universität wien

MASTERARBEIT / MASTER'S THESIS

Title of master thesis / Titel der Masterarbeit

The building blocks of Instagram Marketing: Investigating Content Types as antecedents of posting success

Content-Typen im Instagram-Marketing als Einflussfaktoren auf den Erfolg von Postings

verfasst von / submitted by

Lisa Maria Rohrmeier, bakk. phil.

angestrebter akademischer Grad / in partial fulfilment of the requirements of the degree of:

Master of Arts (MA)

Studienkennzahl lt. Studienblatt / degree programme code as it appears on the student record sheet:	A 066 841
Studienrichtung lt. Studienblatt / degree programme as it appears on the student record sheet:	Masterstudium Publizistik- und Kommunikationswissenschaft
Betreut von / Supervisor:	Mag. Dr. Petra Herczeg

Table of contents

Abstract in deutscher Sprache

Im Mittelpunkt der Arbeit der vorliegenden Arbeit stehen zum Einen das Ausarbeiten eines Kataloges an typisch vorkommenden Bildtypen, die für Instagram-Postings mit kommerziellem Hintergrund verwendet werden, und zum anderen die Überprüfung, ob kommunikations-wissenschaftliche Literatur dazu geeignet ist, eine Berufspraxis zu erklären, die sich größtenteils unabhängig von ihr entwickelt hat.

Im Zuge der Untersuchung wurde ein umfassendes Codebuch zur Bildanalyse entwickelt. Der Einfluss der verschiedenen Bildelemente auf das Engagement mit einem Posting (in der Form von Likes, Kommentaren, Followers und weiteren Indizes) wurde extensiv analysiert und untersucht. Dabei wurden häufig vorkommende Content-Typen sowie einzelne Merkmale mit positiver Auswirkung auf das Engagement identifiziert. Bei der Untersuchung der Anwendbarkeit, beziehungsweise des Erklärungspotenzials, von kommunikationswissenschaftlicher Literatur wurden große Defizite festgestellt, welche vor allem auf das abstrakte Niveau der meisten theoretischen Aussagen zurückzuführen sind.

I Lateral entrants as the conductors of communication science?

In the year 2019, Instagram has long become a widely used marketing platform. The rising popularity of the social network site has not only driven companies to integrate or even concentrate their brand's marketing on Instagram, but it has also turned private individuals into brands with vast reach and power themselves: A new professional group called influencers has emerged. Due to their large following on social media, influencers have gained not only high reach and impact on customers, but also practical expertise in how to market themselves and their sponsors. A central characteristic of influencer marketing is that alleged laypeople serve as spokespersons for companies and brands: Whereas those employed on the company side are presumably trained in theoretical expertise, influencers often seem to be lateral entrants into the profession or to have even emerged together with it. In contrast to the marketing professionals working at companies, most influencers don't appear to be educated in scientific communication or marketing theory. The question that remains open is to what degree existing, scientifically developed communication theory matches the practical knowledge that was gained in the course of the conduct of Instagram marketing: Influencers express their (branded) messages in certain ways – can communication theory serve to substantialize those?

While influencers and their promotional impact haven often been investigated, their exact professional conduct and to what degree it determines their own success remains unexplained to a high degree. Since the concept of influencers revolves around the personality brand these individuals have built, the personal features of influencers certainly account for a vast stake of the success they have compared to their peers. However, not only their physical features distinguish influencers, but also the pictures and videos they document their lives with: While traditional advertising uses various media channels and advertising vehicles to transmit its messages, most influencers mainly concentrate on Instagram as a channel and, consequently, pictures and videos as vehicles. Where advertisement professionals create elaborated media plans, influencers variate the communication of their messages through the way they film their videos and pose in their photos. Parallel to established advertising imagery, certain picture compositions become repeatedly visible when looking at influencers' Instagram feeds. It is this observation the approach of the following research is based on: Not unlike advertisement for similar products, also the posts of influencers

tend to look alike. The objective of the present research project is to identify and describe repeatedly used picture compositions, here called content types. Developing an elaborated catalog of such content types that describes the typical imagery in detail is one of the two main objectives of the present investigations. The analysis' outcome will then be compared against existing research findings, contributing to the second main objective, which is investigating the applicability of communication science on the practice of Instagram marketing. Consulting existing framework, the relation between the use of certain content types, which have emerged from „naive" practice, and scientific communication theory will be examined in order to identify possible parallels and explanatory potential. Both the developed catalog of content types and its comparison against prior findings may serve to derive practical implications that can help to improve and professionalize Instagram marketing by both influencers and companies through uniting practical with scientifically gained knowledge. Hence, the research intent can be subsumed in the following research questions:

RQ1: What are typical content types used by influencers and businesses in Instagram marketing and how are they defined?

RQ2: To what extent is existing communication theory applicable to the practice of Instagram marketing with respect to content types?

