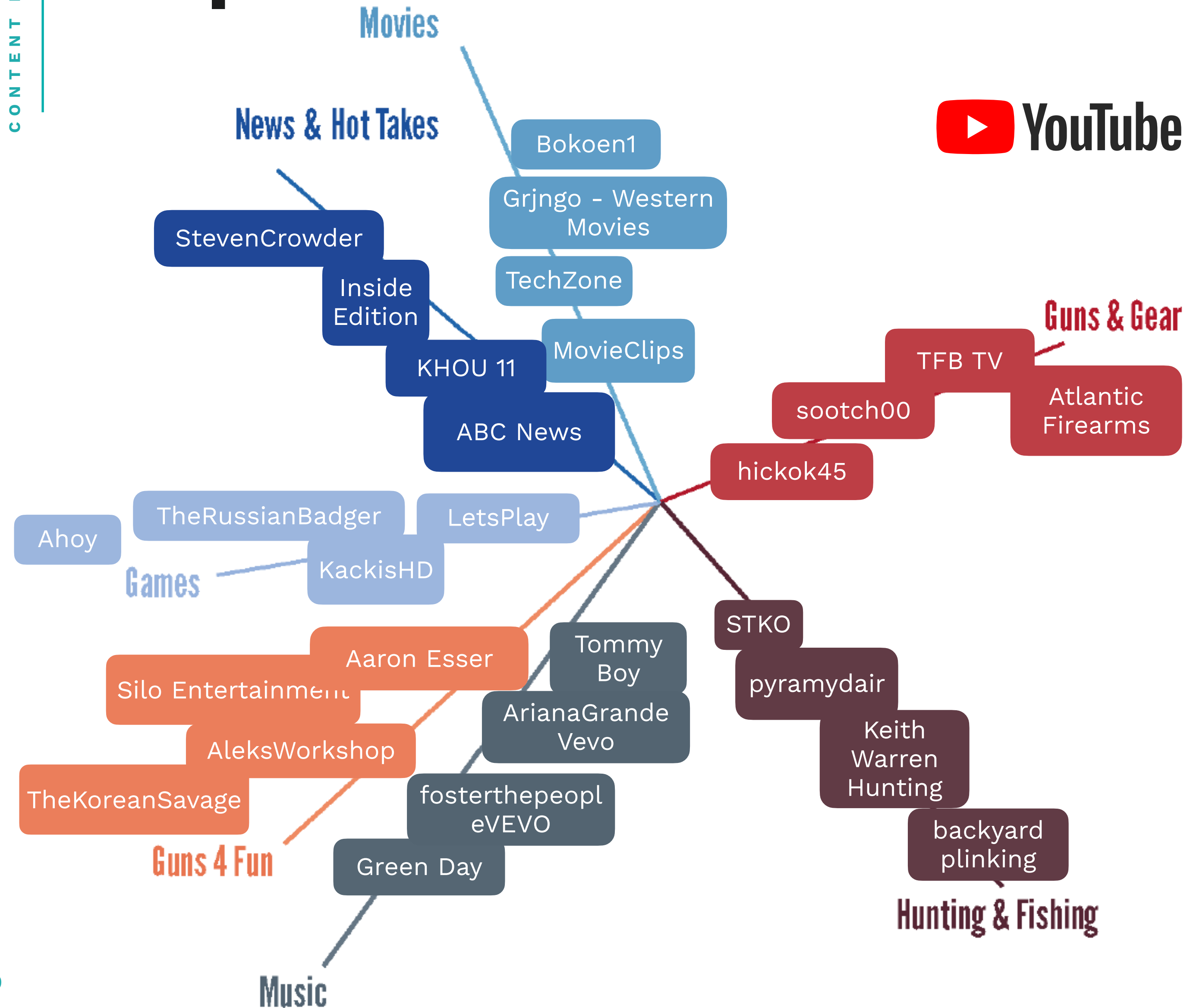
For the purposes of this project, the reach metrics here include **gun-related videos only**. An ecosystem might contain channels that have high-reaching content unrelated to guns (i.e. Movies or Music), but a lower reach of **gun-specific content**.

With regard to average daily reach per 1,000 YouTube users, the leading ecosystem for gun-specific content is **News & Hot Takes**.

Important channels

Movies

News & Hot Takes

Bokoen1

Grjngo - Western Movies

StevenCrowder

TechZone

Inside Edition

MovieClips

KHOU 11

ABC News

▶ YouTube

Guns & Gear

TFB TV

sootch00

Atlantic Firearms

hickok45

TheRussianBadger

LetsPlay

Ahoy

KackisHD

Games

STKO

Aaron Esser

Tommy Boy

pyramydair

Silo Entertainment

ArianaGrande Vevo

Keith Warren Hunting

AleksWorkshop

TheKoreanSavage

fosterthepeopl eVEVO

backyard plinking

Guns 4 Fun

Green Day

Hunting & Fishing

Music

Reach vs Importance: clustered channels influence the speed of information

The ecosystems we describe on the following pages focus on the most important channels for bringing gun-related content to users.

"Important" channels are not necessarily high reach —rather, importance reflects channels' proximity to one another.

Technically speaking, we use node "closeness" to measure channel importance. Important channels spread information through a network faster than channels that are less important.

