



HÉROES, ÍDOLOS Y JÓVENES INFLUENCERS industrias Culturales y modelos de identidad en TikTok

Heroes, idols, and youth influencers: cultural industries and identity models in TikTok

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ABSTRACT

This study explains on how the TikTok platform can contribute to developing different identity models among teenage fans mediated by cultural industries. The theoretical models are those that focus on popular culture (Fiske, 1989) and, more recently, in the TikTok study (Abidin, 2021). The methodology combines big and small data analysis, inspired by the content analysis techniques, and looking at multimodal discourses. The results show different dimensions from which cultural industries build the identity of heroes, idols, or influencers. The focal points of the conclusions are the challenges posed to research by studying this social network.

PALABRAS CLAVE

TikTok
Héroes
Ídolos
Influencers
Big data
Análisis de contenido
Cultura popular

RESUMEN

Este estudio explica cómo la plataforma TikTok puede contribuir a desarrollar diferentes modelos de identidad entre los adolescentes fans, mediados por las industrias culturales. Los modelos teóricos adoptados son los que se centran en la cultura popular (Fiske, 1989) y, más recientemente, en el estudio TikTok (Abidin, 2021). La metodología combina big y small. Se inspira en las técnicas de análisis de contenido. Los resultados muestran diferentes dimensiones desde las que las industrias culturales construyen la identidad de héroes, ídolos o influencers. Las conclusiones se fijan en los retos planteados a la investigación mediante el estudio de esta red social.

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1. Introduction

The aim of this study is to analyse how the TikTok platform can contribute to the development of different identity models among teenage fans, through the influence exerted by heroes, idols and influencers. These characters are present in popular culture and are introduced into digital universes through cultural industries.

We look at *youth fan communities*, coexisting on the Internet today. We consider them as groups of people, users of social networks and other digital devices, who share meanings around certain objects or people with whom they have a strong emotional connection (Lacasa, 2020). In these communities, ways of seeing the world are exchanged, interacting with products distributed by cultural industries, understood as commercial institutions that contribute to the creation, production and distribution of symbolic universes, usually related to the media (Hesmondhalgh, 2019). In this study we are interested in analysing how these communities move through TikTok (Zhang, 2020).

With an emphasis on fandom, this paper seeks to analyse what models are offered by differentiating three types of cohesive objects, with deep roots in popular culture (Fiske, 1989). We understand heroes or heroines, whose example in this paper is the fictional superhero Spiderman (Stevens & St. John, 2020), as those characters who are capable of taking serious risks and overcoming significant difficulties in the service of certain principles. Studies dedicated to the subject attribute specific traits to them on a physical and psychological level (Franco et al., 2016; Kohen, 2014; Sullivan & Venter, 2010). Idols are much closer to everyday reality (Fairchild, 2007). The concept initially appears associated with TV shows, such as American Idol and also with pop music (Finan, 2021; Kim, 2018), whilst nowadays the topic is gaining relevance in relation to youth activism (Katayama, 2021). In this paper we take these concepts and understand idols as people who are admired or respected and who are associated with a certain type of performance to which a value is assigned. By influencer (Yesiloglu & Costello, 2021) we understand that “an influencer is any medium (individuals, brands, organisations, non-profits) which has the power to affect the actions and decisions (real or perceived) of others by virtue of their authority, knowledge, position, or relationship” (Russell & Itzler, 2020).

2. Theoretical background

As mentioned, this paper explores how the social network TikTok offers models of youth identity, constructed from the cultural industries. We will set out the theoretical framework that underpins this study by focusing on two thematic cores, the interaction in fan communities on TikTok and the identity models offered by the network.

2.1. Fans' interaction across TikTok

Each social network generates its own communication scenarios, shaped by the characteristics of the platforms that support them. Those who communicate through them are aware of their peculiarities, implicitly or explicitly. We will see what TikTok can contribute to fan communities, mediated by cultural industries.

What is TikTok? This social network has experienced exponential growth in recent years. It appeared in 2017 as the international version of the Chinese platform Douyin. TikTok increased its global popularity after the acquisition of Musical.ly in 2018. Already in 2020 boys and girls spent almost as much time on YouTube as on TikTok (Perez, 2020). Today it has become the sixth largest social network worldwide (Ceci, 2022). It is used by 1.2 billion users monthly and 44% of them are between 16 and 24 years old (Omnicores, 2022).

The characteristics of use of this platform make it a suitable source of study for understanding the functioning of micro-celebrities and fan communities (Abidin, 2021; Zeng et al., 2021). Its most relevant feature is the possibility of uploading very short videos to the network, together with trending sounds and music, through which everyday or simulated experiences are shared (Vázquez-Herrero et al., 2020). Moreover, when these videos go viral, other users are encouraged to replicate them both individually and in so-called duos. The videos have a maximum duration of 3 minutes. The platform also offers free editing options and filters. A decisive feature of this network is the use of algorithms that condition the videos accessed by users through personalised recommendations via the option offered on the ForYou page (Jaramillo-Dent et al., 2022; Schellewald, 2022).

Considering that young people rely mostly on two social networks, Instagram and TikTok, some studies have shown their positive effects on children's practices, e.g. they improve motivation in children and adolescents, facilitate entertainment and socialisation skills, as well as creativity (Bocco et al., 2021).

2.1.1. Fans, social networks, micro-celebrities and influencers on Tiktok

Social networks have generated new communication paradigms. Cybercommunication has emerged alongside the advances that have been incorporated into information and communication technologies in all areas of everyday life (Sarwatay & Raman, 2022; Schellewald, 2021). In this environment, young people are constructing new communicative strategies in interaction with other participants, including the cultural industries, which guide and direct the behaviours of superheroes, idols and influencers. In general terms we can accept that these industries have been inspired by micro-celebrity marketing (Kennedy, 2020).

It cannot be forgotten that celebrity practices have inspired what is considered micro-celebrity. For example, their activity is related to discursive and economic practices that emerged in the 20th century around movie stars (Oliva, 2019). Today, the media popular among young people are different. Generally speaking, both are linked to the media and are known outside social networks, although today they are also present in them. The word celebrity can evoke visual images or internationally known figures. They do something socially relevant, e.g. they are musicians, actors or models. They are cultural phenomena that connect to the collective identity and meaning that people attribute to the world, especially the fans.

Micro-celebrities are not, however, identified with traditional celebrities, associated with certain media such as television or film, or with some influencers who have emerged with the support of social networks. Differentiating between these terms is not always easy. They are present both in the professional marketing world (Haste, 2020) and in academic life (Vares & Jackson, 2015).

On the other hand, influencers, a 21st century media phenomenon, are social media stars. They are linked to an industry that hides multiple cultural, economic, social and legal implications. In fact, the term emerged in the field of marketing and advertising. It is about people who can influence potential consumers (Yesiloglu & Costello, 2021). The phenomenon can be associated, for example, with young girls exposing themselves and selling clothes through the Internet. The market they open from social networks, currently Instagram, is proportional to their number of followers.

In short, micro-celebrities cannot be fully identified with either traditional celebrities or influencers. We can accept that each character is defined by the spheres in which they move, in particular by the audiences they target, and by their relations with the media. The sphere in which micro-celebrities move is more limited than that of a traditional celebrity (Abidin, 2021; Abidin et al., 2019). This is where it makes sense to allude to the concept of an influencer, perhaps a micro-celebrity, because social networks support their activity, and they can become viral stars almost accidentally (Abidin, 2018).

