


AI Influencers: Algorithmic Image and Post-Photographic Practices on Instagram


INFLUENCERS IA: IMAGEN ALGORÍTMICA Y PRÁCTICAS
POSTFOTOGRAFICAS EN INSTAGRAM

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Abstract: In the context of digitization, it appears impossible to discuss technological transformations without considering the evolution of the image and, in turn, it seems necessary to examine how images influence the implementation and scope of these technical changes. This study uses content analysis of 1910 Instagram posts to examine the possible connections between the evolution of technologies offered by Generative Artificial Intelligence (GAI) and the codes that govern the posts of human-like virtual *influencers* generated through them. The results obtained reveal that the analyzed posts respond to a pattern that could be constrained by the limitations of GAI to generate precise details in certain frames or maintain identity consistency in sequential images.

Keywords: Artificial Intelligence; Image; Technology; Virtual Influencers; Instagram.

Resumen: En el contexto de la digitalización parecen no poder abordarse las transformaciones de la técnica sin atender a las mutaciones de la imagen y, a su vez, semeja resultar necesario prestar atención a cómo las imágenes modelan la implementación y el alcance de esos cambios técnicos. Este estudio se sirve del análisis de contenido de 1910 publicaciones de Instagram para examinar las posibles conexiones entre la evolución de las tecnologías que ofrece la Inteligencia Artificial Generativa (IAG) y los códigos que rigen las publicaciones de las *influencers* virtuales de apariencia humana generadas por medio de ellas. Los resultados obtenidos revelan que las publicaciones analizadas responden a un patrón que podría estar condicionado por las limitaciones de la IAG para generar detalles precisos en ciertos encuadres o mantener la coherencia identitaria en imágenes secuenciales.

Palabras clave: inteligencia artificial; imagen; tecnología; influencers virtuales; Instagram.



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1. Introduction

Although Generative Artificial Intelligence (GAI)—that is, AI designed to produce synthetic data in response to human prompts based on learned patterns from real data—has long been part of everyday life, it is only recently that it has reached its current levels of popularity. Thus, the emergence of systems capable of analysing natural language queries and predicting the most appropriate responses based on knowledge acquired through large-scale training has marked the beginning of a new paradigm in this field.

In terms of its life cycle, GAI in general, and these systems in particular, are still at the peak of inflated expectations, far from widespread public adoption (Gartner, 2003). Nevertheless, the sudden proliferation of its use—driven, among other factors, by the launch of ChatGPT—has had a profound societal impact and prompted deep reflection on its implications (Teubner *et al.*, 2023).

In highly sensitive environments such as the communicative ecosystem, the disruptive impact of GAI has revealed, among many other possible consequences, a paradigm shift in the conception of processes, as well as in the individual and social effects of algorithmic content (Guerrero-Solé & Ballester, 2023).

In this regard, the uses of such content are potentially limitless, and its applications across different fields continue to expand. Understood as sets of associated meanings and as conveyors of varying degrees of interpretive information, these forms of content evolve and integrate increasingly efficient means of creation that demand a greater understanding of both context and production processes—a culture that, beyond rhetoric and the reading of meanings, also requires knowledge of the technological media that generate them (Gómez-Gómez & Rubio-Tamayo, 2023).

2. The Image in the Age of its Algorithmic Reproducibility

The transformations brought about by digitalization have led to essential changes in the relationship between image and technology. In this context, it seems impossible to address the evolution of technology without also considering the mutations of the image. At the same time, it becomes necessary to pay attention to how images shape the implementation and scope of these technological changes.

Digitalization has had a decisive impact on the ways images are created, distributed, used, and perceived. Within these specific spatiotemporal coordinates, the image circulates in the hybrid space of digital sociability and emerges as a product of visual overabundance. Thus, the current post-photographic context—in which social media play a central role—is characterized, for users, by

the ubiquity of cameras, the integration and user-friendliness of editing software, and the immediacy of data transmission, all of which foster the integration of symbolic production into everyday practices (Fontcuberta, 2016).

Moreover, the expansion of GAI, among other factors, has given rise to a new paradigm. The means of production have been automated to such an extent that images are no longer merely a medium of human communication but have become vehicles for communication between humans and machines, and even among machines themselves. At the same time, they have begun to exhibit an internal organization programmed by algorithms with a distinctly performative and pragmatic character, as they are determined by variable adaptive imperatives in relation to countless changing situations and contexts. The image has thus become algorithmic, insofar as the device manages its distribution and conditions of consumption—representing an essential shift in terms of production, reception, and social meaning (Martínez-Luna, 2019). The emergence and democratization of GAI tools that use natural language to generate images have brought about a revolution in this regard (Bougueffa *et al.*, 2024).

After a decade of exponential development, these technologies became consolidated as a disruptive innovation in 2022, when advances made it possible to create images with a visual quality comparable to realistic photography and to graphic art produced by humans.