In an attempt to answer the first research question, a quantitative analysis of pictures posted on Instagram will be conducted. The code book used for this analysis will be developed partly a priori and then refined based on the analysis of a first part of the examination material. The examination of the state of theory, which constitutes the first main part of this paper, serves not only to provide a theoretical basis for the following analysis and comparison of results and existing findings but also as a source for deriving categories that are relevant to be included in the code book. Relevant literature concerning Instagram as a platform, engagement as its „currency", Instagram audience and communicators, as well as manifest visual cues will be gathered and searched for relevant code book elements. These factors derived from this first theoretical part will then be summarized and applied to a part of the examination material. Due to the underlying suggestion of influencers' naivety when it comes to marketing science, the images examined will mainly be collected from influencer Instagram feeds. However, in order to be able to make valid comparisons with and recommendations for companies themselves, a stake of images posted by company Instagram accounts will be analyzed, too. Refining the a priori developed code book based on a first part of

this examination material is crucial for two reasons: First, imagery elements or other factors that have not yet been derived from literature may be observed repeatedly, and therefore need to be included in the code book. Second, for some concept relevant in the context of Instagram marketing, there may not be any visual cues stated in the existing literature. Following the refinement of the code book and the collection of data, these will be solidified and transformed into a catalog of content types, provided that such are existent. If that is the case, the content types will be described in detail. The main factor for assessing the content types is engagement in forms of likes and comments on the picture in relation to the followers an account has: As will be further elaborated in the following, such audience engagement with Instagram postings is the central success measure when it comes to Instagram marketing. The methodological approach applied here contains a comparable operationalization of engagement. In the second main part of this research project, the findings on content types as well as the effects of single picture components on engagement will serve for comparing existing theory with current evidence: It will be tested whether the factors that have been identified as relevant in the context of Instagram marketing in the first theoretical part also have an impact on engagement. Thereby, the applicability of existing theory on the relatively recently emerged practice of Instagram marketing can be tested and a first contribution to a potential gap between theory and practice be made.

Hence, the conduction of the described research project is highly important for two main reasons. First, communication science addresses one of the most rapidly changing fields existing. Digitalization and ever rapidly developing technologies are making it hard for research to keep up with marketing practice. The present thesis intends to find out whether the theoretical framework can be used to explain a marketing practice that developed not based on it. If this is the case, the recent developments can serve to further validate and contribute to existing theory. If it is not the case and the findings pertaining to the use of content types on Instagram differ significantly from scientific findings, this research paper's outcome might have to be seen as an indicator for communication science to adjust its course and build a bridge between research and practice. Secondly, the interlinking of marketing practice and science is important since scientific findings and theory can help to improve conduct. In the same way that journalism may take news factors into account and advertisers findings regarding advertisement recall, the findings that are intended to be generated by this research project are aimed at helping professionals to use Instagram for their goals in an improved way.

II Conceptualizing Instagram marketing: Theoretical basis

The following part will both provide the theoretical basis for understanding Instagram marketing and serve as a source for deriving criteria that are relevant to be included into the code book for quantitative content analysis.

Kröber-Riel views a communication's impact as determined by the characteristics of communicator, communicant (or receiver) and situation. (Kröber-Riel/Gröppel-Klein 2013) Following this notion, the first chapter will address Instagram as the „situation" of marketing on the platform and the app's distinguishing characteristics and functionalities will be explained as a basis for understanding the subsequent examinations and analyses. Chapter two will conceptualize the Instagram audience as the target group of Instagram marketing. The degree to which the users are engaging with commercial Instagram postings is the central measurement for assessing content types' marketing potential. Therefore, the specific characteristics the Instagram audience can be described with will be examined. A third segment will both describe companies' activity on the platform and provide a detailed conceptualization of influencers. The fourth chapter added addresses concrete, manifest visual cues to be found in Instagram postings.

1 The situation: Instagram as a marketing platform and engagement as its currency

For a better understanding of the factors that contribute to successful marketing on Instagram, the app, its functions and parameters will be cited below. Instagram was initially created by Kevin Systrom and Mike Krieger and launched in October 2010. Initially, the app was only available for Apple iPhone users, followed by an Android version one and a half years later. Additionally, Instagram is accessible through a website interface. In April 2012, the co-founders announced the acquisition of Instagram by Facebook. (Instagram 2019) Systrom and Krieger both served as CEOs for the growing company until September 2018. Currently, Adam Mosseri, former design director of Facebook's mobile apps, is the Head of Instagram. (Instagram 2019b) As a business, Instagram has

been a constant success story. On its launch day, approximately 25 000 users registered. In 2012, the year it was acquired by Facebook for a sum of approximately one Billion US dollars, the Instagram community hit the mark of 80 million users. (Rusli 2012) Since 2017, there are more than 700 million Instagram accounts and more than 500 million daily activities. (Instagram 2019) The Instagram app is being developed constantly and new features are added several times a year. Those that will be considered in the course of the present research work, whether directly or as influencing variables, will be examined below. This is necessary despite the app and its functions are commonly known: On the one hand, some readers might not be completely familiar with the Instagram's versatile functionalities and, above all, the Instagram algorithm and the implications it has. On the other hand, at this point, it can not be foreseen how the app itself, as well as its use and relevance, will develop and be developed in the future. Therefore, the clarification of Instagram's current structure and functionalities as referred to in this paper is necessary to ensure traceability and reproducibility for future readers.