Size of the box does not indicate the number of people in that channel, but **closeness to the center does indicate high reach.**
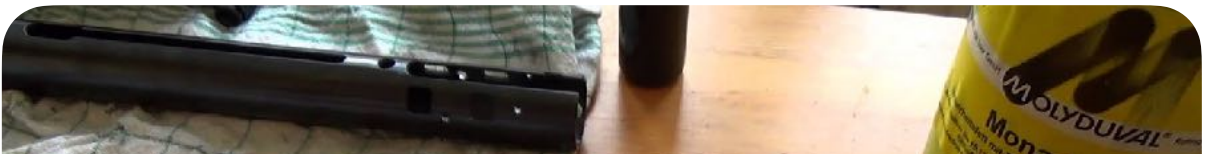
Ecosystem 1

HUNTING & FISHING

A celebration of firearms and sport

With just over 500 channels and gun-related content reach of just **1 per 1,000** YouTube users daily, the Hunting & Fishing ecosystem has the **lowest overall reach** of any of the ecosystems on the platform.

Many of the videos in this ecosystem are characterized by their celebration of firearms and sport, treating firearms as both a **hobby** and a **discipline**. The stories in this ecosystem tend to feature air rifles specifically and are about shooting for sport or shooting animals, but not shooting people. That sets this ecosystem apart from Guns & Gear.

Key Channels

STKO	South Florida Fishing	americanairgunhunter
pyramydair	AirGhandi	Unrelated Activities
Keith Warren Hunting	Trotliners	Brutuz62
backyard plinking	Joel Goodz	Fieldsports Channel
2lbsTrigrPull	Aspire Inn	GamoOutdoor

Ecosystem 2

GUNS & GEAR
The guns are the point

With over 3,000 channels, Guns & Gear is a major special interest ecosystem on YouTube. About **9 per 1,000** YouTube users encounter gun-related content on this ecosystem daily.

Unique to this ecosystem, each channel is specifically about guns. The imagery in this ecosystem features **guns themselves as the subjects**. The language is characterized by notions of "self-defense," safety, and responsibility—and the goal is explicitly about **shooting** (lethally or non-lethally) other people.

Key Channels

|		
hickok45	mixup98	Forgotten Weapons
sootch00	704 TACTICAL	The Daily Shooter
TFB TV	Cheaper Than Dirt!	Langley Outdoors Academy
AtlanticFirearms	22plinkster	Fire Mountain Outdoors
Jerry Miculek - Pro Shooter	GunsAmerica	Vortex Optics

Ecosystem 3

GUNS 4 FUN
Weapons are pretend

With a reach of about **10 per 1,000** YouTube users per day, the Guns 4 Fun ecosystem is one of two distinct gaming ecosystems. This ecosystem features some gaming videos, but much of the content concerns mock guns including military simulation airsoft games, and nerf games simulating Fortnite gaming battles. The tone of this ecosystem is playful and fun. These creators celebrate their weaponry but clearly know the **weapons are pretend**.

Why include toy guns in an analysis of gun culture? Because these simulations teach the audience (mostly young men) something about how real firearms work and what they're for. It could be a great space for adding stories about gun accidents, injuries, and safety to that narrative.

Key Channels

Aaron Esser	NOVRITSCH	Hectorlo
Silo Entertainment	Dysmo	Swagg
AleksWorkshop	Top WARZONE Moments	Handler
TheKoreanSavage	Corridor	NICKMERCS
DALLMYD	WhackyCast	Wag Entertainment
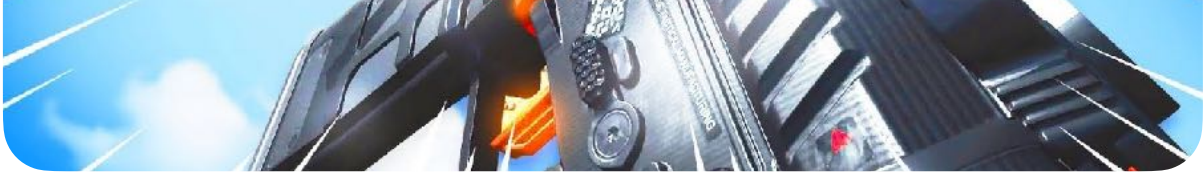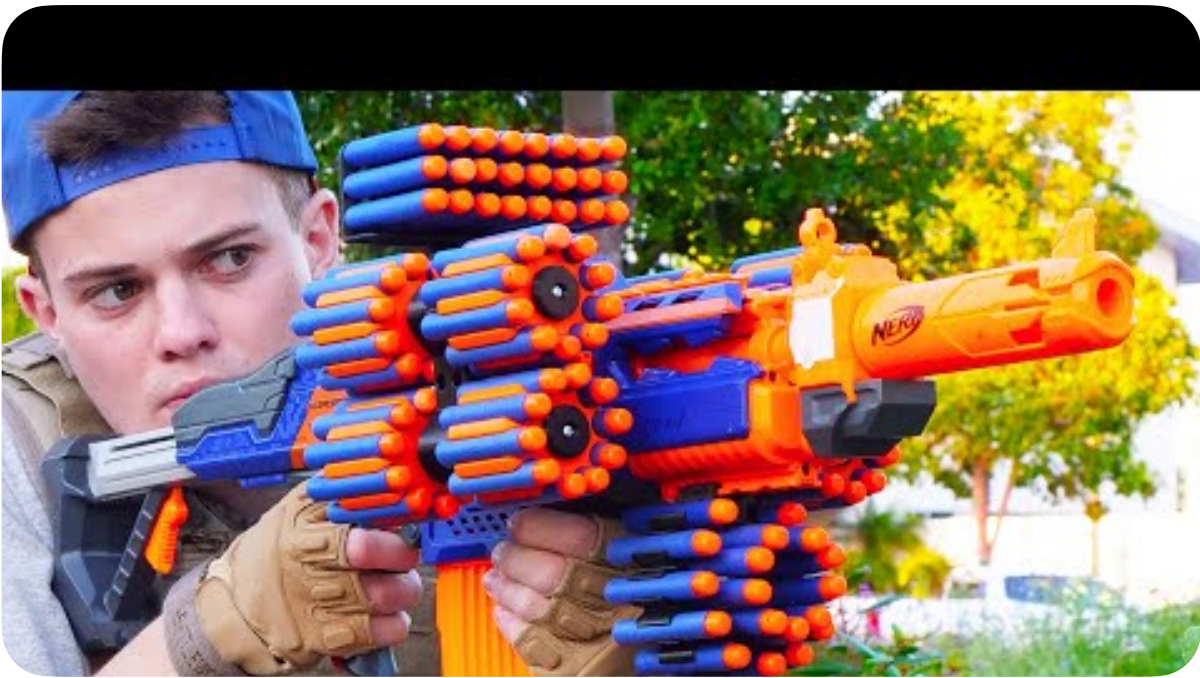
Ecosystem 4