One of the most significant early milestones was the launch of DALL·E by OpenAI in December 2020, a system capable of generating images from text using neural transformers. Its enhanced version, DALL·E 2, introduced in April 2022, further expanded these capabilities, and by September of that same year had reached a user base of more than 1.5 million people who collectively generated over two million images per day (OpenAI, 2022).

In parallel, other initiatives emerged, such as MidJourney, an independent research laboratory that launched its beta version via the Discord platform in March 2022, standing out for its high-quality images with distinctive artistic styles (MidJourney, 2022). Shortly afterwards, in August 2022, Stable Diffusion by Stability AI became publicly available, reaching over 10 million global users in just two months (Stability AI, 2023). Major technology corporations also joined this trend: Google introduced *Imagen* and *Parti* (Saharia *et al.*, 2022), Microsoft released *NUWA* and *NUWA-Infinity* (Wu *et al.*, 2022), and Adobe launched the beta version of *Adobe Firefly* in March 2023, which surpassed 13 billion generated images (Adobe, 2023).

Along the same lines, though with a later and more complex development, text-to-video generation models have also begun to consolidate as an emerging



technology within the field of GAI. These tools, based on multimodal language models, make it possible to transform both textual instructions and still images into dynamic audiovisual sequences (Mosele, 2025).

The first significant breakthrough in this field dates back to September 2022, when Meta introduced Make-A-Video, a system capable of generating short videos from textual descriptions. The following year, in 2023, Runway unveiled Gen-1 and Gen-2, the first commercial models for generating videos from other videos and from text through a user-friendly web interface, while NVIDIA released its proposal, VideoLDM, focused on diffusion models for video synthesis.

The year 2024 marked a turning point in this regard. In January, Synthesia presented an assistant capable of converting text into video. In May, Google introduced Veo, an advanced system for generating high-resolution videos that could produce cinematic sequences lasting over a minute, later enhanced in December with Veo 2. In July, Runway released Gen-3 Alpha, which significantly improved visual fidelity, consistency, and motion compared to previous versions. In October, Meta announced MovieGen, a model designed to generate videos from simple prompts, aimed at improving user experience across its social platforms, while Adobe introduced its Firefly model to facilitate video generation and editing with advanced creative control and high visual quality. Finally, in December, OpenAI presented Sora, a model capable of producing video clips from text, setting a new benchmark in generative audiovisual creation.

The latest models address the challenge of visual consistency by aiming to maintain a stable visual identity in characters, thereby significantly improving the temporal fidelity of generated content and paving the way for more realistic and coherent audiovisual creations.

2.1. The Digital Human Economy

The term *influencer* refers, in the digital environment, to those individuals who have the ability to shape opinions and generate reactions due to the credibility they hold regarding a specific topic, positioning themselves as experts, opinion leaders, and media figures within a given area or sector (Hontoria, 2022).

Their capacity to influence, combined with technological evolution and the search for new formats (Carrillo-Durán *et al.*, 2024), has led—since the mid-2010s—to the emergence of numerous virtual characters across various commercial sectors (Engström, 2022), among them the so-called *virtual influencers*: digital figures created through software who use social media to share posts in which they appear consuming, interacting, sharing or expressing opinions on different topics; who can influence others primarily through collaborations or

participation in campaigns; who are created and exist exclusively within digital media; and who, in some cases, display an appearance strikingly similar to that of real humans (Allal-Chérif *et al.*, 2024). It is precisely this high level of anthropomorphism that allows some of these figures to be classified as digital humans—that is, computer-generated beings with a human-like appearance and behaviour (Burden & Savin-Baden, 2019)—and to participate in the so-called “digital human economy” (Forristal, 2023), which has grown exponentially in recent years (Digital Human Global Market Report, 2025).

The turning point in this regard seems to date back to 2016, the year in which what is considered the first human virtual influencer emerged (Robinson, 2020). Since these early figures were created through computer-generated imagery, their expansion had been limited by the need to assemble multidisciplinary teams composed of professionals from film production, 3D scanning, motion capture, facial capture, photorealistic 3D design and modeling, as well as art and photography directors and communication experts (Rodrigo-Martín *et al.*, 2022).

In recent years, GAI has accelerated its growth in technological capacity and has reached a level of sophistication that was, until recently, unthinkable (Franganillo, 2022). Its evolution has simplified and, consequently, democratized the development of these characters, offering brands and users the possibility of designing and managing their own virtual influencers (Yang, 2023).

As a result, these figures have gradually proliferated across social media and have developed their own narratives through which users can identify with them (Liu & Lee, 2024). Thus, they present lifestyle models that adapt to the interests and preferences of their followers and depend on the content they share (Rodrigo-Martín *et al.*, 2022). And much like in real life, they have expanded across different life stages and are increasingly being organized into groups of characters capable of adopting family-like configurations and other forms of social grouping (Villén-Higueras & Mata-Núñez, 2024).