2.2. The construction of fan identity from TikTok

The digital world has proven to be highly influential among young audiences. We can assume that any youth activity nowadays is often linked to digital tools encompassing areas as different and important in identity development as education, engagement, leisure or work trends, all influenced by cultural industries (Sarwatay & Raman, 2022). Different studies show how micro-celebrities can contribute to the construction of youth digital identities and how these are propagated and shared within the current media ecosystem. They influence the construction of individual and social identities (Boyd, 2002).

Furthermore, the identity development of children and adolescents in today's Western society is characterised by increasing youth participation in the consumer culture of the 21st century (Livingstone & Pothong, 2022). Numerous authors explore the topic and consider the way in which young people form their identities on virtual networks, a phenomenon that is occurring at increasingly younger ages, especially in the wake of the Covid-19 pandemic. From this perspective, social networks are perceived by young people as sources of content, especially content with psychosocial impact (Dyer & Abidin, 2022, in press). Identity development at this developmental stage involves the search for social recognition through the creation and dissemination of content (Bucknell Bossen & Kottasz, 2020; Tsaliki, 2022).

On the other hand, a relevant issue in the process of identity construction when young people interact in communities mediated by cultural industries is their relationship with values. The work of Sagiv & Schwartz, (2022), which refers to personal values and those coming from sociocultural psychology, contextualised in the community (Branco & Valsinger, 2012; Santos-Lopes-de-Oliveira et al., 2020), is relevant to deepen this issue.

2.2.1 Classic models: collective performance and imagination

In this paper we explore identity on the basis of different classical models that inspire more recent work. A first model focuses on the fact that the construction of identity is generated in the network, which places the adolescent in a public world, and from here the reflections of Goffman (1990) are relevant, when he refers to the presentation of the self in everyday life. The contributions of this author can illuminate the analysis of how the cultural industries show the traits of certain characters that can contribute to the definition of youth identity. Other studies have related the construction of identity, from the perspective offered by this model, in the context of social networks (Ditchfield, 2019; Farquhar, 2012; Hogan, 2010; Schwartz & Haleboua, 2014).

The presentation of the self, of a character in the case of the objects around which fan communities are grouped, is carried out through what Goffman (1990) considers a performative activity, a "performance". This is the definition he offers us:

A "performance" may be defined as all the activity of a given participant on a given occasion which serves to influence in any way any of the other participants. Taking a particular participant and his performance as a basic point of reference, we may refer to those who contribute the other performances as the audience, observers, or co-participants. (Goffman, 1990, p. 15-16)

In other words, the performer in our case is the hero, idol or influencer who offers himself or herself to an audience in the fan community. These performers show certain social roles and can become role models for young people who admire them and have an emotional bond with them. From this perspective, performance can take place in relation to different kinds of human activities, ranging from rituals that contribute to the coherence of the community to concrete activities related to everyday life (Schechner, 2020). Finally, it is worth noting the functions attributed to it by this author. Performance can contribute to entertain, to create beauty, to define or transform identity, to create or contribute to develop a community, to make or foster community, to overcome difficulties, to teach or persuade and, finally, to deal with the sacred and the demonic.

A second model that has directly inspired the analyses in this research is that provided by Holland et al. (1998), from the framework of a sociocultural anthropology. More recent work seeks to extend this model (Philip & Gupta, 2020). From this perspective, identity is defined as “one way of naming the dense interconnections between the intimate and public venues of social practice.” (Holland et al. 1998, p. 270). In other words, the public and the private are intertwined. But what is particularly relevant in the framework of this work is the concept of figurative worlds, where the person who confronts media messages from a fan community must situate him/herself. They are “cultural realms peopled by characters from collective imagines (...). A figured world is peopled by the figures, characters, and types who carry out its tasks and who also have styles of interacting within, distinguishable perspectives on, and orientations toward it.” (Holland et al. 1998, p.51). It is a collective imaginary that gives meaning to the heroes, idols and influencers that populate the social networks in the framework of this study. What is relevant is that these collective imaginaries are present in scenarios of activity.

2.2.2 Public and private worlds through social networks

The work of Dana Boyd (2011) allows us to probe deeper into these two dimensions, public and private, referred to by Holland et al. (1998), and to also consider the concept of performance proposed by Goffman (Goffman, 1990).

The novelty of Dana Boyd is that she takes the digital world in which young people are immersed as a starting point. As mentioned above, one’s own identity is composed of both an internal personal identity and a public social identity. Interactions with others allow aspects of the internal identity to be projected into a social identity for others to perceive. The internal dimension (Boyd, 2002), p. 21) refers to the way a person perceives him/herself in relation to his/her own experience in the world (e.g. moral, social or physical, etc.). External identity is related to public life.

The negotiation between that self-presentation and external evaluation is what is understood as performance, something that helps construct the social identity that emerges from the internal identity, but manifests itself in interaction with others. Very recent work has pointed to the role of TikTok in the construction of these self-presentations (Bhandari & Bimo, 2022). The network can be understood as a form of mediation that involves the social process of creating objects and people, which are propagated through the network within the framework of a visual culture. The risk lies in emphasising the medium as such, rather than the production of meaning related to self-presentation (Thumim, 2012).

It is within this framework of collective identity that social networks must be contextualised (Boyd, 2011; Ma & Zhang, 2022; Papacharissi, 2011), understood as networks of publics, which have been restructured by technological networks. These are collective spaces, in which imaginaries emerge through the interaction between people, technology and practices. Boyd (2011) defines them as a set of people who share their vision of the world and have common interests. In this sense it is related to an imagined community where a culture is shared that generates reactions from people, due to the fact that it is reconstructed and shared.

3. Methodology

3.1. Research objectives

The aim of this study is to explore, analyse and explain the interaction processes in the social network TikTok between cultural industries and those who participate in digital fan communities in leisure situations. It examines those organised around the idols present in the TV series *Outerbanks*, the classic hero *Spiderman* and the influencer *Charlie D’Amelio*.

The specific objectives are the following:

1. Examine the engagement of the followers of these cultural industries, present in TikTok to explain their similarities or differences.
2. Analyse which strategies used by these industries contribute to organising the identity models offered by these characters that can contribute to the construction of the personal or social identity of adolescent fans.

3.2. Methodological approach

From a methodological point of view, this project addresses online participation, with the aim of understanding young people's activity as a situated practice, involving processes that construct shared meaning. We adopt a mixed perspective (Cornelio & Roig, 2020; Hunting, 2021), which combines qualitative and quantitative methodological techniques, seeking to overcome contrasts between them.

Furthermore, it seems necessary to combine the approaches provided by the concepts of "big data" and "small data" (Woo et al., 2020; Zhurovs'kyi & Zaychenko, 2020; Martínez-Borda et al., 2021) as a relevant framework in this project. Their combination allows considering the context and circumstances in which the practices to be observed, analysed and interpreted take place.

3.2.1. Big data

The incessant activity of people on digital devices has led to an increase in smartphone apps and computer programmes that are transforming the way human behaviour and culture are studied. This, together with advances in the use of computational tools that can process massive amounts of data, has led to new ways of exploiting and utilising it.

