CLIP THINKING

Fragmentation Of Thought

What We Know So Far

QUESTIONS? CONTACT US.

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The Zentrum für Medienpsycholgie und Verhaltensforschung (ZeMV) is a specialized, non-profit research institution dedicated to the interdisciplinary study of modern media's psychological, social, and economic impacts. ZeMV aims to foster critical discourse and advocate for ethical media and technology design. The center's mission is to promote informed media literacy, enabling individuals to engage critically and consciously with media content.

ZeMV operates with a dual focus: providing accessible, evidence-based insights to inform and empower the public while simultaneously conducting academic research to advance the scientific community's understanding of modern media's influence on human cognition, social behavior and psychological well-being.

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PURPOSE OF THIS PAPER

A lack of a consensual general definition

The term 'Clip Thinking' is fairly unpopular. Researchers have not yet been able to agree on a general definition as to what it exactly is, or is comprised of. Since there can be assumed a wide range of symptomatic characteristics for the term, we aim to propose a definition and provide an overview of the phenomenon.

In this publication, we present the integration of different domains of science and what they have contributed to the investigation of the phenomenon so far.

A clear definition serves as a foundation for further investigations of its cognitive, social, and educational implications. It enables researchers and practitioners to address its challenges systematically.

By establishing a cohesive perspective, we can align the contemporary findings from different fields and bridge gaps between theory and practice.

Such an alignment can be a pillar for innovation in education, mental health practice and digital literacy.

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THE NEED FOR AN INTEGRATED PERSPECTIVE

Where is the the origin of Clip Thinking?

Clip Thinking is not a newly discovered trend: it traces back to the mid-20th century as scholars started to observe cognitive shifts apparently driven by advancements of mass media. *Marshall McLuhan* highlighted how electronic media altered cognitive processes. In his opinion, the growing popularity of media was responsible for people favoring quick, fragmented and easy chunks of knowledge over logical reasoning.

Over time, other scholars expanded on these topics. In contemporary analyses, numerous Russian scholars adopted research and theories on the phenomenon.

TIMELINE

## Historical observations and insights

Marshall McLuhan introduced his thoughts about media's role in reshaping cognition in the 1960s. In the same decade, Abraham Moles identified *fragmentation* in media as a transformative force– societal and cognitive [1].

In the 1970s, Alvin Toffler predicted *information overload* and its psychological impacts. Guy Debord raised concerns in his critiques of society's preference for spectacle over substance in media consumption [2; 3].

As usage of TV and early internet grew, research on 'multitasking', distraction and attention deficits received more attention; notable authors being Sherry Turkle, Herbert Krugman and Neil Postman [4; 5; 6].

In the early 2000's Nicholas Carr highlighted the internet's effect on cognitive processes, including fragmented thinking [7].

2010 and onwards, Konstantin Frumkin conceptualized Clip Thinking in relation to digital media, with numerous studies referring to his seminal insights [8].
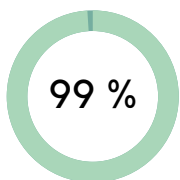
01 1960s

02 1970s

03 1980s-1990s

04 2000-2010s

05 2010s-today
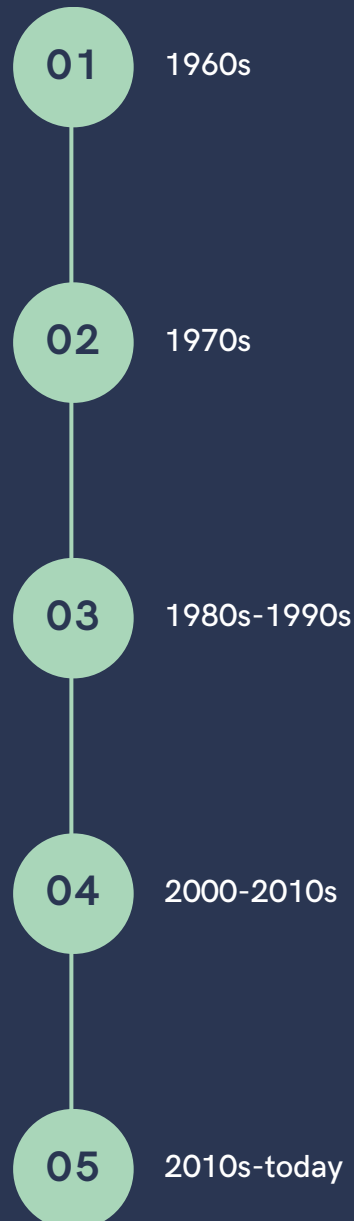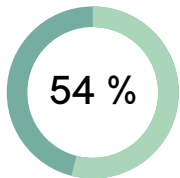
YOUTH AND MEDIA AT A GLANCE