1.1 Structure and functionalities of the Instagram app

The Instagram app is divided into the main sections feed, explore, post, news, and profile.[1] Users can select each section by clicking the corresponding field on the bottom of the app interface. In the feed section, users see an array of postings from followed accounts and advertisements. As will be elaborated later on, the posts a user sees in his or her feed are not ordered chronologically but based on the calculations of the Instagram algorithm. From the feed section interface, the user can also access the direct messaging function and the Instagram stories function. Next, the explore section offers a personalized assortment of trending posts and is meant to help users find content relevant to them. Again, this assortment is curated by the Instagram algorithm. The posting section is connected to the phone's camera and picture library. Photos and videos can either be selected from the user's library or shot directly in the app. Thereafter, they can be edited with the numerous tools and filters offered by Instagram prior to posting. The news section informs users about reactions from other users to their activity (likes and comments on their posts, new followers) and the activity of accounts they follow. The profile section shows the user's own profile as it is also visible for other users. Further, users can browse photos they were tagged in and edit their profile settings. An

[1] These section names have been derived from their functionalities and are not the official terms used by Instagram.

additional interface that appears when swiping left while on the profile section allows access to an only privately viewable collection of saved postings as well as account settings and other functions.

The concept of Instagram is based on the functionality of posting photos and videos. A selection of filters and other tools allows the editing of picture material prior to posting. Until 2015, photos could only be posted in a square format. Since then, pictures of other formats can be uploaded but will still appear in square format in the users' profile overview, resulting in the typical Instagram „grid" that shows a user's posts in a grid with 3 pictures in each row. Starting from June 2013, videos could be posted on Instagram. (Instagram 2013) Additionally, the function „Boomerang", which is an effect that lets a video bounce back and forth, was introduced in 2015. (Instagram 2015) Users can post up to 10 photos and videos within a single post. If a post contains more than one photo or video, users can swipe through these. (Instagram 2017)

Users can link other users' profile on the pictures they post. (Instagram 2013b) Likewise, it's possible for companies to link the products in their web shop on their posts. Posts can also be geo-tagged which means the location a photo was taken at can be declared and will consequently appear at the top of the post. (Instagram 2018b) Users can add a caption to the picture that describes its content. The practice of adding hashtags that will interlink the post with others featuring the same hashtags is common. Instagram has even introduced the possibility to follow a certain hashtag, which results in the visibility of posts with the respective hashtag on the home feed similar to the visibility of other accounts. In late 2018, Instagram introduced an alternative text function that makes it possible for users with impaired eyesight to use the service. (Instagram 2018c) One more feature that absolutely needs to be considered when investigating Instagram from a marketing perspective is advertisement disclosures. Instagram introduced a special tag for disclosing potential sponsors of a post in 2017 in order to bring more transparency to commercial relationships on Instagram. (Instagram 2017b) Both the use of the sponsorship tag as provided by Instagram and a declaration in the post caption through text or a hashtag (#ad #advertisement #spon #sponsored and so on) will be considered as a sponsorship disclosure in the present investigation.

The functionality Instagram stories was first introduced in 2016. Those posts stay visible for 24 hours only and appear in a (smartphone) screen-filling format. Stories can be accessed either by clicking a user's profile picture via their profile or the home section interface. Both in Instagram stories and regular posts, person, product and geo tags, as well as inscriptions, can be added. (Instagram 2016) Additional features like GIFs were successively added to the Instagram stories

function. Stories also offer interactive features: With a poll sticker, users can ask their followers to either select from two answer possibilities or rate a statement on a scale. The questions function can be used to encourage followers to send a question. The user that posted the story featuring this functionality can then share the question (whose sender remains anonymous to the viewers, but not the poster) and its answer. (Instagram 2018) Instagram Live is a functionality that allows users to create a live stream their users can watch and comment on. It was introduced in 2018, (Instagram 2018d) the same year that Instagram TV (IGTV) was introduced. (Instagram 2018g) Both Instagram stories and live will not be considered in the present investigation: Here, only pictures posted in the feed are of interest.

1.2 The Instagram algorithm: Engagement as a condition for visibility

On Instagram, users can interact with postings of other users in several ways: Once the photo or video content is posted, it can be liked or commented on, with the number of likes and comments being visible to other users. In 2013, Instagram's messenger function Instagram direct was introduced, allowing users to send private messages to each other. (Instagram 2013b) As explained above, also Instagram Stories offers several interactive functions. Therefore, users can not only reply to another user's stories with a „normal" message, but also reply to questions, polls, and scales. Users can (depending on privacy settings) re-share postings and stories of other users. A feature that enables users to save photos to private albums was introduced in 2016. Through a button at the bottom right corner of a post, users can ever since save photos without notifying the posting users and save them in private albums that will display the saved posts in a typical Instagram grid manner. (Instagram 2016b) These ways of how Instagram users can interact, or engage, with each other are crucial to postings' visibility and therefore marketing success:

Whether a post is being liked and commented on depends on various factors, not only the mere fact if a user actually likes the content and wants to leave a comment on it. Before a user can react to a post, he or she, of course, needs to see it first. The posts by followed accounts were initially displayed in chronological order on users' home feeds. Since Instagram implemented major algorithm changes, though, not only the order but also the mere visibility of posts on the feed is determined by a complex set of rules that are coded in the Instagram algorithm. In a 2016 press release, Instagram introduced the changes under the title „See the Moments You Care About