For some authors (Kitchin, 2014) big data analysis is a new approach to interpreting reality. Instead of testing a theory, the new analyses seek to obtain information born from the data and build theory from there. Big data are defined by four properties: volume, as they include terabytes or petabytes; velocity, because they are obtained in real time and space; variety, in that they can be structured or unstructured; and completeness of purpose, as they capture the entire population and are generated continuously (Chang, 2018).

According to the afore mentioned authors, we understand "big data" as data that are discrete and intelligible units (each piece of data is individual, separable, and clearly defined), can be aggregated together (forming sets), can be associated with metadata and organised in databases that provide information that goes beyond a simple set of data.

In this work, big data analysis provides the quantitative perspective. It contextualises the fan communities of the heroes, idols and influencers under study. To obtain this type of data, we have used the software offered over the Internet by Analisa <https://analisa.io>, a company that accesses the contents of TikTok, generating different metrics.

3.2.2. Small data

Various methodological perspectives using qualitative methodology techniques support this work. We consider "small data" to be those that allow us to understand the meaning that participants attribute to their activity (Alinejad, 2018)

We look to grounded theory (Charmaz & Thornberg, 2021; Creamer, 2022; Tarozzi, 2020), which allows theory to be generated and extended from data. It should be noted that grounded theorists combine data collection and data analysis simultaneously. In this approach, coding progresses from the beginning of the study. Summaries and other writings help to clarify the meanings attributed by the researcher to the activities of the participants. It is primarily an inductive and interpretative approach (Carlsen & Ralund, 2022; Morse, 2021). It is now integrated into mixed methodologies and contributes to the understanding of complex phenomena.

One way to concretely develop this approach is through techniques and strategies related to content analysis. The focus is on the message, i.e. what is communicated to a receiver and shared with others (Krippendorff, 2018). It is primarily characterised by a search for patterns in such content, through a process of coding.

Traditionally it was related to symbolic interpretation processes (Kaplan, 1943), considering that a message is a container of meanings. Today, the presence of messages in digital networks has broadened this perspective, considering that communication channels condition the types of messages and the way in which meaning is transmitted. Today, messages are part of a public communicative system, which is supported by technology that enables interactivity and expands the participation of audiences (Adams, 2019). When the visual dimensions of messages are emphasised, content analysis also relies on a multimodal perspective (Hunting, 2021; Ma & Zhang, 2022; Qian, 2022; Serafini & Reid, 2019).

Adopting this perspective in this paper, specific examples will be selected and accessed through the links to each of the videos provided by Analisa, along with the corresponding metrics for each one. The analyses of these videos are analysed, once downloaded, with NVivo software; it allows coding and exemplifying specific dimensions of individual and collective identities offered by the cultural industries.

3.3.3. Participants and context

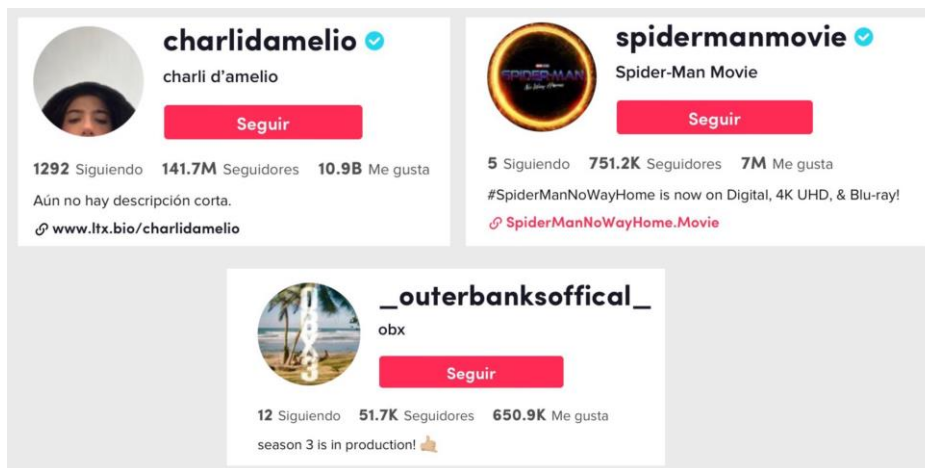
As indicated above, we compare 3 accounts, generated by the cultural industry, around which fan communities are organised.

- CHARLIE D'AMELIO @charlidamelio, the most famous star of this social network <https://cutt.ly/yJ9TUJO>, which she began publishing on in 2019.
- The Netflix TV series OUTER BANKS @_outerbanksofficial_ <https://cutt.ly/pJ9EaTT>, with teenage main characters. It has a wiki, which is linked to Netflix from its Web site, directly aimed at its fan community https://outer-banks-netflix.fandom.com/wiki/Outer_Banks . It has 20 episodes distributed into two seasons, launched between April 2020 and December 2021, and is still running.
- SPIDERMAN @spidermanmovie <https://cutt.ly/qJ9W9Bh>, a classic superhero also reconstructed by its fans on TikTok. In this case the account is associated with the film that is indicated in the profile through #SpiderManNoWayHome, which premiered in USA on 13th December 2021.

The selection of these characters associated with TikTok accounts was justified on the basis of conversations with fans during previous studies (Lacasa, 2020; Martínez-Borda et al., 2021). It was taken into account that fans often participate in different communities.

Figure 1 already allows us to observe some differences between the selected accounts. Let us recall that in the methodological approach adopted, analyses begin in parallel to data collection. For example, regarding the number of followers @charlidamelio, it is close to 142 million. The second, @spidermanmovie, is lower than one million and @_outerbanks official is lower than one hundred thousand.

Figure 1. Cultural industries in TikTok.



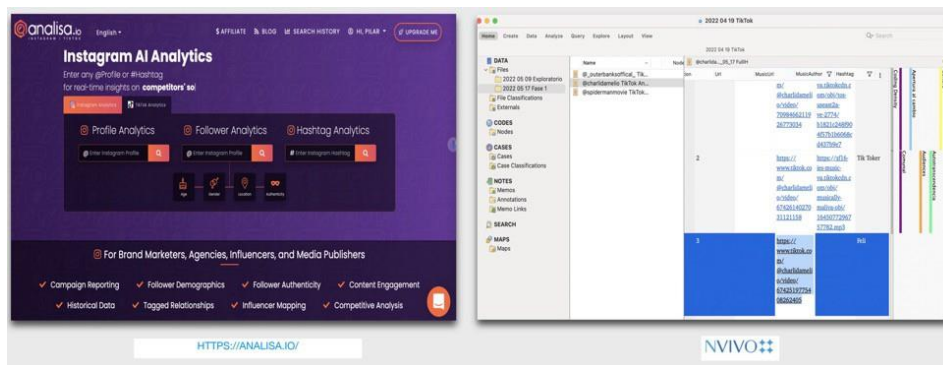
Source: Prepared by the authors based on screenshots supplied by Analisa

These data show that the communities organised around these characters link to very different numbers of followers. We can also look at the ratio between the number of followers of each of the accounts and the number of likes. Analisa provides us with information on the likes rate, which relates this reaction to the number of followers and posts. In the case of Outerbanks it is 32.51%, in that of Spidemanmovie it is 8.29% and in that of Charliedamelio it is 3.45%. On the other hand, it is usual for the accounts of public figures, generally speaking micro-celebrities, that the number of accounts they themselves follow is much lower than the number of their followers. In the case of these accounts, present on the social network TikTok, one must consider the role that the algorithm plays in conditioning the user experience, explicitly driven by what is commonly called the "For You" algorithm (Bhandari & Bimo, 2022; Xu et al., 2019). This fact undoubtedly conditions the practices of users, both the cultural industry and the fan community, as fans can hardly react to what is not easily accessible to them.