1 in 5 teens reported using at least one social media app 'almost constantly' in 2022 [12].
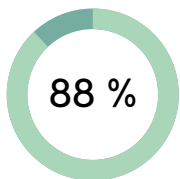
Key Statistics

99 % of German teens had a smartphone and additional technology like tablet or laptop in 2023 [9].

54 % of a 16-hour wake cycle is spent using digital devices (assuming 8 hours of sleep per day) [10].

88 % of German individuals between 10 and 18 years used either YouTube, TikTok or both in 2021 [11].

CLIP THINKING AT A GLANCE

The concept as we understand it today

A comprehensive definition

Synthesizing historical and contemporary concepts, the concept of Clip Thinking can be described as:

A cognitive phenomenon that is characterized by fragmented, disjointed and non-linear information processing. It appears to be most likely driven by the prevalence of digital media and the rapid engagement with diverse content.

Clip Thinking appears to undermine sustained attention and focus on a single task that requires undivided attention. Through the habitual superficial processing of information and ultra-short lived modern nature of cognitive engagement, major difficulties arise regularly in critical analysis and conceptual reasoning. Reflective learning and thinking appear to become increasingly challenging for individuals that are heavily influenced by the constant distraction and information overload from digital media.

EVOLUTION OF SOCIAL MEDIA CONTENT

The rise of ultra-short video content

While the average video length on YouTube decreased over time, as of today, it is generally known that ultra-short video content has immensely increased in popularity. Years after YouTube launched its video service, the platform Vine became heavily popular among young users, featuring 6-seconds looped videos. A similar model was adopted by the platform TikTok, that is focused on the distribution of ultra-short video sequences and virality.

After TikTok's launch in 2016 and its fast rise in popularity, YouTube and Instagram adopted the short format in '*Shorts*' and '*Reels*' by 2020. These are suggested to users randomly, requiring no more than a few seconds to watch. Often, content is verbally condensed in unnatural speaking pace. Dr. Gloria Mark refers to a *YouTube aesthetic*; meaning an unnaturally fast cutting style, in order to pack more content per second into a video [13].

"We can largely attribute the success of short-form video to the fast-paced nature of online consumption. With attention spans shorter than ever, content that is quick to engage and easy to digest is more likely to capture and retain viewer interest. Short-form videos cater to this by delivering content in bite-sized pieces, making it easier for users to consume, enjoy and share."

— Don Dodds, Forbes
[14]

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THE ATTENTION SPAN PROBLEM

Are we on par with goldfish?

In 2015, Microsoft published a study on the human attention span, with significant impact. The study, called *Attention Spans: Consumer Insights from Canada*, sparked debate among professionals in psychology, education and technology. Critics called for cautious interpretation, yet it stands as a reminder for a serious issue: a general decrease in attention, across various demographics. While garnering global attention, the myth about humans' attention span being now 'comparable to that of a goldfish' has been debunked. Also, the claimed decrease in attention from 12 seconds in 2000 to 8 seconds in 2008 is not established as a fact, nor does it originate from the aforementioned study's findings. While the study has an important function in raising awareness to a much deeper problem, our evidence-based knowledge is still limited. Dr. Gloria Mark, a researcher on human attention with extensive expertise and experience in the field, has conducted empirical research, that still aligns with the general narrative: human attention is declining [15].