First“ (Instagram 2016c) and substantiated the change with the argument that people would miss about 70 % of the content posted by their followed users. Due to the fact that along with the growth of the platform, also the amount of posted content grew, the new algorithm is, according to the statement, meant to order photos in a way that displays the photos most relevant to the user. (Instagram 2016c)

Subsequent to the changes, the visibility of a post is mainly dependent on the engagement a user is able to generate with his or her audience. At the time, the unannounced changes were heavily criticized by Instagram users: „There's no question about it, Instagram posts are no longer getting the amount of exposure they used to. Now, it's estimated that only 10% of your audience is actually seeing your posts. This can be extremely frustrating for users who aren't seeing their friends and family's posts, businesses hoping to reach new customers, and even worse for influencers whose business model depends on their followers seeing their content“, states Lexi Carbone, an Instagram marketing specialist. (Carbone 2018) Despite the severe backlash from the user community, Instagram did not initiate a return to the chronological order. Therefore, those using Instagram professionally have to adapt their approach to the algorithm changes. Ever since the feed order was changed, Instagram marketing professionals have been trying to work out the algorithm's exact operating modes. Not unlike the whole field of search engine optimization (SEO) is trying to optimize website content in a way that is more beneficial to the ranking through the Google algorithm, Instagram marketers have been trying to get the best out of the Instagram algorithm. At this point, again, it is questionable to what degree influencers are using lay theories instead of profound knowledge – in case they are even taking the conditions set by Instagram's algorithm into account. It is necessary to gain an understanding of the algorithm's presumed operating mode for two main reasons: First, the algorithm is designed to manage visibility and hence exposure to the audience. Exposure, in turn, is the fundamental condition for user reactions. Therefore, when user interactions are being investigated, it has to be considered that the Instagram algorithm influences exposure and thereby user engagement with marketing content. Second, this chapter is highly useful to readers trying to achieve a better understanding of Instagram's functionalities, whether for professional or personal purposes.

The initial statement issued by Instagram on occasion of the algorithm change stated that the order of photos and videos in the users' feed is based on the likelihood they are interested in the specific content, the relationship to the posting user and the timeliness of the post. However, the statement did not contain detailed information on how the favor of content and relationship towards users are

assessed. (Instagram 2016) In May 2018, Instagram addressed users' calls for information on the new feed order in a press release on the new mute function and referred to its updated help center. (Instagram 2018e) While the information in the help center remained vague, the company additionally invited a group of journalists to give a deeper insight into the algorithm's mode of operation. It was disclosed that Instagram relies on machine learning based on users' past behavior in order to create a unique feed for every user. According to the company, among the main prioritization factors are past behavior on similar content and the number of interactions with another account (including commenting, tagging users in postings). Beyond those main factors, the frequency and duration of app use will result in a specially tailored array of postings in the feed. Also, if a user follows many accounts, the algorithm will pick from a wider breadth of authors in order to avoid too much exposure to a single account's postings. Instagram's 2018 disclosures further indicate that the length of the time span a user looks at a posting influences its ranking. (Constine 2018) Unfortunately, neither the time and frequency of app use, the exact behavior on similar content and interactions with a user can be detected.

The time span a user invests in looking at a posting may partly depend on its format: When scrolling through the feed, pictures posted in portrait format take more time to scroll past. Also, postings containing more than one image, displayed in a gallery format, encourage to swipe through them. This takes more time than looking at a single image. Additionally, the Instagram algorithm may consider the act of swiping as engagement. Hence, the code book for quantitative analysis will take into account which format the posted picture has and if it is posted as a gallery.

Due to the limited disclosure by the company itself on its algorithm, Instagram marketing specialists have been working on further elaborating the knowledge about the prioritization mechanism based on their experience. Instagram specialist Lexi Carbone states that the succession of pictures shown on a user's feed is mainly based on the engagement the posting account can achieve. Engagement is, in turn, defined by the number of likes and comments, views (in case of videos), saves, shared posts and direct messages received and sent by the posting user. (Carbone 2018) Caroline Forsey, a marketing blog writer at HubSpot, agrees that engagement is the key to prioritization on Instagram. She goes further into detail by explaining how Instagram evaluates how users will see a post: According to Forsey, a newly posted picture will initially be shown to a partial audience only. The algorithm will then analyze this audiences' engagement with the posting compared to engagement with postings published at similar times or with similar content. If relatively high engagement is detected, the posting will be prioritized and exposed to more users or