GAMING
For friends & entertainment

This ecosystem is both highly social and takes place exclusively in virtual worlds, serving gun-related content to about **5 per 1,000** users per day. While it features plenty of discussions of technical specifications of firearms, it places more emphasis on **entertainment**.

In Gaming videos, groups of gamers collaborate in multiplayer environments, cracking jokes, and pulling off virtual stunts. In these gaming communities, firearms are about connecting with others through **shared enjoyment**. This ecosystem highlights the importance of social connection for many people involved in gun narratives, connections that provide an important opportunity to add onto existing narratives (rather than attempt to eliminate them).

Key Channels

|		
LetsPlay	ProZD	teamfortress
KackisHD	Markiplier	Gus Johnson
TheRussianBadger	Berd	Aztecross
Ahoy	gameranx	Kurzgesagt – In a Nutshell
mikeburnfire	RTGame	GameGrumps

Ecosystem 5

MOVIES
Imagination and creation

2,000 channels of movies and adjacent content make up one influential ecosystem that reaches about **7 per 1,000** YouTube users daily with gun-related content. Much of the content in this ecosystem comes from **Movieclips**, which alone brings gun-related content to **1 per 1,000** YouTube users every day and has **75x higher reach** than any other channel in this ecosystem.

Fundamentally, this ecosystem represents the interests of a deeply imaginative audience. This ecosystem is primarily creative in nature: inventive, dramatic, and only incidentally dangerous. An important consideration with "existing" media like Movies: while we can't change the narrative of existing content, we can work to improve messaging in future ones.

Key Channels

|		
Movieclips	BurdenWorld	The King of Random
TechZone	GORILLA	Screen Rant
Grjngo - Western Movies	Gravity Industries	WesternSaloon86
Bokoen1	Sharpe	Miami Vice
WayneDangerous	BeltFeds.Com LLC	Kimer Lorens
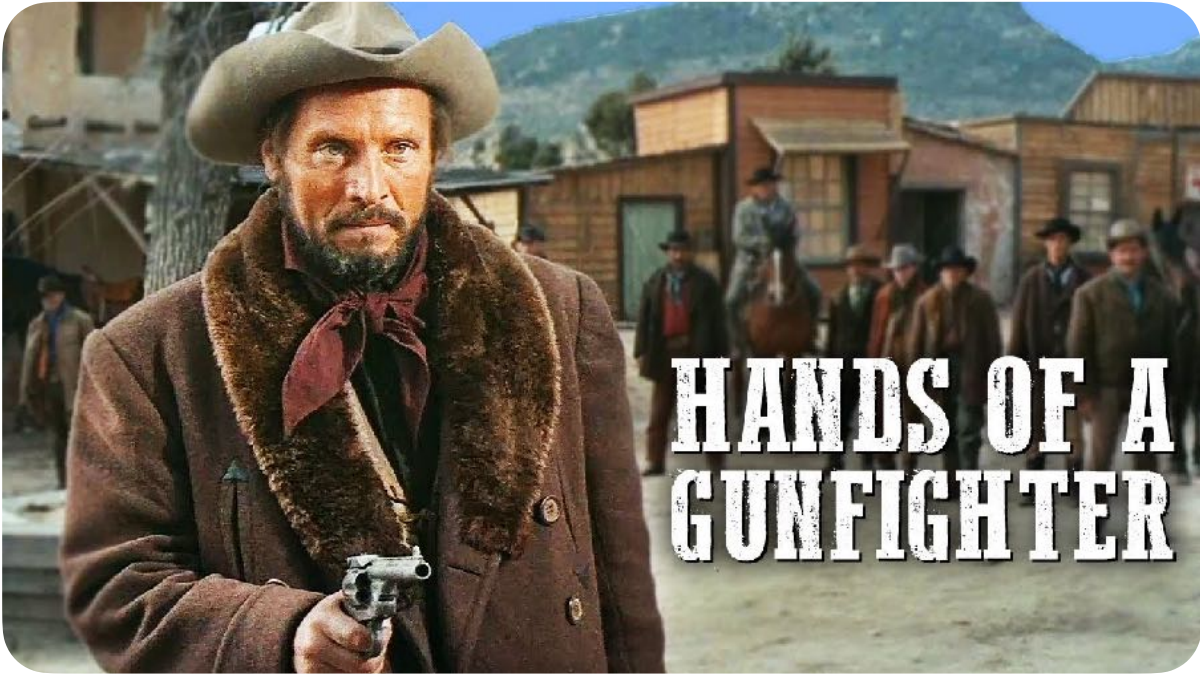
Ecosystem 6

MUSIC

Metaphors and storytelling

Gun-related music on YouTube is the highest-reach entertainment ecosystem and brings gun-related content to **12 per 1,000 YouTube users** per day.