4. Results and Discussion

As noted above, the analyses combine two approaches, which are shown in Figure 2. The analysis software provided by Analisa <https://analisa.io> , a company that allows access to the usual metrics in social networks, both at the global level and at the individual level of each of the posts, is used. Secondly, with the help of NVIVO software and based on the above data, a set of 30 videos has been explored through a qualitative analysis. Both interpretations complement each other.

Figure 2. Towards an analysis that combines big & small data.



Source: Prepared by the authors based on the software's screens

4.1 The TikTok fans' engagement: big data

Considering the quantitative approach provided by big data, the number of followers, posts, likes and comments has been taken into account. All these data are presented considering the evolution over time. The duration is also indicated. The software also allows access to all the videos of the account, and therefore to its downloads, within the time limit determined by the researcher, up to a maximum of 5000 videos per account.

Figure 3 shows the most relevant data in relation to the metrics offered by TikTok, in the case of the accounts selected and summarised in table 1. In all of them, the full history of the account was requested in the search. In this context, it should be taken into account that @charliedamelio started it on 30 May 2019¹, and there is currently no information on its profile about this data. The first of the videos collected in our data is 19 August of 2019², and at the moment she uploaded 2.153. As far as @spidermanmovie is concerned, a total of 74 videos have been downloaded, the first one dated 24 June 2019³. Finally, in relation to @_outerbanksofficial_, the first one dated 9 April 2020⁴ and a total of 30 videos have been downloaded. This data shows that it is @charliedamelio that has generated an incomparably higher number of videos than the other two accounts, although this does not imply similar reactions in number from fans.

To further explore the differences between the accounts, it is necessary to consider new data, especially two relational metrics that allow new comparisons to be made. These are the following, according to the definitions provided by Analisa:

Engagement rate: Percentage of followers who engage with the content.

How to count: Total engagement (likes and comments) is divided by total follower counts, and the result is divided by the number of total posts:

View Rate: Percentage of followers who view the contents.

How to count: Total Views are divided by total follower counts, and the result is divided by the number of total posts:

Table 1 shows that in terms of engagement rate, @charliedamelio has the lowest engagement rate, followed by @Spidermanmovie. The highest engagement rate figure corresponds to @_outerbanksofficial_. Looking for an explanation, we can think about the engagement of followers with a series that is broadcast continuously over time; it was launched in 2020 and the third season is yet to be released. In other words, in order to understand the TikTok data, it seems necessary to allude to the importance of contextual factors both spatially and temporally.

Looking at the View Rate, the highest figures correspond to @spidermanmovie, which doubles @_outerbanksofficial_ in that figure. It is possible to think about the coincidence with the date of the premiere, as this leads followers to look for specific information that does not imply a commitment or follow-up over time.

1 El Mundo <https://cutt.ly/rKhkyKx>

2 <https://cutt.ly/GK1tAud>

3 <https://www.tiktok.com/@spidermanmovie/video/6705984904775077126>

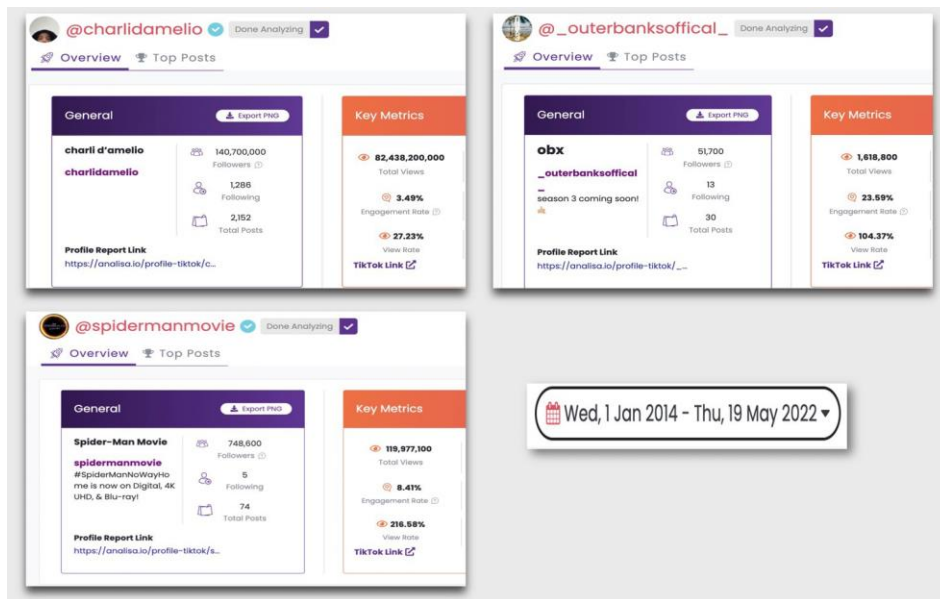
4 https://www.tiktok.com/@_outerbanksofficial_/video/6868657715858754822

Table 1. Cultural industries: main metrics.

TikTok Account	Followers	Following	Total Posts	Total Views	Engagement Rate	View Rate
charlidamelio	140,700,000	1,286	2152	82,438,200,000	3.49%	27.23%
outerbanksofficial	51,700	13	30	1,618,800	23.59%	104.37%
spidermanmovie	748,600	5	74	119,977,100	8.41%	216.58%

Source: Prepared by the authors.

Figure 3. Cultural industries TikTok metrics according to Analisa.



Source: Prepared by the authors based on screens supplied by Analisa

In short, the analysis of the metrics associated to the cultural industries, related to what we have considered heroes, idols and influencers. It shows differences between them in terms of both the number of followers and their practices. These differences can be explained by the dynamism of the network and also by the algorithm present in the suggestions made by the network itself through the “ForYou” algorithm (Schellewald, 2021). On the other hand, the external context in which these industries broadcast their messages and which is closely related to their own goals, aimed at disseminating certain products for which new audiences are sought, must be considered (Hesmondhalgh, 2019).

In order to probe into the identity models offered by the publications analysed in TikTok and how they can influence their audiences, we will look at those videos that show a higher engagement rate in each of the industries from the perspective of a content analysis (Serafini, & Reid, 2019)

4.2. Delineating conceptual frameworks of identity in TikTok: small data

We understand small data, as already indicated, as those that allow us to discover the meaning that the senders of messages can attribute to them, in the context of TikTok. Because these are cultural industries, around which followers are organised, it is necessary to interpret them in relation to marketing strategies (Russell & Itzler, 2020). The aim is to promote certain cultural products, in the case of this study a film, a TV series on streaming or the figure of the influencer to attract the public’s attention from collective imaginaries (Holland et al., 1998) that are shared and generate reactions from followers. We will make an exploratory analysis of which strategies, embellished with meaning by the community, are used by these industries. By using a grounded theory perspective through content analysis (Hunting, 2021) allows theoretical models to be generated or discovered in parallel to the data analysis. The analysis has been carried out in two phases

A first phase of the data analysis is related to the visualisation of the videos in order to delimit a set of conceptual frameworks that allow us to approach the identity in TikTok. We are guided by a deductive and inductive model, in which the starting point is modified and redefined throughout the analysis process. In the case of this work,

30 videos were selected from each of the accounts in order to carry out a qualitative analysis of each of them using NVivo software. As a selection criterion, those with the highest engagement rate from the audience were considered.