Likewise, as digital products, both their nature and form can vary greatly (Shen, 2024). They are thus characterized by greater flexibility in shaping their identity, enhanced brand plasticity, and broader access to products, collaborations, and locations. Their appeal seems to lie in their very malleability (Choudhry *et al.*, 2022), offering unparalleled levels of personalization in their self-presentations and remaining unconstrained by gender, ethnicity, appearance, socioeconomic status, or offline life.

Their social influence has led to a considerable increase in studies focused on them, which have been organized around three main areas: their advantages and limitations; their appeal within business and marketing



expectations; and their influence on audience attitudes (Laszkiewicz & Kalinska-Kula, 2023). On the contrary, iconographic approaches to this phenomenon remain scarce (Villén-Higueras & Mata-Núñez, 2024).

3. Objectives

Considering that the distinctive advantage of virtual influencers over other types of endorsers appears to lie in their unparalleled possibilities for personalization; that the incorporation of increasingly efficient tools for creating digital content seems to require an understanding of the technologies that produce it; and that academic literature on the subject remains limited, this study aims:

1. To analyse the posts of human-like virtual influencers created through GAI technologies.
2. To identify the codes that govern their publications.
3. To examine the potential connections between the evolution of GAI technologies and the codes that shape the posts of human-like virtual influencers generated through them.

4. Methodology

This exploratory study adopts a mixed approach aimed at achieving a comprehensive understanding of the phenomenon (Hernández-Sampieri, 2018). The operationalization of the theoretical framework and the pursuit of the proposed objectives guided both the sample selection and the definition of analytical indicators.

4.1. Sample Selection

The absence of updated databases or reports shedding light on this issue made it necessary to create an original dataset. Thus, a preliminary study was conducted on this type of figures across media outlets, websites, and agencies specializing in virtual influencers and models. Based on the database compiled, the sample was then selected.

Guided by criteria related to appearance and audience reach, the sample comprised individual human-like virtual influencer profiles (Shen, 2024) with more than 10,000 followers on Instagram at the time of data collection, and whose activity had begun within the technological framework defined by the expansion of GAI.

The selection of Instagram as the social network under study was grounded not only in its popularity among users and its widespread adoption

by influencers (Arsenyan & Mirowska, 2021), but also in its status as an image-centred platform (Frier, 2020).

Users' preference for Instagram as a space for engaging with visual and audiovisual content (Kemp, 2025) aligns with the platform's own positioning of the image as its core identity and distinguishing feature—making it one of the central spheres in the social and technological construction of what an image is and how individuals relate to it (Caro-Castaño, 2023).

The research approach led to the selection of anthropomorphism as the starting point among the categories established for the study of these figures: attractiveness, authenticity, control, growth, and anthropomorphism (Batista & Chimenti, 2021). Regarding their nature and form, and given the interest aroused by their resemblance to humans and their photorealistic capacity, the study focused on humanized virtual influencers (Shen, 2024), anthropomorphic figures that simulate a non-existent human form regardless of the graphic style adopted (Yang *et al.*, 2023), characterized by a hyperrealistic representation that produces such a refined degree of anthropomorphism that, at times, it becomes difficult to distinguish them from real influencers (Hofeditz *et al.*, 2022).

With respect to reach, understood as the total number of accumulated followers—considering nano-influencers as those with fewer than 10,000 followers, micro-influencers as those with between 10,000 and 100,000, macro-influencers as those ranging from 100,000 to 1 million, and mega-influencers as those exceeding 1 million—the sample was configured to include only profiles with more than 10,000 followers at the time of data collection (Sanz-Marcos *et al.*, 2024).

Regarding the onset of activity and in line with the study's objectives, it was deemed appropriate to include figures created after the proliferation of GAI use, which was driven, among other factors, by the launch of the text-generation tool ChatGPT on November 30, 2022. Likewise, the data collection period was defined by the discontinuation of CrowdTangle, Meta's social media analytics tool, on August 14, 2024.

The identification of profiles began with existing repositories and was subsequently expanded through searches conducted on web browsers and social media platforms using English keywords such as “virtual influencer”, “virtual model”, “artificial intelligence influencer”, and “AI influencer”, as well as their literal translations into Spanish. In all cases, it was verified that the profiles corresponded to GAI-generated figures, as evidenced by explicit references in their account descriptions.



Based on these aspects, and after excluding posts that had been deleted between data collection and the start of the research, a sample of 13 profiles (Table 1) developed through GAI technologies was obtained; the posts of these profiles were analysed up to the point of data collection (August 2024). The total number of posts analysed amounted to 1,910, while the total number of individual items or units—considering the presence of carousels that allow up to ten images or videos within a single post—was 3,553.