even be shown in the explore section. Forsey regards the posting's timing, likes, comments, and direct shares as well as profile searches of the posting user as crucial influencing factors. (Forsey 2018) Alfred Lua, editor at Buffer, too, attempts to further investigate the prioritization factors disclosed by Instagram. He explains the likelihood a user will be interested in a certain posting as being determined by the algorithm through an analysis of content genres (like sports, fashion, etc.) a user has priorly engaged with. Lua points to the possibility that Instagram uses photo recognition technology for a qualitative analysis of the picture content. He further states that a posting's relevance to the specific user is more relevant than its overall popularity. Proceeding to Instagram's statement that relationships with other users are important for prioritization, Lua specifies that Instagram will analyze a user's past interactions for an assessment of those relationships. Possible criteria for this assessment may be users whose content is liked and commented on, users who direct messages are being sent to, users that are being searched for. (Lua 2018) The implications that can be derived from the disclosures made by Instagram and the elaborations initiated by marketing professionals point to a need to consider several factors in the quantitative analysis. Quite obviously, it is absolutely necessary to document the likes and comments a posting has generated. Since more followers result in a higher reach, the account's number of followers will be considered as well. Within the present research project, it is not possible, however, to measure saves, shares and direct messages since a quantitative content analysis and not a qualitative survey asking users for their interactions with others will be conducted. Indicators for user relationships that are observable in this case are comments and involving captions (e.g. containing a question) as attempts of the posting account to enhance engagement. Further, the use of geotags, tags of other users and hashtags will be considered. Inter alia following the elaborations of Forsey, who suspects a pre-testing of a posting's potential to generate engagement, (Forsey 2018) the ratio of likes, comments, and followers a user is able to generate will be considered. Since the number of followers influences the reach and hence the engagement potential, an index will be developed in order to be able to compare postings issued by different users, but also of different content types in the following. The definition and meaning of engagement in terms of Instagram have been elaborated above. The following segment will examine literature on engagement as it can be found in scientific sources in order to give a deeper insight into relevant factors and precedents.

1.3 Drivers of engagement

Since social media is one of the main channels for customer and brand interaction, (Baird/Parasnis 2011) a growing prevalence of social media has resulted in an increased focus of both academics and practitioners on audience engagement in social media platforms. (Brodie/Hollebeek/Ilic/Juric 2011) The notion of engagement has been studied from various theoretical perspectives, among them, as listed by Conduit, Dolan, Fahy, and Goodman, (2016) psychology, (Hallberg/Schaufeli 2006) education (Barcon/Corbin 2012) and management. Engagement can be seen as a motivational state occurring due to focal, interactive experiences made by individuals with the subject of engagement. Such subjects of engagement can be customers and consumers, but also brands, their offerings and so on. Engagement is a multi-dimensional concept and comprises of cognitive, emotional and behavioral dimensions. In the emerging literature on the subject, „'engagement' has been viewed as a promising concept expected to provide enhanced predictive and explanatory power of focal consumer behavior outcomes, including brand loyalty." (Brodie/Glynn/Hollebeek 2014, p. 150) Underlying an increasing concentration on the engagement concept is „growing scholarly recognition of contemporary consumers' active, rather than passive, roles and behaviors in specific brand-based processes." (Pp. 149-150) Several other concepts have emerged from engagement, for example, consumer, customer and community engagement. However, Brodie, Glynn, and Hollebeek (2014) note that such terms like customer and brand engagement may reflect highly similar conceptual scopes although oriented towards differing specified topics.

1.3.1 Creator, context and content-related features of a posting

In 2017, Jaakonmäki, Müller, and vom Brocke criticized a lack of holistic research on the key drivers of audience engagement. As a basis for their study on the subject, which was the first one to use machine learning for the systematic identification of such key drivers, they differentiated between creator, context and content-related features of a posting. The cited creator-related features are follower number, age, and sex of the sender. In the course of this investigation, age and gender of influencers will not be considered. However, as already stated, other creator-related criteria will be included. Jaakonmäki et al. consider time and location as contextual features. In this study, location is being monitored through both geo-tags and picturesque backdrop. Through documentation of the posting date, time will be considered in the present research.However, it is

highly problematic that the posting time cannot be measured more accurately: The Instagram app merely shows the date, but not the time of day the post was uploaded. A strong effect of the posting time has been proven (Jaakonmäki/Müller/vom Brocke 2017) and the Instagram app even gives business accounts insights into the most active times of their audience. (Instagram Business 2019) Jaakonmäki et al. (2017) further point to the relevance of the weekday of posting. The weekday a picture was posted can be investigated with the help of the posting date. Also, Jaakonmäki et al. consider the number of previous posts in their analysis. The overall number of postings, which is shown on an accounts profile next to the number of followers and followed users, will be included in the code book as well in order to control for potential effects. The researchers further differentiate text, visual, and audio content when it comes to content features. While audio content (of videos) will be neglected, the caption (text) is considered in the present investigation. Visual content and its composition are the main focus of and research objective of the subsequent investigation.

1.3.2 CBE - consumer brand engagement concept

Brodie, Glynn, and Hollebeek (2014) culminate both literature review and own findings from a qualitative study in an attempt to further describe the consumer brand engagement (CBE) concept. CBE is defined as „a consumer's positively valenced brand-related cognitive, emotional, and behavioral activity during or related to focal consumer/brand interactions“. (Brodie/Glynn/ Hollebeek 2014, p. 154) In other words, it describes the engagement concept’s application on brands. CBE is differentiated into three categories corresponding to the cognitive, emotional and behavioral nature of engagement. The category cognitive processing describes the level of brand-related thoughts, processing and elaboration by an individual. Hence, it is of interest what visual cues trigger intensive cognitive processing. Corresponding to the emotional nature of engagement, the affectionate[2] category refers to the degree of positive (brand-related) affect. Cues leading to positive emotion and affect are, consequently, of high relevance with respect to the present investigation’s objective. Related to the behavioral nature of engagement, the category activation means the level of energy, effort and time an individual invests in an interaction. (Brodie/Glynn/ Hollebeek 2014) Thus, activating stimuli have to be considered in the following. The same accounts for involvement: Brodie, Glynn, and Hollebeek (2014) suggest involvement as an antecedent of engagement: An indirect effect of involvement on to brand usage intent, mediated through all three

