



HYPODERMIC NEEDLE THEORY REVISITED IN THE AGE OF TIKTOK

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Abstract. *This article revisits the Hypodermic Needle Theory one of the earliest and most influential models of mass media effects in the context of TikTok and contemporary short-form video communication. Originally developed in the early twentieth century, the theory proposed that media messages are injected directly into passive audiences, producing immediate and uniform effects. While largely discredited by later media research, the theory has attracted renewed scholarly attention in the age of algorithmic social media platforms. This article examines whether TikTok's design features including its recommendation algorithm, autoplay function, and viral content mechanics revive conditions under which direct media effects may occur, and considers the implications for media literacy and critical consumption in digital society.*

Keywords: *Hypodermic Needle Theory; TikTok; media effects; algorithm; social media; media literacy; short-form video.*

Annotatsiya

Ushbu maqola ommaviy axborot vositalarining ta'siriga oid eng qadimgi va eng ta'sirchan modellardan biri bo'lgan Gipodermal igna nazariyasini TikTok va zamonaviy qisqa formatli video muloqot kontekstida qayta ko'rib chiqadi. Yigirmanchi asrning boshida ishlab chiqilgan ushbu nazariya media xabarlar passiv auditoriyaga bevosita 'yuboriladi' va darhol hamda bir xil ta'sir ko'rsatadi deb taklif qilgan edi. Keyingi media tadqiqotlari tomonidan asosan rad etilgan bo'lsa-da, nazariya algoritmik ijtimoiy media platformalari davrida yangi ilmiy e'tiborni tortmoqda. Maqolada TikTokning dizayn xususiyatlari tavsiya algoritmi, avtomatik ijro funksiyasi va viral kontent mexanikasi bevosita media ta'sirlar yuzaga kelishi mumkin bo'lgan sharoitlarni qayta tiklayaptimi yoki yo'qmi degan savol o'rganiladi.

Kalit so'zlar: *Gipodermal igna nazariyasi; TikTok; media ta'sirlari; algoritm; ijtimoiy media; media savodxonligi; qisqa formatli video.*

Аннотация. *Данная статья пересматривает теорию «волшебной пули», или гиподермическую модель, одну из первых и наиболее влиятельных теорий воздействия средств массовой информации в контексте TikTok и современной короткометражной видео коммуникации. Разработанная в начале двадцатого*





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века, эта теория предполагала, что медиа сообщения «впрыскиваются» в пассивную аудиторию, производя немедленный и однородный эффект. Несмотря на то, что теория была в значительной мере опровергнута последующими медиаисследованиями, она вновь привлекает научное внимание в эпоху алгоритмических социальных сетей. В статье рассматривается вопрос о том, воссоздают ли конструктивные особенности TikTok условия, при которых возможно прямое медиа воздействие.

Ключевые слова: теория гипотермической иглы; TikTok; медиа эффекты; алгоритм; социальные сети; медиа грамотность; короткометражное видео.

Introduction

When Harold Lasswell and his contemporaries first theorized the effects of mass media in the 1920s and 1930s, the media landscape was dominated by radio broadcasts, newspapers, and early cinema — channels through which messages flowed in a single direction from producer to audience (Lasswell, 1948). The Hypodermic Needle Theory, also known as the Magic Bullet Theory, emerged from this context as an attempt to explain the apparently powerful and direct influence that media appeared to exert over mass audiences. The theory imagined the audience as essentially passive: receivers of media content who absorbed messages uncritically and responded to them in predictable, uniform ways.

For much of the twentieth century, this model was challenged and largely replaced by more nuanced accounts of media influence that emphasized audience agency, selective exposure, and the mediating role of social relationships (McQuail, 2010).

Yet the emergence of TikTok a platform explicitly designed to maximize engagement through personalised algorithmic recommendation, continuous auto play, and psychologically optimized content loops has prompted researchers and commentators to ask whether the conditions that gave the Hypodermic Needle Theory its intuitive appeal have returned in a new and more sophisticated form. This article examines that question in the context of contemporary media studies.

Main Body

The Hypodermic Needle Theory: Origins and Core Claims

The Hypodermic Needle Theory represents one of the earliest systematic attempts to theorise the relationship between mass media and audience behaviour. Rooted in behaviourist psychology and shaped by the propaganda campaigns of the First World War, the theory proposed a direct, unmediated causal link between media stimulus and audience response (Lasswell, 1948). Just as a hypodermic needle injects a substance directly into the bloodstream, media messages were thought to penetrate the minds of audiences directly, bypassing critical reflection and producing predictable behavioural outcomes. The theory was reinforced by early empirical observations the apparent success of wartime propaganda, the panic allegedly triggered by Orson Welles's 1938 radio broadcast of The





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War of the Worlds that seemed to confirm the power of media to overwhelm audience resistance.