Table 1. *Sample content*

Name	Profile	Activity start date	Community	Posts
Aitana López	@fit_aitana	07/07/2023	324,296	111
Alba Renai	@albarenai	22/09/2023	18,450	104
Anne Kerdi	@annekerdi	20/03/2023	10,758	362
Asena İlik	@aisenailik	13/11/2023	29,237	53
Eliza Khan	@elizavalo	07/09/2023	13,690	48
Giorgina Aleman	@gioalemann	15/10/2023	504,248	161
Kenza Layli	@kenza.layli	29/12/2023	210,058	215
Milla Sofia	@millasofiafin	07/03/2023	163,719	270
Natalia Novak	@the.natalia.novak	10/04/2023	60,303	125
Olivia C.	@oliviaislivinghigh	15/04/2024	13,206	192
Seren Ay	@ai.serenay	27/12/2023	25,268	65
Zara Shatavari	@zarashatavari	05/07/2023	17,772	149
Ailya Lou	@ailyalou	04/01/2024	11,112	55

Source: Authors' own elaboration

4.2. Definition of Analytical Indicators

For this study, a content analysis sheet was designed, incorporating different types of indicators. The sheet, developed *ad hoc* for the research and applied to each of the profiles in the sample, comprises three categories (Table 2).

- a) Contextual indicators. This category encompasses variables that contextualize the posts within a general system of classification. These include: 1) the influencer's name; 2), the account name; 3) the geographical context; 4) the technology used to generate it; 5) its promoter; and 6) the primary thematic focus of its content (fashion, beauty, gaming, lifestyle, travel, food, and fitness), following the categorization established by Núñez (2022).

- b) Social indicators. This category encompasses variables that contextualize the posts considering the digital structure in which they are shared. These include: 1) the date of activity onset on the social network; 2) the size of the user community; 3) the total number of posts made during the study period; 4) usage intensity—measured by the average number of posts shared by the user and classified into three categories: infrequent users (fewer than 150 posts), average users (between 150 and 250 posts), and highly active users (more than 250 posts)—; and 5) usage frequency, referring to platform engagement and distinguishing between new users (less than one year) and long-term users (more than one year) (Caldeira, 2016).
- c) Textual indicators. This category encompasses variables that characterize each of the posts included in the sample. These include: 1) type of post: images, videos, and image or video carousels, according to the three basic types of posts available in Instagram's feed; 2) object of representation, classified into four categories: a) Self, the complete or partial representation of the user and their body; b) Other, the representation of any person other than the user, c) Mixed, images in which the user appears alongside others; and d) Objects, including inanimate objects, animals, landscapes, and any other kind of image that does not fit the previous categories; 3) Self-representation, referring to how the content is presented in relation to the subject; thus, images falling under Other and Objects categories constitute Indirect Representation, while those in the Self and Mixed categories form Direct Representation, in which the user's body image is present; the latter is further subdivided into Complete Representation, when the user's face or entire body is visible and easily identifiable, and Metonymic Representation, when only a partial view of the user's body appears (Caldeira, 2016); and 4) form of content representation in terms of shot scale, applicable in cases where a subject is represented—detail shot, close-up, medium shot, American shot, and long shot, depending on the extent to which the human figure is captured—.

Table 2. Analytical Indicators

I. Contextual indicators	<ol style="list-style-type: none"> 1. Influencer 2. Account 3. Geographical region 4. Technology 5. Promoter 6. Content theme
II. Social indicators	<ol style="list-style-type: none"> 1. Start date 2. Community 3. Posts 4. Usage intensity 5. Usage frequency
III. Textual indicators	<ol style="list-style-type: none"> 1. Type of post 2. Date 3. Object of representation 4. Self-representation 5. Shot scale

Source: Authors' own elaboration.

In the case of carousels, given their sequential nature, the order and position of each image within the set were also taken into account. Data collection was carried out in August 2024, while sample design and variable coding were conducted in March 2025. Following an initial individual coding by each of the three researchers, a joint review was undertaken to establish a final coding scheme by consensus. The inter-coder reliability calculation yielded a Krippendorff's alpha coefficient of 0.96, indicating a high level of agreement among human coders.

5. Results

The analysis reveals that 77% (10) of the virtual influencers developed through GAI-enabled technologies are promoted by studios, agencies, or companies specializing in the creation, management, and representation of such communicative agents. Examples include Aitana López, promoted by The Clueless—a modeling agency composed entirely of AI-generated models—; Olivia C., developed by the creative studio Falamusa; and Giorgina Aleman, created by the digital division of the media conglomerate Medcom.

Regarding geographical origin, 39% (5) of the influencers are European, 23% (3) American, 15% (2) Asian, 8% African, and the remaining 15% (2) are

transcontinental, originating from Turkey—a country spanning both Asia and Europe.

As for content themes, lifestyle predominates (76%, 10), although certain figures focus on specific sectors such as fashion (Ailya Lou), fitness (Aitana López), or travel (Anne Kerdi).