[2] The term „affectionate“ instead of the neutral „affective“ was chosen due to the overall positive valence of the engagement concept. (Brodie/Glynn/Hollebeek 2014)

CBE categories cognitive processing, affection and activation was found, with involvement having the greatest impact on the affection construct.

1.3.2.1 Cognitive processing and elaboration as an aspect of engagement

Today's consumers are confronted with a vast amount of information from countless sources. The abundance of available information has been intensified by social media and the Internet in general, making it increasingly difficult for individuals to assess information and its value. Due to their naturally limited processing capacities, today's consumers have to reduce the complexity of the information stream they are confronted with and narrow it down to credible sources. Hence, individuals are often forced to rely on cues and heuristics for evaluation. „Due to the emergence and ever-growing popularity of social media and the plethora of information, consumers will likely use a heuristic (or peripheral) process to assess influencers on social media. (…) When encountering an Instagram account, consumers may base their judgments on peripheral cues, such as number of followers." (Cauberghe/de Veirman/Hudders 2017, p. 803; see also Chaiken/Maheswaran 1994; Flanagin/Metzger 2013; Cacioppo/Petty 1986) The notion that Instagram users process information on a peripheral route points to the relevance of the elaboration likelihood model, (ELM) as it has initially been proposed by Cacioppo and Petty. (1984; 1986) The ELM describes the impact of persuasive communication messages on their receivers. Two ways of processing are proposed: First, the peripheral route mentioned above, which relies on peripheral cues like the communicator's attractiveness, assumed expertise etc. Qualitative aspects like arguments and their validity tend to be neglected. The central processing route, on the other hand, is based on the recipients' need for cognition, interest and motivation to elaborate given information. In this case, the quality of arguments is considered. Petty and Cacioppo state several factors determining which way information is being processed. One of these determinators is distraction. In the present investigation, it is not possible to capture information on whether Instagram users have been distracted when viewing a certain posting.

Hence, this factor is not included in the code book. However, it can be assumed that distraction does, in fact, play a role since Instagram is often being looked at while doing other things. Another determinator of which information processing route is taken is repetition: Initially, the repetitive occurrence of messages can positively impact opinion formation. After a certain amount of repetitions, though, recipients might be bored or even react defensive. The Instagram algorithm

assures a systematic visibility of postings. Hence, overly repetitive confrontation of users with postings is unlikely, unless the respective posting is a sponsored advertisement being displayed to the user more than once. In the context of the present investigation, it is not possible to observe whether a posting's visibility has been monetarily boosted or not. However, the topic of recipients' reactance towards commercial messages will be addressed in a later chapter. Further, Petty and Cacioppo (1984; 1986) list personal relevance and mood as factors determining how intensively information is being processed. In the following, pictures posted on Instagram will be analyzed. The only information about the audience gathered will be how many likes and comments a posting and how many followers an account has. Hence, also personal relevance and mood cannot be considered. Future research including more detailed audience information may consider whether the likers and commenters of a post reside in areas close to where a posted picture was taken (as indicated by an Instagram geo-tag).

A factor leading to intensive information processing on the central route is an individual's need for cognition. Petty and Cacioppo (1984; 1986) view the need for cognition as a personality trait, which, again, can not be observed in the course of the present investigation. Hence, it must be concluded that factors triggering high elaboration as opposed to peripheral processing, can not be included in the following investigation due to a lack of information on the audience. This poses a limitation to the present research intent, which may be revived in future projects.

1.3.2.2 Triggers of emotion and affect as antecedents of engagement

Brodie, Glynn and Hollebeek (2014) point to the partly emotional nature of engagement. Furthermore, intensive emotional processes are related to involvement, (Gröppel-Klein/Kröber-Riel 2013) a determinative antecedent of engagement. (Brodie/Glynn/Hollebeek 2014) Thus, it is of interest at this point which visual cues contained in an Instagram posting have the potential to trigger emotion and affect.