2004	100%
2012	50%
2018	31.3%
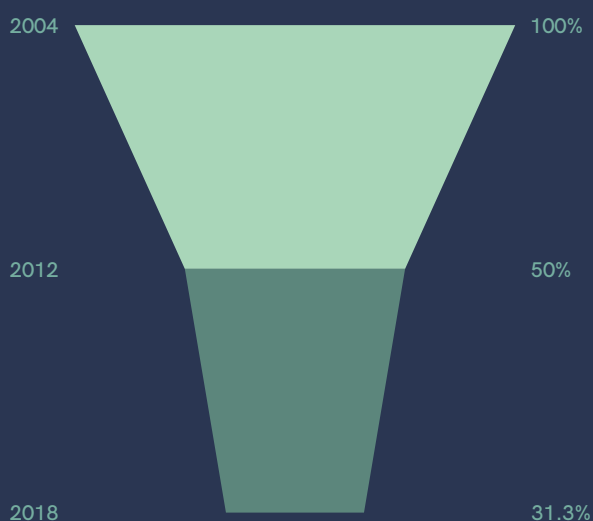
From a measured average of 150 seconds in 2004, when doing a task, the duration of attention had already halved to 75 seconds by 2012, according to Dr. Gloria Mark's findings.
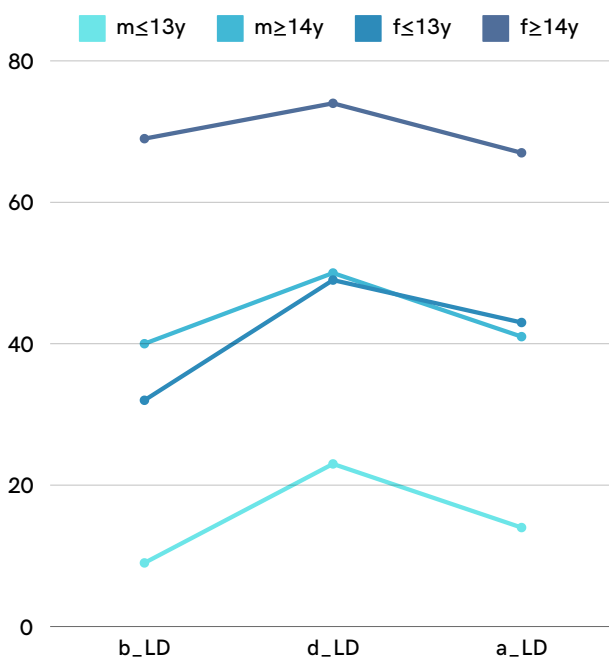
Within the last 5 to 6 years, it has further decreased to approximately 47 seconds, equaling only 31% of the average attention in 2004 [13].

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THE RISE OF THE ALGORITHM.

These days, the vast majority of social media content is disseminated through *feeds*. What content is presented to the user is mainly decided by an AI-algorithm. Social media companies like to portray these algorithms as tools that are meant to enhance the user experience. In reality, the content is not ranked by what might enhance the user's individual experience or be beneficial to them, but by the probability of highest and longest engagement. Algorithms are nowadays extremely sophisticated and intelligent decision-makers that can process unimaginable amounts of data and put them in relative coherence. No human would ever be capable of integrating such granular and nuanced data trails into one big picture that can predict behavior precisely. The engine deciding what content to show next can be seen as the cash cow of the social media platform. Because the equation is: engagement = money.

With the ever-increasing precision of algorithms in their predictions of virality and engagement, new problems have surfaced that had never existed before. Users are much less in charge of what they actually consume nowadays, because the algorithms replace their active decision-making. Passive consumption increases the duration of overall engagement, yet the different contents are getting ever shorter. Also, feeds play videos automatically, without activation by the user. Catering to the short-lived attention, algorithms prefer ultra-short videos, as mentioned before. This amounts to an incredible mass of content: if we break down the available data of average time spent on platforms, and take into account the average video length, the number of videos consumed per day lies somewhere between 95 and 380 – that's between 2,850 and 11,400 videos per month* [16], [17].
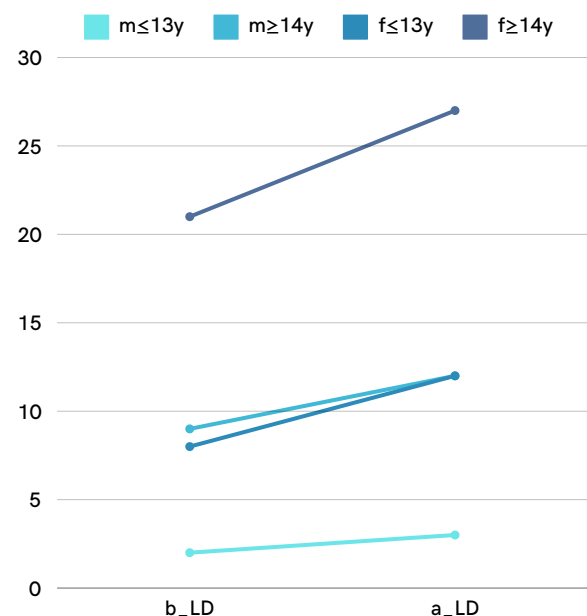
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COVID-19 AND SOCIAL MEDIA

Covid-19 had a significant influence on youth, with the lockdown being an unprecedented situation for their social lives; this reflected in media habits with sustained effects.