In terms of reach, or total number of accumulated followers, 70% (9) are micro-influencers—figures with between 10,000 and 100,000 followers—while the remaining 30% (4) are macro-influencers—avatars with between 100,000 and 1 million followers. Their communities range from 504,248 followers (Giorgina Aleman) to 10,758 (Anne Kerdi).

Regarding platform usage, and distinguishing between new and long-term users—those with less than or more than one year of platform activity, respectively—, 62% (8) are new users and 38% (5) are long-term users. In this regard, 85% (11) of the analysed influencers began their activity in 2023, with Milla Sofia being the first, while the remaining 15% (2) started in 2024, the most recent being Olivia C.

With respect to usage intensity, based on the average number of shared posts: 62% (8) are infrequent users (fewer than 150 posts), 23% (3) are average users (between 150 and 250 posts), and 15% (2) are highly active users (more than 250 posts). The results show no correlation between the onset of activity, usage intensity, and the reach of the analysed influencers.

Regarding post type (images, videos, and image or video carousels, according to the three basic formats available in Instagram's feed), 72% (1,368) of the analysed posts are images, 28% (542) are carousels, and none are videos (Table 3).

Table 3. *Type of Post*

Name	Images	Carousels	Videos
Aitana López	77	34	0
Alba Renai	61	43	0
Anne Kerdi	206	156	0
Asena İlik	33	20	0
Eliza Khan	9	39	0
Giorgina Aleman	92	69	0
Kenza Layli	207	8	0
Milla Sofia	251	19	0
Natalia Novak	83	42	0
Olivia C.	175	17	0



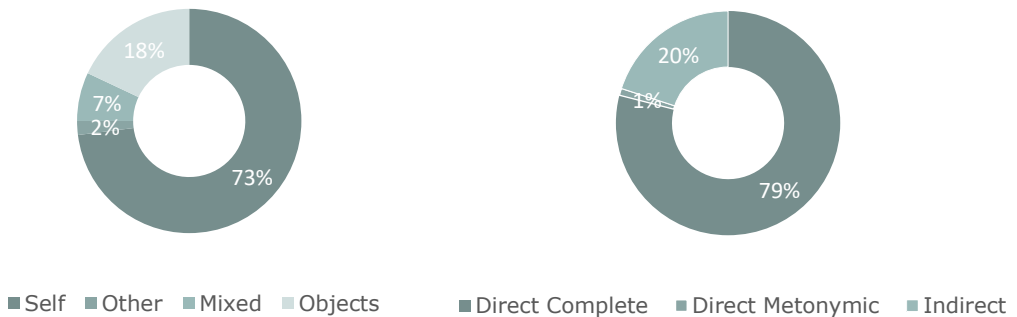
Seren Ay	43	22	0
Zara Shatavari	96	53	0
Ailya Lou	35	20	0
TOTAL	1368	542	0

Source: Authors' own elaboration.

In the case of images (Figure 1), the represented object corresponds to the “Self” category in a substantial 73% (996) of the cases. The “Objects” category accounts for 18% (242), while “Mixed” representations make up 7%, and only 2% (36) fall under the “Other” category.

Similarly, in terms of self-representation, the “Direct Complete” representation predominates, appearing in 79% (1,074) of posts, followed by “Indirect” representation, which is present in 20% (275) of the sample. Meanwhile, “Direct Metonymic” representation is scarcely observed, accounting for less than 1% (19) of the cases.

Figure 1. Object of Representation and Self-Representation (Images)



Source: Authors' own elaboration.

Regarding the form in which the content is represented, three shot types show a strong presence, while two appear relatively infrequently. Among the most common, the “medium shot” accounts for 36% of the total, while both the “American shot” and the “long shot” each represent 26% of the sample—the former with 361 posts, and the latter with 352. On the contrary, the “close-up” decreases to 7% (96), and the “detail shot” accounts for only 5% (64).

A profile-based analysis reveals that, in the images of most influencers, the usual object of representation is the “Self”. The data show that only two of them fall below 70% in this category: Eliza Khan features self-representation in 100% of her posts, while Aitana López (98%) and Alba Renai (96%) come very close to that figure. At the opposite end, Anne Kerdi stands out with only 20%, and Olivia C. with 49%. In the case of the former, 62% of her posts—and in the latter, 48%—represent “Objects”.

The data also reveal significant differences in representation among the various influencers. In 85% (11) of the cases, posts employ “Direct Complete” representation. For 54% (7) of them—Aitana López, Alba Renai, Eliza Khan, Giorgina Aleman, Milla Sofia, Natalia Novak, and Zara Shatavari—this form of representation is used in all their posts. For 21% (4)—Asena İlik, Kenza Layli, Seren Ay, and Ailya Lou—this representation type appears in more than 80% of their posts. The exceptions are Olivia C., with around 40%, and Anne Kerdi, with 25% of posts in this category.