Research on mirror neurons points to possible effects of emotions pictured in an Instagram posting. Observing macaques, Rizzolatti et al. observed that neurons in a certain brain area reacted when a motoric action was conducted by the monkey itself, but also when the monkey observed the same action done by another monkey or even a human. Such effects have been observed in primate species, including humans: (Luciano/Rizzolatti 1999; Rizzolatti/Sinigaglia 2007) Brain activity in compliance with that of mirror neurons has been found in several brain areas: The premotor cortex,

the supplementary motor area, the primary somatosensory cortex, and the inferior parietal cortex. (Cunnington/Mattingley/Molenberghs 2009) The function of mirror neurons in the human brain is subject to much speculation and has been related to the capability to understand the actions of others, learning skills by imitation, language abilities and the human capacity of emotions in the form of empathy: (Keysers 2011; Arbib 2012; Pascual-Leone/Théoret 2002; Blakeslee 2006) Several researchers have argued that the mirror neuron system is highly relevant for empathic emotions. (De Waal/Preston 2002; Decety 2002; Gallese 2001; Keysers 2011) Investigations using fMRI, EEG and MEG methods showed activity in certain brain regions when experiencing emotions or seeing other persons experience emotions. (e.g. Botvinick/Bylsma/Fabian/Jha/ Prkachin/Solomon 2005; Cheng/Decety/Lee/Lin/Yang 2008; Di Pellegrino/Lloyd/Morrison/Roberts 2004; Jabbi/Keysers/Swart 2007; Batson/Decety/Lamm 2007) Freedberg and Gallese have even put forward the assumption that mirror neurons are crucial for aesthetic experiences. (Freedberg/Gallese 2007) Given the notion that those observing the emotions of others are, because of mirror neurons, reacting with the same emotion, it can be assumed that emotions, as shown in an Instagram picture, will evoke emotion and consequently engagement in its viewer. Hence, the quantitative analysis of Instagram postings will take into account whether humans showing emotions are pictured in order to investigate possible rises in engagement as compared to pictures showing rather neutral and emotionless faces.

1.3.2.3 Activation as a component of the engagement construct

Brodie, Glynn, and Hollebeek (2014) describe engagement as being of cognitive, emotional and behavioral nature. The latter attribute corresponds to activation, meaning the level of energy, effort and time an individual invests. In general, activation is defined as an excitation process that positively influences an individual's cognitive and physical performance. Regarding marketing, like involvement, the state of activation is of interest due to its impact on information processing (reception, perception, learning, memory). Further, research aims at a deeper understanding of activation processes in order to design marketing measures in an activation triggering way. (Gröppel-Klein/Kröber-Riel 2013) Berlyne (1974) names three main categories of stimuli suitable for triggering activation: Affective, collative, and intensive stimuli.

Positive affective stimuli include key stimuli like the scheme of childlike characteristics, nature (plants and landscapes), eroticism, and personally relevant stimuli. The scheme of childlike

characteristics is hardly relevant to the present investigation. An in-depth analysis of potential childlike features of the pictured individual is not possible within the course of the subsequent content analysis. Also, as mentioned before, it is mainly the picture composition's and not an individual's physical appearance's effect that is of interest here. The aspect of nature, however, can be considered in the form of documenting the backdrop of an image. Eroticism will not be investigated here. However, a category covering objects surround a pictured individual may include more detailed information on clothing style and whether the skin is more or less covered. Personally relevant stimuli cannot fully be covered by this investigation since the only audience information available is the number of users who have liked and commented on a posting or follow an account. Collative stimuli trigger strong activation due to variety, newness and surprise potential. This category points to possible effects of a posting account using a wider range of content types for his or her postings are usual. The intensive stimuli as stated by Berlyne (1974) are such stimuli that trigger high activation through their physical properties. Those that are relevant for image analysis and hence will be included in the code book are brightness and striking versus muted colors.

1.3.2.4 Involvement as an antecedent of engagement

Because involvement has been proven to be a central influencing factor on decision behavior, it is highly relevant in the marketing context: Advertisement aims at triggering high levels of involvement in order to achieve stronger effects. (Gröppel-Klein/Kröber-Riel 2013) The concept of involvement, which is a non-observable, hypothetical construct, is based on activation (Trommsdorff 2008) and stands in relation with strong emotional and cognitive processing: In case of high involvement, an individual is ready to engage and contemplate a decision – in other words, to intensively elaborate given information. Triggers of activation as well as emotional and cognitive processing have been discussed above. The question whether high levels of activation, emotion, and cognition result in high involvement or vice versa is up for discussion, although its answer is not relevant at this point: All four concepts are indiscerptibly related.

Kröber-Riel and Gröppel-Klein (2013) differentiate four antecedents of involvement: Product involvement, individual characteristics, specific situational characteristics and involvement triggered by media. The latter notion suggests that different advertising vehicles are more or less suitable to trigger involvement due to their differing communication manner – e.g. visual versus textual transmission of information. (Gröppel-Klein/Kröber-Riel 2013) Instagram has been shown

to be a medium with high potentials of activating its audience. (Adegbola/Gearhart/Skarda-Mitchell 2018) The inherently interactive nature of the application presupposes a certain degree of user involvement. Individual characteristics of audience members cannot be taken into account within the framework of the present research intent. Future research may attempt to go more into depth concerning recipient characteristics as an influencing factor.

However, both product involvement and specific situational characteristics play a role in this investigation: In the following quantitative analysis, the product centrally featured in a posting will be documented in order to test for differing effects when different products are featured. The specific situational characteristics will be documented in form of the situation a pictured individual is being displayed in. Also, the specific situational characters, as listed as an antecedent of involvement, can be interpreted as a posted picture's content type. Therefore, the notion by Kröber-Riel and Gröppel-Klein (2013) that specific situational characters account for varying degrees of involvement points to the relevance of investigating content types yet again. In particular, the present investigation will test whether the antecedents of involvement equally trigger engagement with postings.

