**Background:**

Dangerous [Online Challenges](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8730751/) are one of many thrill-seeking activities children and teens try in the 21st century. These challenges cause serious injuries and deaths, but few academic studies are available to quantify the prevalence of these challenges and their resulting harms. This paper provides references of peer-reviewed studies conducted regarding online extreme challenges, highlighting the need for additional study of these activities and for education of children, parents and local, state and federal officials as to their existence and prevalence.

[Unintentional injuries](https://pubmed.ncbi.nlm.nih.gov/34399929/) were the leading cause of death for children and youth aged 1–19 in the United States from 2010-2019 (West, B., Rudd, R., et al (2021), Unintentional injury deaths in children and youth, 2010–2019, *Journal of Safety Research).*

Academic research demonstrates the developmental basis for teens to participate in [risky, thrill-seeking behaviors](http://jeffreyarnett.com/articles/arnett1992recklessbehaviorinadolescence.pdf). (Arnett, J. (1992). Reckless behavior in adolescence: A developmental perspective. Developmental Review, 12(4) [https://doi.org/10.1016/0273-2297(92)90013-R](about:blank)).

Harmful Online challenges that have received media coverage include [The Blue Whale Challenge](https://www.bbc.com/news/blogs-trending-46505722)**,** [**Tide Pod Challenge**](https://time.com/5104225/tide-pod-challenge/)**,** [**Skull-Breaker Challenge**](https://www.bbc.com/news/technology-51742854)**,** [**salt and ice challenge**](https://www.today.com/parents/salt-ice-challenge-leaving-teens-burns-t107482)**,** [**Benadryl Challeng**](https://www.fda.gov/drugs/drug-safety-and-availability/fda-warns-about-serious-problems-high-doses-allergy-medicine-diphenhydramine-benadryl)**e and** [**The Choking Game/Blackout Challeng**e](https://www.newsweek.com/blackout-challenge-tiktok-lawsuit-1727025) .

The “[Choking Game](https://pubmed.ncbi.nlm.nih.gov/35912791/)” (TCG)/Blackout Challenge is likely the most well known challenge. This is due in part to videos of people demonstrating this challenge being widely shared on internet platforms. TCG can result in death and permanent injuries such as chronic headaches, amnesia, convulsions and stroke (Astorri, E., Clerici, G., Gallo, G., Raina, P., & Pellai, A. (2023). Online extreme challenges putting children at risk: what we know to date. *Minerva pediatrics*, *75*(1), 98–109. <https://doi.org/10.23736/S2724-5276.22.06892-6>). [Erik's Cause](https://www.erikscause.org/), a 501(c)(3) public charity dedicated to teaching students and parents about the harms of online challenges, documented [**1,385**](https://public.tableau.com/app/profile/judy.rogg/viz/EriksCauseVictimsMap/Dashboard1) deaths world-wide since 1934 due to TCG.

TCG is also referred to by researchers as [self-asphyxial (risk taking) behavior (SAB)](https://pubmed.ncbi.nlm.nih.gov/26111816/). SAB has been documented in medical literature since the [1950s](https://pubmed.ncbi.nlm.nih.gov/14858861/) (Howard P, Leathart GL, Dornhorst AC, et al. The mess trick and the fainting lark, BMJ 1951). ***The purpose of SAB is to experience a euphoric high, without illicit drugs or alcohol, by self-strangulation.***

TCG/SABattemptsare often [recorded](https://pubmed.ncbi.nlm.nih.gov/35912791/) and shared on internet platforms. In 2015, Defenderfer et al, documented 419 TCG videos on YouTube, documenting people actively participating in TCG, that were viewed 22 million times (Defenderfer, E. K., Austin, J. E., & Davies, W. H. (2016). The Choking Game and YouTube: An Update. *Global pediatric health*, *3*, 2333794X15622333. [https://doi.org/10.1177/2333794X15622333](about:blank)). As TCG hashtags are frequently updated (Appendix), new videos depicting TCG/SAB continue to be uploaded online on [various internet platforms (Astorri et al).](https://www.minervamedica.it/en/getfreepdf/UTk0QkoyWUxpdEhjS0lKcGNpeFlXM1Ard29zNnYyMXJXYjRFMFFqVHFuek5ibHFINFByZkZDdkZHWFJBQ1FZNg%253D%253D/R15Y2023N01A0098.pdf)

Estimated lifetime prevalence rate of ever participating in TCG/SAB in young people ranges from [**7.4%**](https://pubmed.ncbi.nlm.nih.gov/26111816/) based upon cross-sectional studies from North America, France and Colombia (Busse et al), to **17%** (Defenderfer et al).