While many of the gun references in popular music are highly metaphorical, **much** of the top content centers on real gun violence either from the perspective of the victim of violence or the perpetrator.

Key Channels

Tommy Boy	Lil Baby Official 4PF	AudioslaveVEVO
ArianaGrandeVevo	Fueled By Ramen	7clouds
fosterthepeopleVEVO	Blake Shelton	Queen Official
Green Day	The Glorious Sons	NLE CHOPPA
EminemMusic	Yella Beezy	Warner Records Vault
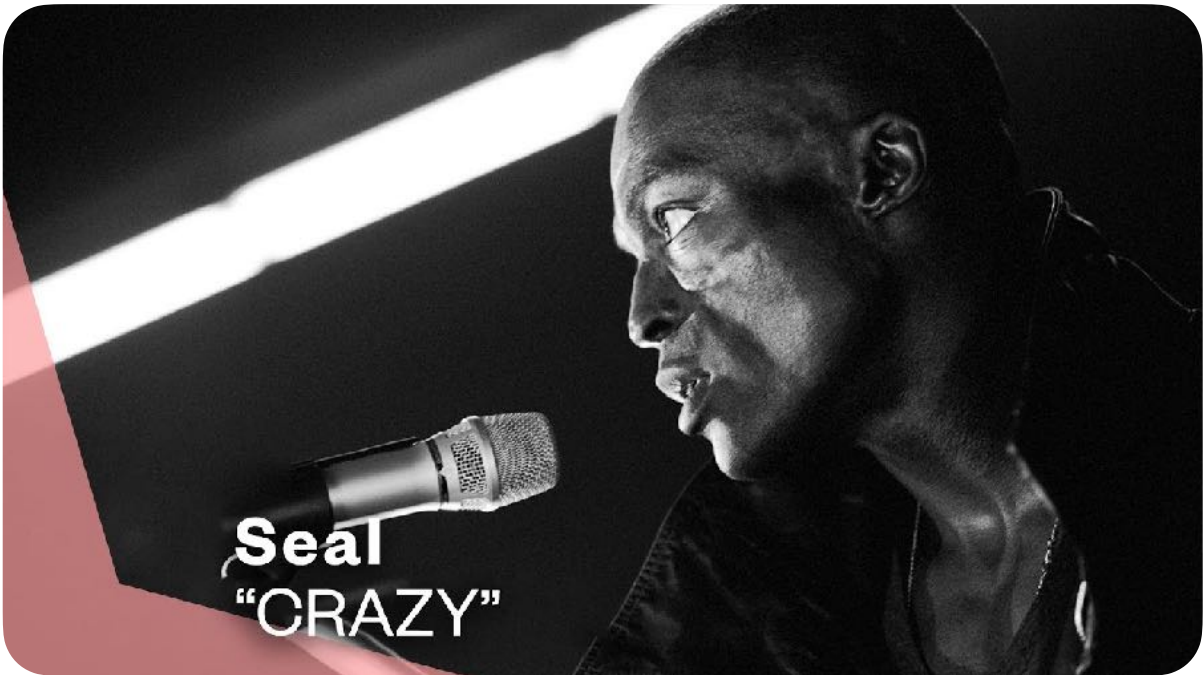
Ecosystem 7

NEWS & HOT TAKES

Outrage, arguments, and opinions

The highest reach individual ecosystem—with almost 3,000 channels and relevant content reaching **15 per 1,000** YouTube viewers each day.

The tone of gun-related content in News & Hot Takes is one of danger paired with combative arguments between partisan extremists. Often, YouTube visitors move from recent reports of national shootings on local news to angry political rants for and against gun control. Lacking is language of safety, responsibility, or enjoyment, this category is not only the loudest but the most opinionated of the ecosystems.

Key Channels

|		
ABC News	Guardian News	The Daily Wire
KHOU 11	NBC News	David Pakman Show
Inside Edition	Fox News	New York Daily News
StevenCrowder	Active Self Protection	NBC4 Columbus
CNN	CBS News	FOX 2 St. Louis

Disproportionately white and male

With the exception of the Music ecosystem, audiences for all ecosystems on YouTube are disproportionately **male**. These charts compare the demography of the ecosystem's audience to the demography of the YouTube audience in general.

Guns & Gear and **Hunting & Fishing are uniquely white** ecosystems, and their consumers are also much more likely than the average YouTuber to be 50 or over. Channels in these two ecosystems are made by and for older, white men.

Men   **White, Non-Latino**   **Age 50+**
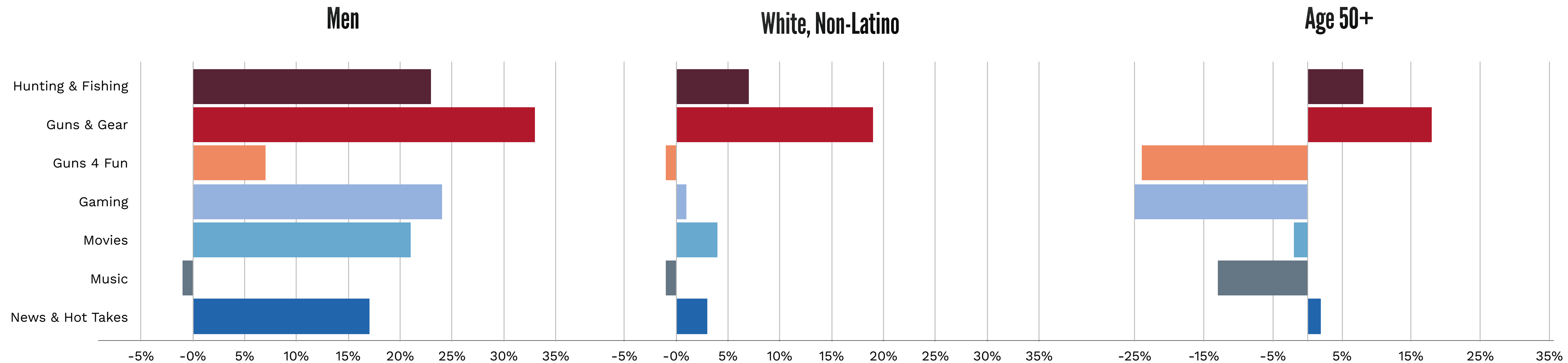
Ecosystem Demographics – Average YouTube Users