The categorisation of the videos is related to the dimensions of analysis shown in table 2. All of them refer to aspects related to the construction of identity, in a first approximation. The exploratory analysis has served to delimit a set of categories that are included in these dimensions and which will have to be specified in future work.

As can be seen in Table 2, three areas or conceptual frameworks have been considered in which to contextualise identity. The first refers to the communicative context in which identity is constructed. It is related to forms of communication, understood as the strategies that make it possible to transmit a message through a given medium. In this case, the medium is TikTok and it has its own characteristics. It is an environment where messages have an ephemeral appearance in frames of reference that give them meaning. These forms of communication, through which the culture industry expresses itself, are the context in which users place themselves in order to access content from which their identity can be configured. This context relates to the goals that guide people's participation in the TikTok network.

The second conceptual framework of analysis is the dimensions of identity itself. Here we are inspired by some of the aforementioned works from anthropology, sociology and education (Bhandari & Bimo, 2022; Boyd, 2011; Goffman, 1990; Holland et al., 1998). It is possible to speak of public and private identities, and this is difficult to pinpoint in TikTok, where a self that is made public through the network takes precedence. It is also interesting to explore how the productions can be related as specific cultural frameworks, where the construction is left aside to focus on contents that could be stereotypes or, on the contrary, models are offered that could focus on the process of construction as such.

The presence of certain values, accessed through the interpretation of content, is the third conceptual core that we relate to identity. Two models underlie the first categories proposed. On the one hand, the one provided from a psychological approach by Sagiv & Schwartz (2022), centred on personal values, when they consider that "Values are cognitive representations of basic motivations as goals to be pursued" (p. 519-20). We seek to extend this approach from socio-cultural approaches (Branco & Valsinger, 2012; Santos-Lopes-de-Oliveira et al., 2020), which emphasise community.

Table 2. Conceptual frameworks of identity in TikTok and analysis categories.

Name	Description
Communicative context in which identity is built up	
Comedy	The videos aim to be entertaining, including fictional scenes.
Everyday life/Community	The videos show scenes from everyday life in which the main characters or other people are present and interact with them.
Informative	They are close to a documentary, they are informative.
Explanatory	They provide explanations to the information, they include a complexity in the editing.
Interactive	They seek a direct involvement of the audience, e.g. through challenges or direct appeals.
Approach to the dimensions of identity	
Construction	There is an explicit process of constructing meaning through negotiation with the audience.
Agency	It invites reflection or suggests reflective capacity. The performative persona emphasizes actions and content creation practices that reflect particular goals and comprise.
Stereotypes and cultural frames	This dimension is often a sharper and perfected version of the self that follows established conventions in the face of a growing audience.
Values and/or aspirations which comprise identity	
Openness to change	Suggests autonomy and freedom to cultivate one's own ideas and abilities. Novelty and change may be associated with justifications or emotions. May show a search for sensory gratification.
Self-affirmation	Relates to achievement and success according to social norms. May involve power seeking, through control of material and social resources. Often oriented towards maintaining a public image.

Self-transcendence	Values go beyond the individual and are framed in a social or natural context. Concrete examples would be the preservation of the natural environment or the commitment to equality, justice and the protection of all people. The well-being of group members is sought and the presentation of oneself is associated with a group member who can be trusted.
Conservation	Security in the immediate environment or stability in society at large is sought. Tradition and compliance with rules, laws and formal obligations are valued.

Source: Prepared by the authors.

4.3. Identity models and cultural industries

Some examples⁵ will serve to illustrate the identity models offered by the cultural industries we have been analysing. As mentioned above, we will focus on a qualitative analysis of those that have achieved the greatest engagement, considering this data as a selection criterion.

The video with the highest engagement (303.18) is the one generated by the @outerbanks series, the difference compared to the others being much greater. It appears at the top of figure 4. It is the shortest, lasting just over 9 seconds. If we observe its frames, and especially if we watch the video directly, it shows a character who imitates playing the guitar by following music and intermingling this with daily activities, in this case cooking. The communicative context is centred on everyday life, suggested by the spatial environment and the activity of cooking, although the latter only takes up a little more than two seconds in the central part of the video. The contrast between the scenarios is what generates interest, also alternating with the amplitude of the shots, which are well edited. As far as the dimensions of the identity itself are concerned, there are stereotypes linked to the usual daily activities. However, what may be more relevant in the context of this work, reflecting on the values it may convey, is the image of power that it seems to show through violent actions, such as slamming the door right at the beginning in the very first seconds.

The second video, that achieved the most engagement on the @spidemanmovie account, also shows identity models, which are related to fiction in this case. This is not unusual, considering that it is a science fiction series. It mixes different scenarios with editing, including contrasts through lighting effects and a voice-over by the narrator. It is the longest of the three we compared, lasting 20 seconds. As far as the communicative context is concerned, this is a classic trailer, an informative type of production that seeks to bring the viewer into the theatre. Focusing on the dimensions of identity as such, it seeks to invite the viewer to construct it through the adventures of the central character or those who accompany him. Regarding the values transmitted, it could suggest autonomy or freedom, which is achieved by mixing reality and fiction through characters who are almost always male.

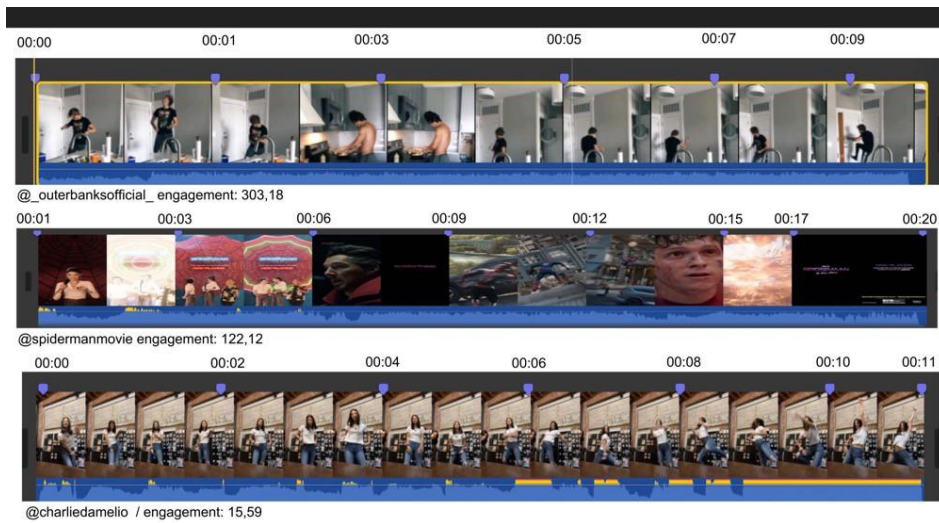
The model offered by @charlidamelio lasts for 11 seconds. Looking at the editing, there are hardly any differences between the frames. The engagement achieved is very low, 15.59. The protagonist gesticulates while looking at the audience, in an everyday setting that could be a coffee shop. It could be considered a model of interactive communication in that she looks directly at the audience, in a way that seems to invite them to act. This is a stereotypical dimension of identity, since the model is not offering much opportunity for creation. In terms of the values conveyed, we could accept that it is a self-affirmation, in that the character seeks to maintain his or her public image.