Methods used for the Choking Challenge include:

* Hyperventilation and then another person applying pressure to the chest (e.g., bear hug or pushing the person up against a wall)
* using ligature (ropes, scarves, purse straps, etc.) until [losing consiousness](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4680200/) (frequently by themselves, resulting in the majority of TCG deaths)
* Mimicking [Mixed Martial Arts](https://www.mma-training.com/choke-holds/) Tap-Out/Submission choke holds and head shaking, etc.

**Feb 15, 2008, Centers for Disease Control** [**Morbidity and Mortality Weekly Report**](https://www.cdc.gov/mmwr/preview/mmwrhtml/mm5706a1.htm) **(MMWR)**

* Report found 82 probable choking-game deaths among youths aged 6-19 years during 1995-2007. The report noted the difficulties in identifying TCG deaths: “***death certificates lacked the detail necessary to distinguish choking game deaths from other unintentional strangulation deaths***. .Deaths also **were excluded** if the reports noted that the medical examiner ruled the death was a **suicide or of undetermined intent coupled with no mention of elements of the choking game**...” Deaths included in the study had

to meet two criteria: (1) reported to one of the then-two primary grass-roots organization regarding TCG, and (2) discussed explicitly as a TCG death in national news report able to be found via a Lexus Nexus search (excluding local or regional press) (see CDC MMWR February 15, 2008, Editorial Note paragraph 4). Thus the MMWR itself suggests that the number of deaths reported in this study are underestimated.

**Mortality Data:**

[**Federal Interagency Forum on Child and Family Statistics**](https://www.childstats.gov/americaschildren/mortality.asp) **Child and Adolescent Mortality**

**2020 National Center for Health Statistics**

* **5,746** children and adolescents (birth to 17 years old) died from unintentional injuries in **2020.**
  + Unintentional injuries were the leading cause of death among children under age 12, accounting for **12.5%** of deaths. Among children under age 12 in 2020, 3,300 died from unintentional injuries, **87** died from suicide.

**Unintentional injuries accounted for 31.4% of deaths among adolescents ages 12–17, followed by suicide (20.4%). Among adolescents ages 12–17 in 2020, 2,446 died from unintentional injuries; 1,592 died from suicide.**

**Prevalence Data:**

* [Bloomberg Businessweek](https://www.bloomberg.com/news/features/2022-11-30/is-tiktok-responsible-if-kids-die-doing-dangerous-viral-challenges) reported on November 30, 2022 that the Choking Game, also called “The Blackout Challenge” had been linked t[o the deaths](about:blank) of at least **15** children [age 12 or younger](about:blank) since May 2020, based upon datacompiled from news reports, court records and interviews with family members. Bloomberg estimates that at least **five** children age 13 and 14 also died in that timeframe.
* The CDC’s [Youth Risk Behavior Survey](https://www.cdc.gov/healthyyouth/data/yrbs/index.htm) (YRBS), conducted every two years, has an option for localities to add any of approximately 200 optional questions to its standard survey, only one of which pertains to the choking game. This wording was drawn from the 2008 CDC MMWR study and focused on the deadliest method of play:

“*Have you ever been choked by someone or tried to choke yourself on purpose, such as with a belt, towel, or rope, for the feeling or experience it caused? (This is also called the Choking Game, Knock Out, Space Monkey, Flatlining, or the Fainting Game.)” (Yes/No answer)*