Children's and adolescents' use of social media before, during and after the lockdown period in Switzerland. Groups divided in male and female, with a cut at age 14. This diagram represents those portions reporting social media use between 1-3h per day and >6h per day. While the expected sharp surge during the lockdown flattened post-lockdown, pre-lockdown levels were only reached in females ≥14 years, however, those were the ones with the highest social media screen time by far.

Data from the same dataset cleaned from the 1-3h per day subset. The diagram shows the same age groups and the percentage of subjects, before and after the lockdown, who reportedly spent 4-6 or more hours on social media. After the lockdown, from left to right, of the respective age groups, 3%, 12%, 12% and 27% reported spending at least 4 hours per day on social media [18].

VOICES OF EDUCATORS

Who needs to adapt – students or their education?

While educators globally express concern over students' declining ability to sustain attention during educational dialogues and lecturing time, uneven focus in classrooms, the phenomenon of Clip Thinking has been discussed as a *new cognitive style*, which education should be able to adapt to. Digital education, m-learning, blended learning models and tablets in classrooms have been some of the adaptations in education globally over the past two decades. The debate among educators is whether Clip Thinking can and should be combated or simply accepted as a prominent shift and part of modern information-loaded media environments. While some argue that suppressing or resisting Clip Thinking is futile [8], others take a critical stance and highlight the numerous detriments it brings, such as deficits in attention, decline in creativity, challenges in decision-making and deep, logical reasoning and comprehension [19]. There is a consensus, however, in that the phenomenon is a significant challenge to educational institutions and personnel and the symptomatic descriptions and observations seem to align globally. Cognitive functions appear to be significantly impaired in young generations and it seems to become worse. While we must avoid hasty conclusions, the well-documented correlation between the increasing integration of technology in daily life and the corresponding decline in cognitive performance is unlikely to be a mere coincidence.

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ARE WE IN TROUBLE?

We have some of the best designers and product developers in the world who have designed these products to make sure people are maximizing the amount of time they spend on these platforms. And if we tell a child, 'Use the force of your willpower to control how much time you're spending [on social media],' you're pitting a child against the world's greatest product designers, and that's just not a fair fight. And so that's why I think our kids need help [20].

— *Surgeon General Dr. Vivek Murthy on CNN, as cited by Dr. Mike Davis*

We might not be in trouble. Yet. However, research suggests that Generation Alpha has way different learning needs than previous generations. They are heavily reliant on visuals and interactivity when learning. Growing up entirely surrounded by technology, studies found that they have different characteristics in understanding and perception. Challenges could be attributed to the differences in technological literacy of teachers who are just not as adept with modern media. Traditional lecturing and text-based learning does not seem to be very efficient with Gen Alpha. It is not a disaster, though. Educators face the dual challenge of integrating technology-based tools that resonate with these learners while simultaneously coping with the cognitive detriments of superficial media engagement. The constant consumption of shallow, repetitive, and often meaningless short video content poses risks to critical thinking, deep learning, and social intelligence. Even though we must adapt and cater to Gen Alpha's unprecedented needs, there is also a need to address the negative sides — of Clip Thinking and modern media in general [21].

RESEARCH OUTLOOK

Directions for future evidence-based work on the topic

We can not make predictions about whether Clip Thinking is a reversible phenomenon or when it begins to manifest. Since today's life is heavily loaded with technology, we know little about the actual formation process, we only see the result. The extent to which Clip Thinking is really driven by social media, and what other influences there might be, is also difficult to determine. It is especially important to keep monitoring the phenomenon and see how it develops; to the better or worse — it may help us to learn more about it and how to limit its detrimental impact.

Top targets

RESEARCH
Investigation of developments.

INFORMATION
Dissemination of important findings.

POLICY
Implementation of ethical standards.

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assuming 95 minutes daily time spent on TikTok, with an average video length between 15 and 60 seconds (lower and upper boundaries in the estimation), calculated on a 30-day-basis. Assuming an uninterrupted watching activity, because of the feed's unpaused mechanism.

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