Conversely, the latter, Anne Kerdi, stands out as the most prominent profile in the “Indirect” representation category, with 75% (155) of her posts, followed by Olivia C. with 50% (87), and, at a much lower level, Ailya Lou (17%, 6) and Kenza Layli (12%, 25).

The “Direct Metonymic” self-representation is minimal, appearing in only two influencers: Olivia C. (8%, 14) and Kenza Layli (2%, 5).

Regarding shot type, in 54% (7) of the influencers—Aitana López, Alba Renai, Eliza Khan, Kenza Layli, Seren Ay, Zara Shatavari, and Ailya Lou—the predominant format is the “medium shot”. In 31% (4)—Anne Kerdi, Asena İlik, Giorgina Aleman, and Olivia C.—the most frequently used is the “long shot”; while the remaining 15% (2)—Milla Sofia and Natalia Novak—primarily employ the “American shot”.

Thus, both the overall and profile-based analyses reveal a certain correlation among the represented object, the mode of self-representation, and the shot type. The “Self” is typically portrayed through “Direct Complete” representation using “medium” and “American shots”, whereas “Objects” tend to appear through “Indirect” representation and “long shots” (Figure 2).

Figure 2. Image Post by @millasofiafin (left) and @annekerdi (right)



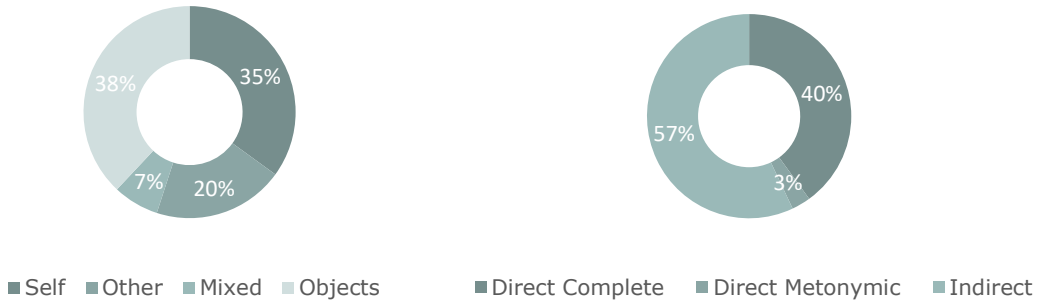
Source: Instagram.

The remaining 542 posts adopt the carousel format (Figure 3). As this type of post allows for up to ten images or videos, the dataset in this regard comprises a total of 2,195 individual units or elements—that is, images or videos.

The distribution of the number of elements per carousel reveals a clear tendency toward posts with a limited number of items: 63% of carousels consist of either two (42%) or three elements (21%), while only 13% make use of all ten available slots.

Regarding the represented object, the most frequent category is “Objects”, accounting for 38% (840), followed by “Self” with 35% (770), “Other” with 20% (432), and “Mixed” with 7% (153). Thus, 58% (1,272) of the elements omit the representation of the influencer.

As for the form in which the content is presented, 57% (1,259) of the cases employ an “Indirect” representation, 40% (882) use a “Direct Complete” representation, and only 3% (54) feature a “Direct Metonymic” one. In terms of shot type, the most frequently used are the “long shot” (35%, 476), followed by the “American shot” (34%, 458) and the “medium shot” (27%, 369), while the “detail shot” (4%, 59) and the “close-up” (0%, 6) are much less common.

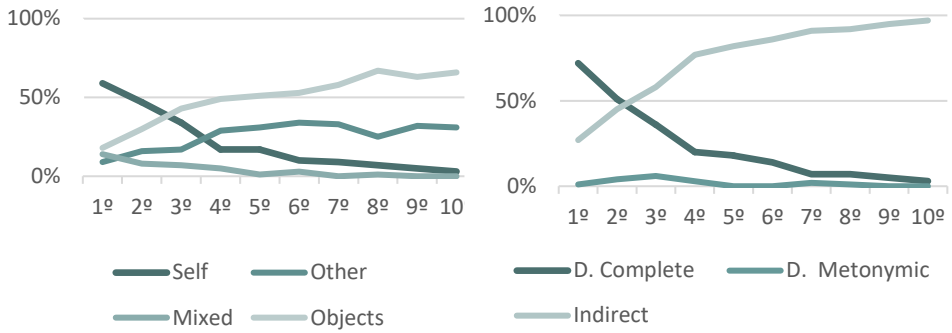
Figure 3. *Object of Representation and Self-Representation (Carousels)*

Source: Authors' own elaboration.

However, the data differ considerably when focusing on the first unit of each series or the first element of the carousel (542). In this case, the representation of the "Self" predominates (59%, 318), mostly in a "Direct Complete" form (72%, 391), and through the "American shot" (43%, 194), the "medium shot" (29%, 128) and the "long shot" (27%, 119), yielding results more consistent with those observed in posts composed of a single image.