Diverse ages across ecosystems

The Gaming and Guns 4 Fun ecosystems are also **very male**, but they are much **younger** and more **racially diverse**. Gaming especially reaches the under 30 audience.

An average of 67% of the adult audience for the Gaming content is **under 30** compared to just 27% of the YouTube audience overall.

Black or African American　　　**Latino or Hispanic**　　　**Age Less Than 30**
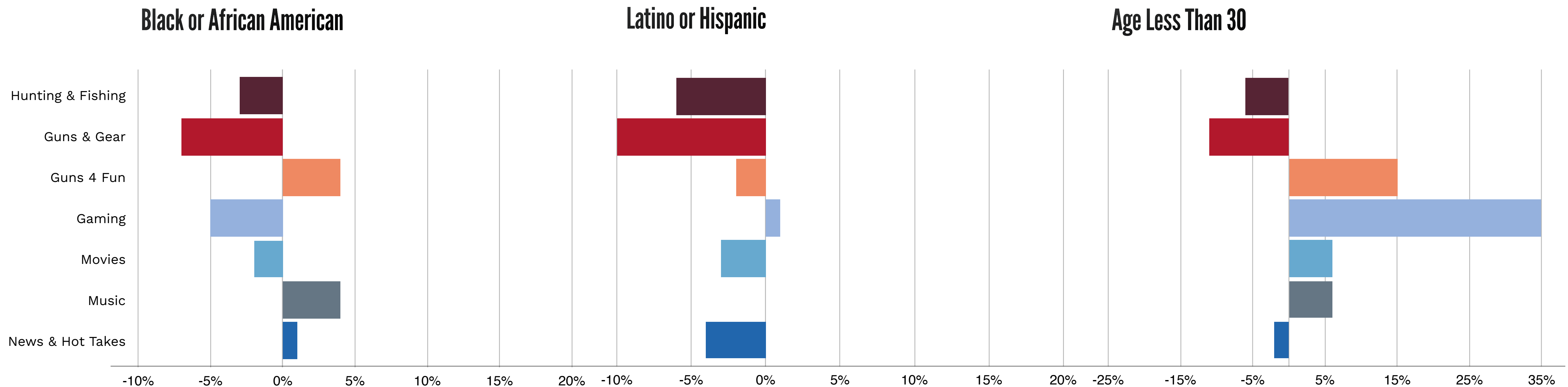
Ecosystem Demographics – Average YouTube Users

Public stories reflect private concerns

To help inform future interventions, we looked at nearly 100,000 internet searches to understand how and where people occupying the 7 content ecosystems learn about firearm harms and safety. We placed this search behavior into clusters based on relevant activity.

Most notably, people who watched videos in the News & Hot Takes ecosystem searched for "active," "shooter," "boulder," "austin," "colorado."