5 @charlidamelio <https://www.tiktok.com/@charlidamelio/video/6837522273189055750>

@outerbanksofficial https://www.tiktok.com/@_outerbanksofficial_/video/682646555436850438

@spidemanmovie <https://www.tiktok.com/@spidemanmovie/video/7041314831038680366>

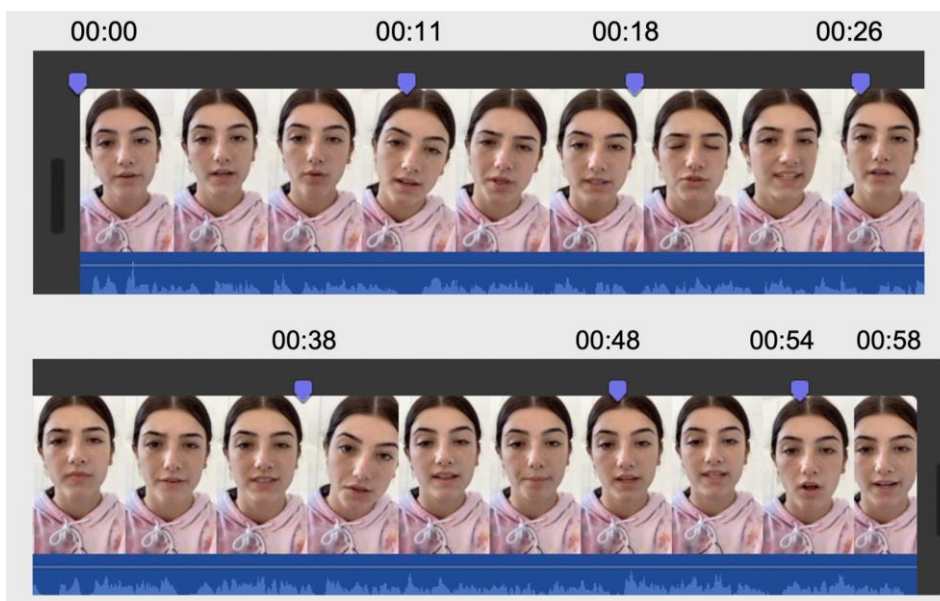
Figure 4. Seeking identity dimensions.



Source: Prepared by the authors

Finally, it is worthwhile looking at a relevant video by Charlie D’Amelio⁶, with an engagement of 14.63%. In relation to this criterion, it is the fourth of all the videos she has published. Apparently, it can be seen as a different production to the ones she usually publishes, but it is not so different, the editing process of both: they are monotonous and are centred on the figure of the influencer. The goal of both is to attract the audience, projecting a certain public image. With regard to the communicative context, this could be an explanatory video, in which the author defines her role as an influencer and what her place in public opinion should be. Regarding the dimensions of identity that are highlighted, we could perhaps speak of agency, as it seems to aim to provide a reflection for the audience to reflect on as well. In this case, with respect to values, we speak of self-transcendence, because it implies those related ultimately to human rights. The transcription of the monologue will serve to exemplify some of the above reflections.

Figure 5. What it means to be an influencer.



Source: Prepared by the authors.

Transcript 1. Video transcription.

6 @charlidamelio <https://www.tiktok.com/@charlidamelio/video/6832733422453116166>

[00:00:00.00] -

As a person who has been given the platform to be an influencer, I realized that with that title I have a job to inform people on the racial inequalities in the world right now.

[00:00:11.420] -

How come when it comes to the color of a person's skin, they're treated differently? A man was killed, his life was ended.

[00:00:18.910] -

Don't kill me, George Floyd says as his last words his life should not be over and his name needs to be heard.

[00:00:26.690] -

George Floyd a father and a person, a human who lost their life because of the color of their skin. We people of all colours need to speak up at a time like this.

[00:00:38.360] -

I have also come across lots of people speaking up and saying that the black lives matter fist that many people are using as their profile pictures are for the black community to use only.

[00:00:48.700] -

I've since changed back that I will continue to spread these messages and be an ally.

[00:00:54.110] -

We all have a voice. We need to stand up for what is right and stick together.

The author begins (00:00) by defining herself as an influencer, highlighting the power of the platform as such. From it, she feels compelled to speak out about human rights. It should be borne in mind that it is broadcast on a date very close (30th May 2020) to the murder of George Floyd (25 May 2020), an event that has shaken opinion in the United States and from which the influencer does not want to feel excluded. She points out (00:11) that someone "of colour" has died but insists on the fact that it is someone human, "a man has died". She immediately speaks in the voice of the murdered man (00:18), which will imply a sense of closeness to the audience. Furthermore (00:26), emphasis is placed on his personal traits and the fact that he has a family. Gradually (00:36) the influencer moves back to more universal contexts, repeating the slogan that was shouted in the streets "black lives matter". There is no lack of a conclusion (48:70) in which she commits herself and finally (54:11) invites others to do the same.

The analyses of these videos show how those that involve a greater degree of engagement on the part of the audience are rooted in collective imaginaries, which they also contribute to enriching.

5. Conclusions

This study has exposed the challenges faced by research when it comes to analysing dynamic, algorithm-controlled social networks, which allow audiences to generate audiovisual productions. The study is situated in a relatively new media framework where emotion and immediacy are what is most important. This is the environment in which fan communities organised around characters we have considered heroes, idols and influencers are situated. At least three challenges need to be highlighted, largely related to the objectives of the study. These are the ones that bring together the conclusions.

The first challenge of this study has been to analyse the interactions of three focused cultural industries present on the social network TikTok, generating specific contexts that invite user participation through interactions with each other using likes, comments, views and above all to achieve the highest number of followers. These motivations are at the core of the network's functioning and are manipulated by the platform's algorithms, as is usually the case in all social networks, although in each of them they are different and never fully explicit. To analyse these interactions, we used software that facilitates big data analysis, allowing us to compare the communicative contexts generated by each industry. The results have shown important differences between each of them, which could be explained from two perspectives. On the one hand, in relation to the context in which the

content is generated, for example, the release of a film or the need to maintain the audience of a television series. On the other hand, the character as such is directly or indirectly related to personal experiences that imply an emotional engagement of the followers.

The second challenge is related to the need to find the identity models that these industries offer to young people, the most numerous users of this social network. This model has been defined, in an exploratory way, using two types of strategies: a) deductive, in that they are based on previous studies or classic models; b) inductive, as they have been adapted to the data collected. From this approach, a set of dimensions of identity have been defined and exemplified in the videos that have obtained the highest audience engagement, taking into account the metrics provided by big data analysis. The major difficulty lies in the need to combine models that consider the goals of the cultural industries in the search for new audiences and audience engagement. Theoretical frameworks today have to be flexible, adapted to new social environments in which people move, using instruments that were unthinkable a few years ago.

The third challenge refers to research strategies that seek to combine big data and small data analysis. The former are provided by companies whose strategies for accessing and analysing data are at least partially unknown. This situation requires research to be interdisciplinary, combining multiple perspectives in social science research. Even the fact of accessing data from different analysis software implies having different metrics, not always well defined. On the other hand, big data analysis will not, as such, provide the meaning that people or institutions, in this case the cultural industries, attribute to their practices. Small data analyses are therefore necessary, which are not always easy to access, and even less so in highly dynamic and changing contexts.