When extending the analysis across the successive units that make up the carousel (Figures 4 and 5), it becomes evident that the representations of the "Self" and "Mixed" categories gradually give way to a greater presence of "Other" and "Objects" as the sequence progresses. Similarly, "Direct Complete" self-representation loses prominence to "Indirect" representation, while the use of the "medium shot" and, particularly, the "American shot" declines in favour of the "long shot".

Figure 4. Evolution of the Object of Representation and Self-Representation (Carousels)



Source: Authors' own elaboration.

Figure 5. Carousel Post by @fit_aitana



Source: Instagram.

The analysis of each profile reveals considerable diversity in the predominant type of post. Most influencers favour single-image posts—representing over 90% of their content in the cases of Kenza Layli, Milla Sofia, and Olivia C. Others display a more balanced distribution, with carousels accounting for more than 40% of their posts—such as Alba Renai and Anne Kerdi—indicating an approach oriented toward content diversification. Finally, some figures exhibit a strong preference for carousels—as in the case of Eliza Khan, where they constitute 81% of her posts—suggesting a content strategy focused on sequential representation.

The data also show significant differences in representation among the various influencers. In most profiles (85%, 11), the influencers themselves constitute the main focus of representation. In some cases, content centred on their own image exceeds 70% of the total—as in Aitana López, Asena İlik, Eliza Khan, Giorgina Aleman, Milla Sofia, Natalia Novak, Seren Ay, and Zara Shatavari—, while in others it accounts for around 50%—such as Alba Renai, Kenza Layli, and Ailya Lou. In the remaining 15% (2) of cases, corresponding to Anne Kerdi and Olivia C., the “Self” category is a minority, while “Objects” predominate, accounting for 80% of the content in the former and 61% in the latter.

“Direct Complete” self-representation is the primary form of presentation in images (77%, 10), with profiles such as Milla Sofia’s showing a clear tendency toward this type of depiction. Other profiles, including those of Anne Kerdi, Olivia C., and Ailya Lou, exhibit a stronger preference for “Indirect” self-representation, while “Metonymic” self-representation tends to be the least common, ranging between 1% and 11% of total content.

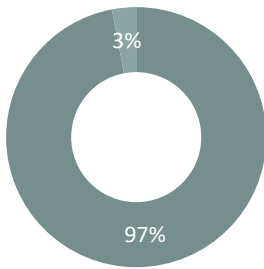
Similarly, there is considerable variation in the use of shot types among the different influencers. Some favour closer framing, such as the “medium shot”, which predominates in 38% (5) of the sample, specifically in the profiles of Aitana López, Kenza Layli, Milla Sofia, Seren Ay, and Ailya Lou. Others prefer wider framing, such as the “American shot” (31%, 4)—as seen in Alba Renai, Eliza Khan, Natalia Novak, and Zara Shatavari—or the “long shot” (31%, 4)—in Anne Kerdi, Asena İlik, Giorgina Aleman, and Olivia C. The “close-up” and “detail shot” are the least used across all profiles: in 86% (11) of cases, the use of the “detail shot” is minimal, and 70% (9) of them never employ a “close-up”.

Once again, both in the overall analysis and in the examination of individual profiles, a certain correlation can be observed between what is represented in the image, the form in which it is presented, and the shot type employed. Thus, the representation of the “Self” tends to be “Direct Complete” and is commonly framed through “medium” and “American shots”, whereas the representation of “Objects” is usually “Indirect” and depicted through “long shots”.

Finally, regarding the use of video (Figures 6 and 7), although none of the analysed posts belong exclusively to this category, the format appears as a component within carousel posts. Of the 2,195 elements analysed across carousels, 2,122 are images and 73 are videos, indicating a significant predominance of images (97%) over videos (3%). It is also noteworthy that 61% (5) of the influencers include only images in their carousels, while video accounts for a maximum of 15% of the published content among those who choose to incorporate

it. In the remaining cases, video represents 12%, 2%, 1%, and 1%, respectively, of the total content shared within carousels.

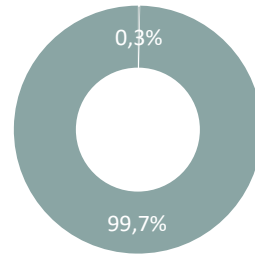
Figure 6. *Type of element*



■ Image ■ Video

Source: Authors' own elaboration.

Figure 7. *Video Featuring the Influencer*



■ Video Featuring the Influencer ■ Video without the Influencer

Source: Authors' own elaboration.