Movies

News & Hot Takes

gunbroker

machine

rifle

range   gun

pistol

MovieClips

Guns & Gear

Charleston

boebert

ABC News

9mm

shooting   Ker

mmo

hickok45

LetsPlay

45   270

colt   rack

ghost   duck

410

hunt

STKO

Games

Tommy Boy

air   rifle

piston

Aaron Esser

light

Nerf   sport

toy   airsoft

rights

firearms

Guns 4 Fun

training   Facebook   safety

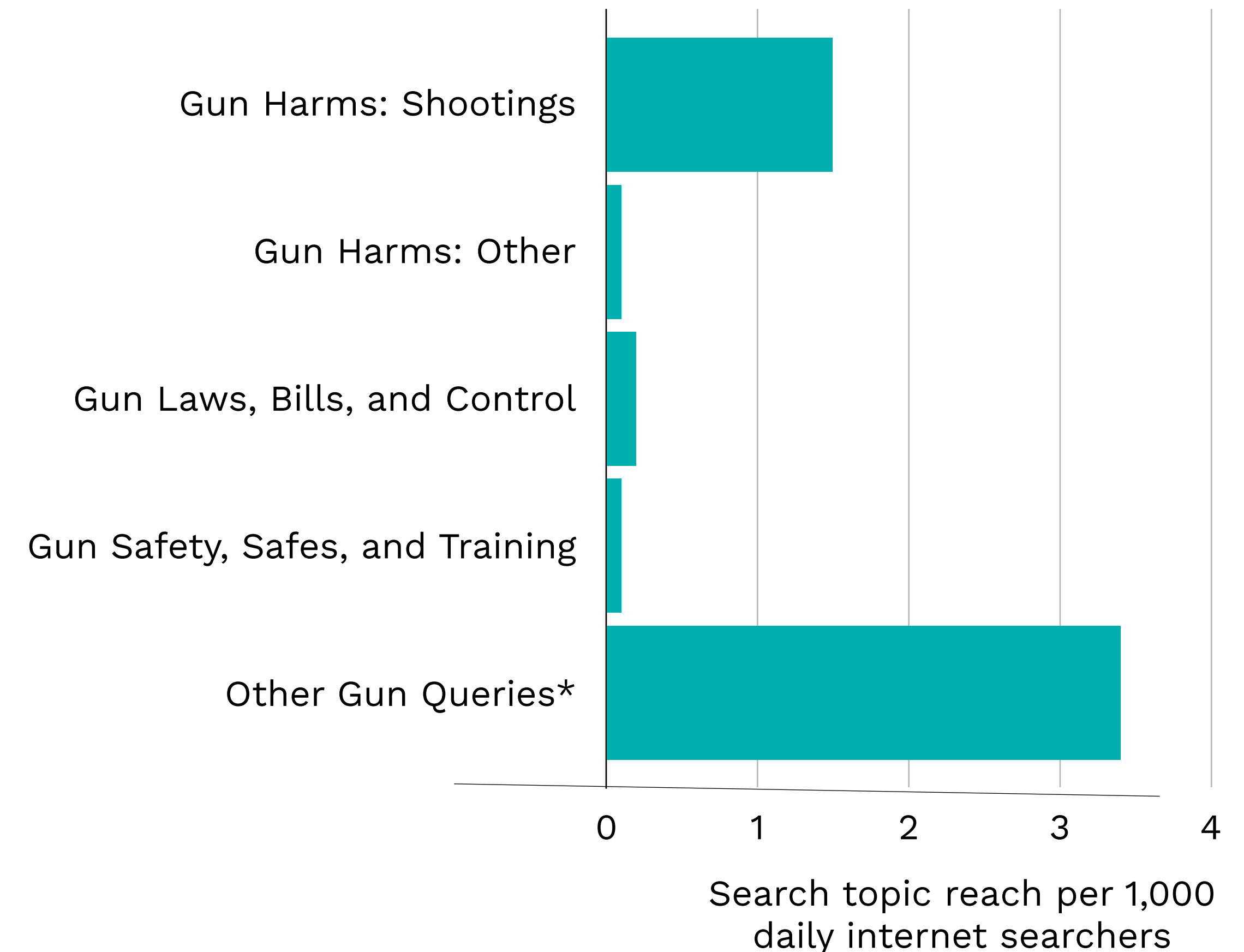gun

Hunting & Fishing

Music

Nurturing outrage and fear

Every day, **5 out of every 1,000 people** who search anything on the internet search for something about guns or firearms. Of them, fewer than **4%** search for anything related to gun control, bills, or laws, and fewer than **2%** search for anything related to gun safety, safes, training, permits, or licensing.

Instead, more than **30%** of people who search for gun-related content online are searching for information about **gun harms** and almost all of those searches concern anonymous mass shootings or police-involved shootings. Virtually no gun searches contained the word "suicide."

Since the News & Hot Takes ecosystem was the highest reach in our YouTube findings (+1.5% of all users daily) and was connected with searches for "shootings," it's not surprising that the nearly **100,000 searches** we analyzed reflected an abundance of harm-associated **fear**.

Gun Harms: Shootings

Gun Harms: Other

Gun Laws, Bills, and Control

Gun Safety, Safes, and Training

Other Gun Queries*

0   1   2   3   4

Search topic reach per 1,000 daily internet searchers

* **Other Gun Queries** include hundreds of terms, mostly gear-related, like "rifle case," "ammo for sale," "gun for sale," "shooting ranges," etc.

A narrative of "random attacks"

95% of searches about gun harms are for mass shooting events or police-involved shootings rather than other kind of harms including suicide, accidents, and domestic events—indicating an abundance of fear.

Consuming content from the **News & Hot Takes** ecosystem, the ecosystem with the largest reach, is associated with searching for **active shooters and shootings.**

People who watched News & Hot Takes guns content on YouTube were **more likely** than people from other ecosystems to search on the same day for information about shootings and active shooters.