The limitations of the study are related to the challenges outlined above. It will be necessary in future work to reconsider whether the criteria for selecting the big data analysed are the most relevant and, furthermore, to determine the reasons why certain small data are chosen to probe into complex phenomena.

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References

- Abidin, C. (2018). *Internet celebrity: understanding fame online* (1st edition). Emerald Publishing.
- Abidin, C. (2021). Mapping Internet Celebrity on TikTok: Exploring Attention Economies and Visibility Labours. *Cultural Science Journal* 12(1), 77-103. <https://culturalscience.org/articles/10.5334/csci.140/>
- Abidin, C., Brown, M. L., Aziz, F., Bishop, S., Cirucci, A. M., de Seta, G., Lana, L. C. d. C., Limkangvanmingkol, V., Marwick, A. E., Mavroudis, J., Pande, R., Senft, T. M., Simsek, B., & Zhang, G. (2019). *Microcelebrity around the globe: approaches to cultures of internet fame* (1st edition). Emerald Publishing Ltd.
- Adams, N. (2019, June 12). *No more tradeoffs: The era of big data content analysis has come*. Sage Ocean. Tools and Technology. <https://cutt.ly/oKdYY3A>
- Alinejad, D. (2018). Digital ethnography: Principles and practice. *New Media & Society*, 20(1), 428-431. <https://doi.org/10.1177/1461444817733962c>
- Bhandari, A., & Bimo, S. (2022). Why's Everyone on TikTok Now? The Algorithmized Self and the Future of Self-Making on Social Media. *Social Media + Society*, 8(1), <https://doi.org/10.1177/20563051221086241>
- Bocco, F., Gatica, J. B., Ferreyra Roque, K. A., & Piraino, N. (2021). *Acerca del uso empático de las redes sociales: Instagram y TikTok en adolescentes entre 12 y 13 años* <https://cutt.ly/PgGmJDa>
- Boyd, D. (2002). *Faceted identity: Managing representation in a digital world*. The Massachusetts Institute of Technology.
- Boyd, D. (2011). Social Network Sites as Networked Publics: Affordances, Dynamics, and Implications'. In Z. Papacharissi (Ed.), *A networked self: identity, community and culture on social network sites* (pp. 39-58). Routledge.
- Branco, A. U., & Valsinger, J. (Eds.). (2012). *Cultural psychology of human values*. Information Age Pub.
- Bucknell Bossen, C., & Kottasz, R. (2020). Uses and gratifications sought by pre-adolescent and adolescent TikTok consumers. *Young Consumers*, 21(4), 463-478. <https://doi.org/10.1108/YC-07-2020-1186>
- Carlsen, H. B., & Ralund, S. (2022). Computational grounded theory revisited: From computer-led to computer-assisted text analysis. *Big Data & Society*, 9(1), <https://doi.org/10.1177/20539517221080146>
- Ceci, L. (2022, April 8). TikTok- Statistics & Facts. Global Survey. *Statista*, <https://cutt.ly/hGI0pGB>
- Chang, V. (2018). A proposed social network analysis platform for big data analytics. *Technological Forecasting and Social Change*(130), 57-68 <https://doi.org/10.1016/j.techfore.2017.11.002>
- Charmaz, K., & Thornberg, R. (2021). The pursuit of quality in grounded theory. *Qualitative Research in Psychology*, 18(3), 305-327. <https://doi.org/10.1080/14780887.2020.1780357>
- Cornelio, G. S., & Roig, A. (2020). Mixed methods on Instagram research: Methodological challenges in data analysis and visualization. *Convergence*, 26(5-6), 1125-1143. <https://doi.org/10.1177/1354856520941613>
- Creamer, E. G. (2022). *Advancing grounded theory with mixed methods*. Routledge, Taylor & Francis Group.
- Ditchfield, H. (2019). Behind the screen of Facebook: Identity construction in the rehearsal stage of online interaction. *New Media & Society*, 22(6), 927-943. <https://doi.org/10.1177/1461444819873644>
- Dyer, H., & Abidin, C. (2022, in press). Understanding Identity and Platform Cultures. In W. Housley, A. Edwards, R. Beneito-Montagut, & R. Fitzgerald (Eds.), *The Sage Handbook of Digital Society*. Sage Publications. <https://ueaeprints.uea.ac.uk/id/eprint/84930/>
- Fairchild, C. (2007). Building the Authentic Celebrity: The "Idol" Phenomenon in the Attention Economy. *Popular Music and Society*, 30(3), 355-375. <https://doi.org/10.1080/03007760600835306>
- Farquhar, L. (2012). Performing and interpreting identity through Facebook imagery. *Convergence*, 19(4), 446-471. <https://doi.org/10.1177/1354856512459838>
- Fiske, J. (1989). *Understanding popular culture*. Unwin Hyman.
- Finan, D. (2021). Idols you can make: The player as auteur in Japan's media mix. *New Media & Society*. <https://doi.org/10.1177/14614448211015625>
- Franco, Z. E., Allison, S. T., Kinsella, E. L., Kohen, A., Langdon, M., & Zimbardo, P. G. (2016). Heroism Research: A Review of Theories, Methods, Challenges, and Trends. *Journal of Humanistic Psychology*, 58(4), 382-396. <https://doi.org/10.1177/0022167816681232>
- Goffman, E. (1990). *The presentation of self in everyday life*. Doubleday.
- Haste. (2020, April 23). Difference Between Celebrity and Influencer. *Pediaa.Com* <https://bit.ly/3mmnkK9>
- Hesmondhalgh, D. (2019). *The cultural industries* (4rd Edition.). SAGE.
- Hogan, B. (2010). The Presentation of Self in the Age of Social Media: Distinguishing Performances and Exhibitions Online. *Bulletin of Science, Technology & Society*, 30(6), 377-386. <https://doi.org/10.1177/0270467610385893>
- Holland, D., Lachicotte, W., Skinner, D., & Cain, C. (1998). *Identity and agency in cultural worlds*. Harvard University Press.
- Hunting, K. (2021). Critical content analysis: a methodological proposal for the incorporation of numerical data into critical/cultural media studies. *Annals of the International Communication Association*, 45(1), 39-58. <https://doi.org/10.1080/23808985.2021.1910061>