In the case of videos, the represented object is not the influencer in 86% (44) of the cases, with 53% (39) belonging to the “Other” category and 33% (24) to “Objects”. The influencer herself appears in only 14% (10) of the sample, divided equally between the “Self” (7%, 5) and “Mixed” (7%, 5) categories. Similarly, in terms of self-representation, the “Indirect” representation predominates in 88% (64) of the analysed elements, followed by the “Direct Complete” form in the remaining 12% (9). The “long shot” is the most frequently used for representing content, accounting for 74% of the cases, followed by the “medium shot” and “American shot” at a considerable distance (each representing 12%).

Thus, videos featuring the influencer constitute less than 1% of all elements within the carousels (0.5%) and only 0.3% of the total elements—images and image or video carousels—comprising the sample.

6. Discussion and Conclusions

The results reveal that the analysed posts follow a pattern in which static images predominate, featuring the “Self” as the central object (73%), a “Direct Complete” form of self-representation (79%), and a predominant use of medium shots (36%); this suggests a visual strategy oriented toward body visibility without sacrificing facial recognition.

The predominance of certain shot types aligns with potential limitations of GAI in rendering fine details or facial expressions (Chayka, 2023). Likewise, the logic of self-exposure is consistent with the self-objectification identified in other studies on human influencers (Llovet & Establés, 2023).

The analysis also reveals an instrumental use of carousel posts. These are mostly composed of two or three images, with an initial representation of the “Self” (59%), followed by an increasing presence of objects or third parties, along with a shift toward indirect representation and the use of long shots. This progression suggests a deliberate attempt to construct more complex and authentic scenes, in line with previous findings about how perceived social references enhance both authenticity and audience engagement (Chung *et al.*, 2023).

In contrast to the growing prominence of video on social media (Kemp, 2025), its use among the analysed influencers is minimal, accounting for less than 0.3% of total elements. The “Self” is present in only 14% of the cases, with a majority of indirect representations (88%) and long shots (74%). This pattern is consistent with potential limitations of GAI during the studied period to maintain identity coherence in video—particularly in relation to motion and facial synchronization (Podstawski *et al.*, 2025).

These constraints contrast with the platform’s own recommendations (Mosseri, 2024) and with the superior performance attributed to video and carousels compared to static images (Socialinsider, 2025).

Thus, unlike human influencers, whose content creation is rooted in their everyday lives, virtual influencers are digital products whose content depends on a technologically complex process. The low posting frequency observed in many profiles—62% are infrequent users—and the coexistence, in some cases, of algorithmically generated images alongside more conventional digital ones further reinforce this idea.

In turn, the fact that 77% of the analysed profiles are promoted by companies or profit-oriented organizations confirms their nature as strategically designed products aimed at maximizing visibility and communicative effectiveness, a trend already noted in previous studies (Gerlich, 2023). The choice of lifestyle as the dominant theme (76%) further supports this orientation, as it provides a versatile framework for integrating products and services, thereby optimizing their profitability as a communication tool.

Profile-based analysis also reveals the use of differentiated strategies depending not only on commercial objectives, but also on thematic focus, character narrative, or the type of technology employed.

This study has shown that the predominant codes in the Instagram posts by human-like virtual influencers generated through GAI not only reproduce platform-specific patterns but also reflect the technological stage of the analysed period. The contrast between the aims of maximizing reach and profitability and the observed communication patterns seems consistent with potential technical constraints, suggesting that the very technology that enables the existence of these figures may also delimit their communicative practices.

In conclusion, this type of influencer emerges as a post-photographic product created under media-driven parameters, whose effectiveness appears to lie in their ability to replicate behavioural rhetorics and the social and aesthetic codes prevalent on social media, thereby triggering the audience's emotional identification, evoking aspirational goals, and fostering engagement aimed at commercial profitability. However, their self-representation references seem to be more algorithmic than physical, and their portrayal of the "Self" appears to stem from a visual fiction constrained by the very technology that creates it.

The study's limitations arise both from its exploratory nature and from the selection of a sample corpus that may introduce platform-, community-, temporal-, and technology-related biases. This underscores the need for future research that triangulates these findings through: similar analyses; interviews with studios and agencies to document processes and decision-making; and comparative studies with human influencers incorporating performance metrics and inferential models. Additionally, the advancement of generative video models makes it important to examine whether technological improvements in producing coherent motion sequences alter the frequency and use of video among these figures, bringing them closer to the patterns observed in their human counterparts.

Ethics and Transparency

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Conflict of Interest

The authors declare that there is no conflict of interest.



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Authors' Contributions

Role	Author 1	Author 2	Author 3	Author 4
Conceptualization	X			
Data curation	X	X	X	
Formal Analysis	X	X	X	
Funding Acquisition			X	
Investigation	X	X	X	
Methodology	X	X	X	
Project Administration	X			
Resources	X	X	X	
Software	X	X	X	
Supervision	X			
Validation	X	X	X	
Visualization	X	X		
Writing – Original Draft	X	X	X	
Writing – Review & Editing	X	X	X	

Data Availability

Data are available from the authors upon request.

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