What this tells us: **News & Hot Takes** is a part of sustaining a pervasive narrative about firearm-related harms as random, unpreventable attacks by strangers.
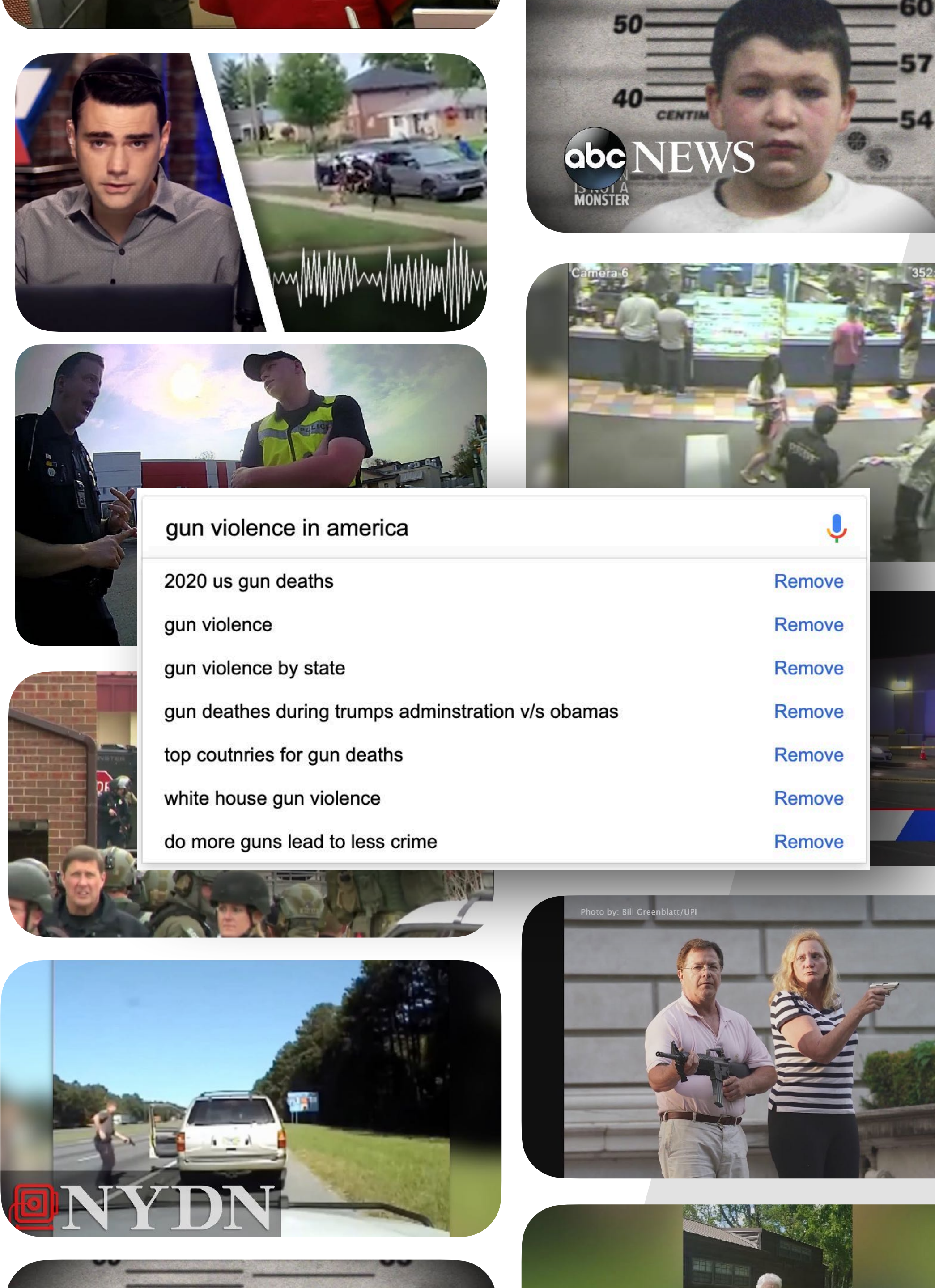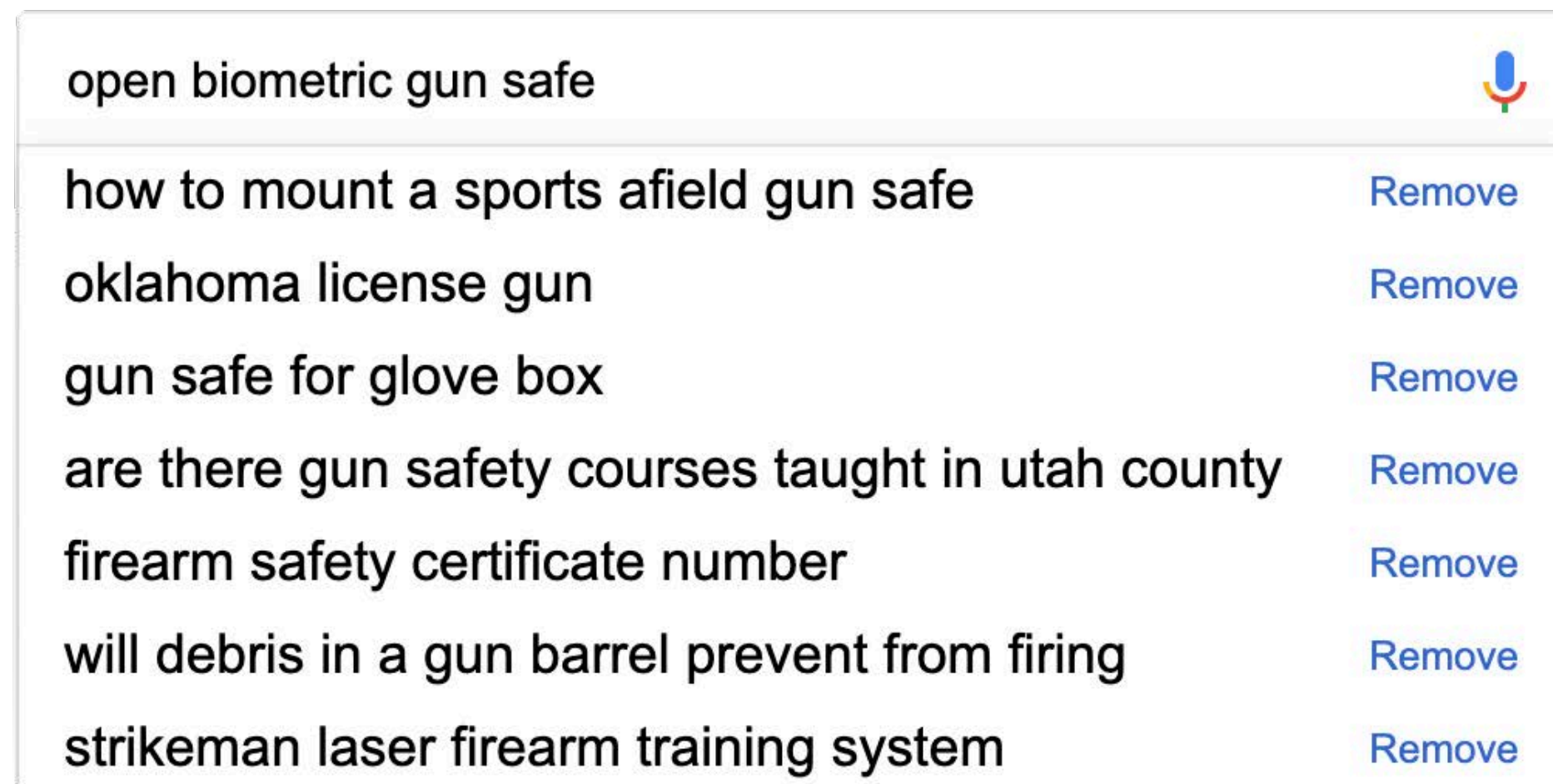
Emphasis on statistics over instructions

When they're not searching for shootings, audience inquiries about gun harms often concern **statistics rather than instructions**. Searchers ask for information (like "statistics on guns in the home" or "number of deaths from gun violence") rather than guidance (like "how to commit harms" or instructions on suicide).