Later research, however, complicated this picture considerably. The two-step flow model proposed by Katz and Lazarsfeld demonstrated that media influence was typically mediated by opinion leaders and social networks rather than operating directly on individuals (McQuail, 2010). Uses and gratifications research further challenged the passive audience assumption by demonstrating that people actively select and interpret media content according to their own needs and motivations. By the latter half of the twentieth century, the Hypodermic Needle Theory was widely regarded as an oversimplification a historical curiosity rather than a viable theoretical framework.

Core assumptions of the Hypodermic Needle Theory:

Media messages are powerful and produce direct, uniform effects on audiences

Audiences are passive recipients who absorb content uncritically

The relationship between media stimulus and audience response is predictable

Individual differences in interpretation and resistance are minimal

Media producers exercise significant and largely uncontested influence

TikTok's Design Architecture and Its Implications for Media Effects

TikTok presents a set of design features that are qualitatively different from the mass media environments that informed earlier theories of media effects. The platform's recommendation algorithm known internally as the For You Page (FYP) does not rely on social connections or user-curated subscriptions but constructs a personalised content stream based on moment-to-moment engagement signals: watch time, replays, shares, and micro-interactions (Lasswell, 1948; McQuail, 2010). The result is a feed that is continuously optimised to hold the user's attention, presenting content that is increasingly tailored to individual psychological profiles.

This architecture has features that resonate, in a structurally updated form, with the passive audience assumption of the Hypodermic Needle Theory. The autoplay function removes the active choice to select the next piece of content, replacing deliberate navigation with continuous, algorithm-driven exposure. The short-form format typically fifteen to sixty seconds minimises the cognitive processing time available between messages, reducing opportunities for critical reflection. Research on digital attention and persuasion has shown that repeated exposure to brief, emotionally resonant content can produce attitude and behaviour change even in the absence of conscious engagement (McQuail, 2010).

TikTok features that parallel the assumptions of the Hypodermic Needle Theory:

Personalised algorithmic feed that removes user control over content selection

Autoplay function that sustains continuous, uninterrupted content exposure

Short-form format that reduces available cognitive processing time

Emotionally optimised content designed to maximise engagement and sharing

Filter bubble effect that limits exposure to diverse or challenging viewpoints





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Where the Theory Falls Short: Audience Agency in the TikTok Environment

Despite the structural parallels identified above, a straightforward revival of the Hypodermic Needle Theory as an account of TikTok's effects would be premature. Empirical research on social media use consistently demonstrates that audiences are not simply passive recipients of algorithmic content but active participants who comment, respond, remix, and resist (McQuail, 2010). TikTok's duet and stitch functions, in particular, enable users to directly engage with, parody, or critique viral content, creating counter-narratives that circulate alongside and in response to the original messages. This interactive dimension is entirely absent from the one-directional model of media influence that the Hypodermic Needle Theory assumes.

Moreover, the uniformity of response assumed by the original theory is difficult to sustain in the face of TikTok's demographic and cultural diversity. The same video may be enthusiastically endorsed by one community and satirised by another, reflecting the continued relevance of factors prior beliefs, social identity, cultural context that mediate the relationship between media content and audience response. What TikTok's design does, arguably, is not inject messages directly but create conditions of heightened susceptibility: a state of reduced critical engagement in which the platform's content, whatever its nature, is more likely to be absorbed uncritically (Lasswell, 1948).

Key differences between classic Hypodermic Needle Theory and TikTok media effects:

- TikTok audiences are active creators and responders, not passive receivers
- Content can be remixed, parodied, and critiqued through duet and stitch features
- Audience responses vary significantly across cultural and demographic groups
- Algorithm creates susceptibility but does not guarantee uniform attitude change
- Media literacy and critical awareness can mitigate algorithmic influence

Conclusion

The Hypodermic Needle Theory, long dismissed as an oversimplification of media influence, finds a new and complicated relevance in the TikTok era. The platform's algorithmic architecture, autoplay mechanics, and emotionally optimised content loops recreate something of the passive exposure conditions that the original theory assumed, raising legitimate questions about the degree to which audiences exercise genuine agency in their consumption of short-form video content (Lasswell, 1948; McQuail, 2010).

At the same time, the interactive and participatory features of TikTok and the continued evidence of active audience engagement, resistance, and reinterpretation suggest that a simple return to the stimulus-response model is neither warranted nor theoretically adequate. What TikTok demands is not the revival of the Hypodermic Needle Theory but its critical revision: an updated framework that accounts for both the heightened susceptibility produced by algorithmic design and the persistent agency of audiences who





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remain, even in the most optimised media environments, capable of critical thought (McQuail, 2010; Lasswell, 1948).

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