* Between 2013 and 2017, four states used this question. “Yes” answers included:
* 2013: 7.4% of Montana students
* 2015: 7.6% of Florida middle school students
* 2015: 10.3% of Kentucky middle school students
* 2017: 10.3% of Utah high school students

As of the 2019 YRBS, the language of the question was changed to be:

*“Have you ever participated in a game or challenge, by yourself or with others, that involved getting dizzy or passing out on purpose for the feeling it caused? (This is also called the choking game, the fainting game, pass out, knock out, tap out or black out.)”*

Results with this question are as follows:

* 2019: 6.5% of FL high school students (translates to 40.665 Students)
* 2021: This question was used by Florida and by Tennessee. Results are still pending (per [Erik’s Cause](https://www.erikscause.org/)).

**The Choking Game Brochures/Educational Materials can be downloaded via the** [**Erik's Cause**](https://www.erikscause.org/downloads) **webpage.**

**Articles:**

* Singla, M. (2023, Jan 18), TikTok choking challenge tragedy: How did Milagros Soto die, cause of death explained, *The Sentinel Newspaper*, <https://ksusentinel.com/2023/01/18/tiktok-choking-challenge-tragedy-how-did-milagros-soto-die-cause-of-death-explained/>, accessed April 27, 2023
* Martin, I (2022, July 22), What Is the Blackout Challenge and What Has TikTok Said About It?, *Newsweek*, <https://www.newsweek.com/blackout-challenge-tiktok-lawsuit-1727025>, accessed April 27, 2023
* Bentley-York, J. (2022, July 6), NOT A GAME' What is TikTok’s blackout challenge?, *The US Sun*, <https://www.the-sun.com/news/3320975/what-is-tiktok-blackout-challenge/>, accessed April 27, 2023
* Moe, D. (2022, May 18), A mother brings awareness to other parents about dangerous online “challenge” games after a tragedy, *Madison Magazine*, [*https://www.channel3000.com/madison-magazine/city-life/a-mother-brings-awareness-to-other-parents-about-dangerous-online-challenge-games-after-a-tragedy/article\_4373e16f-1734-5005-b22c-ee6368c2ff36.html*](https://www.channel3000.com/madison-magazine/city-life/a-mother-brings-awareness-to-other-parents-about-dangerous-online-challenge-games-after-a-tragedy/article_4373e16f-1734-5005-b22c-ee6368c2ff36.html)
* Lee, AM (2021, Aug 19), Child deaths blamed on TikTok "blackout challenge" spark outcry,  *CBS News*, <https://www.cbsnews.com/news/tik-tok-blackout-challenge-child-deaths/>, accessed April 27, 2023
* Chan, M. (2018, March 12), Kids Are Playing the 'Choking Game' to Get High. Instead, They're Dying, *Time,* <https://time.com/5189584/choking-game-pass-out-challenge/>, accessed April 27, 2023

**Appendix: Additional Names/Hashtags for “the pass-out challenge**”

Source: Busse, H., Harrop, T., Gunnell, D., & Kipping, R. (2015). Prevalence and associated harm of engagement in self-asphyxial behaviours ('choking game') in young people: a systematic review. *Archives of disease in childhood*, *100*(12), 1106–1114. https://doi.org/10.1136/archdischild-2015-308187

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| Space Monkey challenge | Hangman game | Blackout Challenge | Choking game | Dreaming game | Fainting game | California High | Flatliner | Headrush |
| Elevator | Tap out | Knockout game | American dream | Airplaning | Black hole | Breath play | California choke | Choke out |
| Cloud nine | 5 min of heaven | Funky chicken | Natural high | Ghost game | Tingling | Gasp | Scarf game | Purple hazing |
| Space cowboy | Fainting Lark | Mess trick | Riding a Rocket | Twitching game | California Dreaming | California Headrush | Dumbass game | Dying game |
| Harvey Walbanger | Hyperventilation game | Indian Headrush | Knockout Game | Sleeper Hold | Suffocation game | Suffocation roulette | High Riser | Trip to Heaven |
| Rocket Ride | Speed Dreaming | Wall fit | Purple dragon | Five second High | Acupuncture game | Sleeping game | Tingling game | Take me down |