Many of these searches suggest that internet users are fact-checking or trying to find out what's really true.

For instance, "abortion vs. gun deaths" suggests that the user encountered the comparison somewhere and wants to know more. Two users searched for information about a false report that George Floyd threatened women with a gun before his murder in 2020.

senate gun violence
white house gun violence
chicago police gun violence plan
gun violence by state
gun violence maine vs illinois
statistics on guns in the home
fbi gun defense statistics
gun deaths during trumps adminstration v/s obamas
gun violence archive
do more guns lead to less crime
guns and fear of crime
how many gun deaths by responsible gun owners
how many gun deaths in new york city 2018
number of deaths from gun violence
oes community gun violence predict gun ownership?\u201d
st louis couple with guns
george floyd held gun to pregnant woman fact check
suicide by firearm statistics
top coutnries for gun deaths
abortion vs gun deaths
according to a\u200b report, 54.1 \u200b% of murders are commi with a firearm. \u200b(a) if 400 murders are randomly\u200b sele
alternative title to gun violence
amnesty international usa gun violence
chicago gun crime stats

Searching for "safety"

open biometric gun safe

how to mount a sports afield gun safe   Remove

oklahoma license gun   Remove

gun safe for glove box   Remove

are there gun safety courses taught in utah county   Remove

firearm safety certificate number   Remove

will debris in a gun barrel prevent from firing   Remove

strikeman laser firearm training system   Remove

Gun safety searches were **most common** among users who consumed YouTube content in the Guns & Gear ecosystem.

Gun safety searches are broadly defined as searches containing the strings "safe," "training," "class," "permit," "license," and "prevent," and were as **equally rare** as searches for non-mass shooting harms.
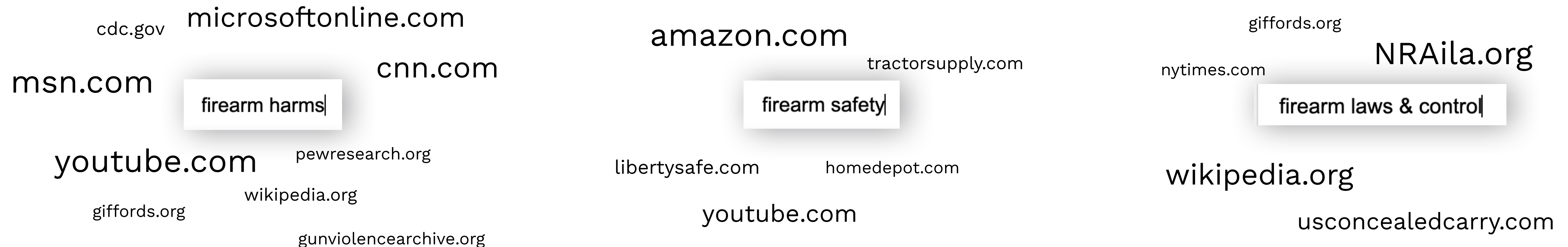
Gun safety equipment, especially **gun safes** and **installing safety equipment**, was a common theme in these searches as was licensing. One notable example featured a "safety delete," or a mechanism for disabling the safety of a firearm.

When users were searching for information about how to stay safe, they rarely asked Google itself what they should do and instead sought information about where to take **firearm safety training courses** near them.

Eventual destinations

After YouTube and search, people within our 7 ecosystems build larger stories for themselves by choosing where to receive additional information. The destinations below show how people looking for information about **harms** often end up somewhere different than people looking for information about **safety** or **laws & control**.

YouTube is clearly an important and repeated destination for information and appears in searches both for harm and safety. This fact highlights the potential of creating impactful video content for specific ecosystems, knowing that ecosystems lead to search trends and could help to build new narratives for firearm safety intervention—and the importance of having searches take people to positive narrative pages with the data and stories that resonate.

cdc.gov   microsoftonline.com

msn.com   cnn.com

| firearm harms |

youtube.com   pewresearch.org

wikipedia.org

giffords.org

gunviolencearchive.org

amazon.com

tractorsupply.com

| firearm safety |

libertysafe.com   homedepot.com

youtube.com

giffords.org

nytimes.com   NRAila.org

| firearm laws & control |

wikipedia.org

usconcealedcarry.com

Firearms are unequivocally American

Firearms influence our individual stories as Americans in pervasive ways, in both public and private life, from hobbies to entertainment to news and social events. As we experience firearms in YouTube, online searches and associated results, and then circle back again, we build our narratives about "gun culture" along the way.

The biggest question we are left with:

What if ending firearm injury in the US requires a rewrite of how we think about "firearm injury" itself?

Understanding how firearms serve the national consciousness of "Americans," and the behavior of Americans in relation to "firearms" online, will help us form a common set of norms to lay the groundwork for intervention and sustainable firearm safety.

THANK YOU

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