- Jaramillo-Dent, D., Contreras-Pulido, P., & Pérez-Rodríguez, A. (2022). Immigrant Influencers on TikTok: Diverse Microcelebrity Profiles and Algorithmic (In)Visibility. *Media and Communication*, 22(10), 1. <https://doi.org/10.17645/mac.v10i1.4743>
- Kaplan, A. (1943). Content Analysis and the Theory of Signs. *Philosophy of Science*, 10(4), 230-247. <http://www.jstor.org/stable/184268>
- Katayama, R. (2021). Idols, celebrities, and fans at the time of post-catastrophe. *Celebrity Studies*, 12(2), 267-281. <https://doi.org/10.1080/19392397.2021.1912255>
- Kennedy, M. (2020). 'If the rise of the TikTok dance and e-girl aesthetic has taught us anything, it's those teenage girls rule the internet right now': TikTok celebrity, girls and the Coronavirus crisis. *European Journal of Cultural Studies*, 23(6), 1069-1076. <https://doi.org/10.1177/1367549420945341>
- Kim, S.-Y. (2018). *K-pop live: fans, idols, and multimedia performance*. Stanford University Press.
- Kitchin, R. (2014). Big Data, new epistemologies and paradigm shifts. *Big Data & Society*, 1(1), <https://doi.org/10.1177/2053951714528481>
- Kohen, A. (2014). *Untangling heroism: classical philosophy and the concept of the hero*. Routledge.
- Krippendorff, K. (2018). *Content analysis: an introduction to its methodology* (Fourth Edition). SAGE.
- Lacasa, P. (2020). *Adolescent fans. Practices, discourses, and communities*. Peter Lang. <https://doi.org/10.3726/b14291>
- Livingstone, S., & Pothong, K. (2022). Imaginative play in digital environments: designing social and creative opportunities for identity formation. *Information, Communication & Society*, 25(4), 485-501. <https://doi.org/10.1080/1369118X.2022.2046128>
- Ma, L., & Zhang, Y. (2022). Three Social-Mediated Publics in Digital Activism: A Network Perspective of Social Media Public Segmentation. *Social Media + Society*, 8(2), <https://doi.org/10.1177/20563051221094775>
- Martínez-Borda, R., Lacasa, P., & Castillo, H. (2021). Big and small data: Watching and discussing television series on streaming. *Cuadernos.Info Comunicación y medios en Iberoamérica*, 49, 331-335. <https://doi.org/10.7764/cdi.49.27297>
- Morse, J. M. (2021). *Developing grounded theory: the second generation revisited* (Second edition). Routledge.
- Oliva, M. (2019). From the literary field to reality TV: The perils of downward celebrity migration. *European Journal of Cultural Studies*, 23(1), 18-34. <https://doi.org/10.1177/1367549419861633>
- Omnicores. (2022, March, 13). *TikTok by the Numbers: Stats, Demographics & Fun Facts*. <https://www.omnicoreagency.com/tiktok-statistics/>
- Papacharissi, Z. (2011). A networked self. In *A networked self: identity, community and culture on social network sites* (pp. 304-318). Routledge.
- Perez, S. (2020, June 14). *Kids now spend nearly as much time watching TikTok as YouTube in US, UK and Spain*. <https://cutt.ly/4KvbZnj>
- Philip, T. M., & Gupta, A. (2020). Emerging Perspectives on the Co-Construction of Power and Learning in the Learning Sciences, Mathematics Education, and Science Education. *Review of Research in Education*, 44(1), 195-217. <https://doi.org/10.3102/0091732X20903309>
- Qian, X. (2022). Three narrative patterns of the city image visually presented on Instagram under the influence of self-presentation. *Media, Culture & Society*, <https://doi.org/10.1177/01634437211069968>
- Russell, A., & Itzler, J. (2020). *The influencer code: how to unlock the power of influencer marketing*. Hatherleigh Press.
- Sagiv, L., & Schwartz, S. H. (2022). Personal Values Across Cultures. *Annual Review of Psychology*, 73(1), 517-546. <https://doi.org/10.1146/annurev-psych-020821-125100>
- Santos-Lopes-de-Oliveira, M.-C., Uchoa-Branco, A., & Ferraz-Dourado-Castillo, S. (Eds.). (2020). *Psychology as a Dialogical Science: Self and Culture Mutual Development*. Springer.
- Sarwatay, D., & Raman, U. (2022). Everyday negotiations in managing presence: young people and social media in India. *Information, Communication & Society*, 25(4), 536-551. <https://doi.org/10.1080/1369118X.2021.1988129>
- Schechner, R. (2020). *Performance studies: an introduction* (Fourth edition. ed.). Routledge, Taylor & Francis Group.
- Schellewald, A. (2021). Communicative Forms on TikTok: Perspectives From Digital Ethnography. *International Journal of Communication; Vol 15 (2021)*. <https://ijoc.org/index.php/ijoc/article/view/16414/3389>
- Schellewald, A. (2022). Theorizing "Stories About Algorithms" as a Mechanism in the Formation and Maintenance of Algorithmic Imaginaries. *Social Media + Society*, 8(1). <https://doi.org/10.1177/20563051221077025>
- Schwartz, R., & Halegoua, G. R. (2014). The spatial self: Location-based identity performance on social media. *New Media & Society*, 17(10), 1643-1660. <https://doi.org/10.1177/1461444814531364>
- Serafini, F., & Reid, S. F. (2019). Multimodal content analysis: expanding analytical approaches to content analysis. *Visual Communication*. <https://doi.org/10.1177/1470357219864133>
- Stevens, J. R., & St. John, B. (2020, 2020/10/01). Corporate Affirmations of Self-Identity and Mutual Self-Help: Transmedia Rhetorics of Marvel Rising. *Journal of Communication Inquiry*, 44(4), 376-395. <https://doi.org/10.1177/1073426820953333>

- org/10.1177/0196859920924383
- Sullivan, M. P., & Venter, A. (2010, 2010/09/16). Defining Heroes Through Deductive and Inductive Investigations. *The Journal of Social Psychology, 150*(5), 471-484. <https://doi.org/10.1080/00224540903366602>
- Tarozzi, M. (2020). *What is grounded theory?* Bloomsbury Academic, Bloomsbury Publishing. <https://doi.org/10.5040/9781350085275>
- Thumim, N. (2012). *Self-representation and digital culture*. Palgrave Macmillan.
- Tsaliki, L. (2022, 2022/03/12). Constructing young selves in a digital media ecology: youth cultures, practices and identity. *Information, Communication & Society, 25*(4), 477-484. <https://doi.org/10.1080/1369118X.2022.2039747>
- Vares, T., & Jackson, S. (2015, 2015/10/02). Reading celebrities/narrating selves: 'tween' girls, Miley Cyrus and the good/bad girl binary. *Celebrity Studies, 6*(4), 553-567. <https://doi.org/10.1080/19392397.2015.1021822>
- Vázquez-Herrero, J., Negreira-Rey, M.-C., & López-García, X. (2020). Let's dance the news! How the news media are adapting to the logic of TikTok. *Journalism*. <https://doi.org/10.1177/1464884920969092>
- Woo, S. E., Tay, L., & Proctor, R. W. (2020). *Big data in psychological research*. American Psychological Association.
- Xu, L., Yan, X., & Zhang, Z. (2019). Research on the Causes of the "Tik Tok" App Becoming Popular and the Existing Problems. *Journal of Advanced Management Science, 7*(2), 59-63. <https://doi.org/10.18178/joams.7.2.59-63>
- Yesiloglu, S., & Costello, J. (2021). *Influencer marketing: building brand communities and engagement* (1st Edition). Routledge.
- Zeng, J., Abidin, C., & Schäfer, M. S. (2021). Research Perspectives on TikTok & Its Legacy Apps| Research Perspectives on TikTok and Its Legacy Apps—Introduction. *International Journal of Communication; Vol 15 (2021)*. <https://ijoc.org/index.php/ijoc/article/view/14539/3494>
- Zhang, Z. (2020, March 1). Infrastructuralization of Tik Tok: transformation, power relationships, and platformization of video entertainment in China. *Media, Culture & Society, 43*(2), 219-236. <https://doi.org/10.1177/0163443720939452>
- Zhurovs'kyi, M. Z., & Zaychenko, Y. P. (2020). *Big data: conceptual analysis and applications*. Springer. <https://doi.org/10.1007/978-3-030-14298-8>