2 The audience: Instagram users as the drivers of marketing measures

The Instagram audience is not only the group targeted by the marketing activities on the platform, but also the most influential feedback-giver: Social media as advertising platforms have brought the reciprocity of mass communication and the audiences' feedback power to a new level, making likes and comments by audience members the focal point for evaluation of success. However, the mass media audience has not always been recognized as an autonomous force on who's preferences communication measures need to aim at. The next chapter will examine the scientific path towards an active and powerful audience conceptualization, aiming at both providing a theoretical base and identifying criteria to be included in the code book for quantitative analysis.

2.1 The path towards an active audience conceptualization

Attempts to investigate audience feedback as evoked by mass media communication can mainly be attributed to the research field of media impact. First scientific approaches to investigate the effects of mass media on their audience were based on behavioristic theory and the assumption that stimuli would cause identical reactions by all audience members. Individuals were seen as a „black box". with unobservable and thus non-analyzable inner processes. The society and audience conception at the time discredited the importance of individuals' primary groups and saw them as rather isolated. These assumptions resulted in a stimulus-response theory of mass communication, which stated that mass media stimuli reach and impact society members in a uniform way, resulting in uniform effects. (Burkart 2002) One of the most meaningful contributions to a theoretical shift towards a more accurate audience conceptualization is the two-step-flow model, first proposed by Lazarsfeld et al. in 1944: Their study was one of the first to note a mass communication model suggesting greater audience sovereignty than assumed before. „The People's Choice" brought forward a concept of the audience as a society consisting of peer groups, whose individuals are not, as assumed before, isolated and directly and in an unfiltered way influenced by mass communications. The study resulted both in opinion leader theory and a new two-step flow model of communication, replacing the stimulus-response concept followed before. (Lazarsfeld/Berelson/Gaudet 1944) Two other classic theories suggesting an active, not passively influenced audience are the selective exposure hypothesis (see Festinger 1957) and the uses and gratifications approach. (See Teichert 1975) Around the same time when sociological impact studies like „The People's Choice" shook up the belief in uniform effectiveness of mass media messages, psychological research contributed to a new understanding of mass media audiences, too. (Burkart 2002)

Based on the consistency theory, the selective exposure hypothesis states that individuals expose themselves to mass media messages in a very selective manner, always trying to avoid cognitive dissonance. (Festinger 1957, Burkart 2002) This selective media consumption behavior expands to selective interpretation and memory, a notion that is highly relevant to consumer behavior and advertisement impact research in general. (Abelson/Rosenberg 1960; Heider 1958) The selective exposure originally described by Festinger (1957) is largely applicable to Instagram use: Since users can freely decide which accounts they want to follow, they have the possibility to determine what content they will be confronted with. The degree to which individuals can select what content they will be shown is limited and also partly determined by the Instagram algorithm, which steers

postings' exposure and order. Also, individuals are shown advertisement content based on algorithm calculations. Nevertheless, users still can freely decide what content they want to engage with, and thereby, in turn, influence the content the Instagram algorithm exposes them to. Hence, the selective power of the Instagram audience needs to be recognized in any case.

A third theoretical complex re-defining mass media audiences as active individuals is the uses-and-gratifications-approach. Stating that the reception of mass media communications is based on individuals' expectancy of gratifications, it describes recipients as an active element in the communication process. Further, it sees media consumption as driven by human needs and mass media as an instrument to satisfy these. (Rencksdorf 1977; Teichert 1975; Burkart 2002) The notion that individuals use mass media for the satisfaction of their needs has been interlinked with opinion leadership research by Blackwell, Engel, and Miniard (1990): They describe opinion seekers as people looking for information or advice from opinion leaders. Such opinion seekers have also been described as using opinion leaders as a tool to avoid perceived risks and thereby cognitive dissonance. (Eastman/Flynn/Goldsmith 1996) The focus on the benefits of mass communication for its recipients steers the focus towards how exactly audience members make use of media: Audience research becomes gratification research. Related studies ask how the active audience, which is now seen as a participating part of mass communication, not only deals and interacts with the content, but also what they use it for and what it means to the single recipients. (Burkart 2002) Burkart (2002) notes that two aspects are mainly relevant in this respect: First, the type of gratifications received by recipients through mass media consumption, and second, what personal, individual-specific factors determine the mass media use. He goes on to argue that it is the objective of benefit-oriented audience research not only to identify subjectively obtained gratifications, but also to explain them – and thereby investigate what for and why individuals use mass communication. (Burkart 2002)

Based on the aforementioned state of theory, Burkart (2002) concludes in describing the mass media audience as follows: The mass media, respectively Instagram, audience is an active element of communication processes and not merely a group of passive recipients. Media use is active and oriented towards certain objectives. Further, this benefit-driven media use results from both individuals' characteristics and their personal needs, with mass media being an instrument to satisfy these.

2.2 The Instagram audience

Recent research has underlined an active audience conceptualization and identified Instagram users as being a particularly active audience. (Adegbola/Gearhart/Skarda-Mitchell 2018) It remains to be differentiated whether a user is merely „active“ on Instagram, meaning he or she owns an account and is maybe looking at postings and following some other accounts, or actually „engaging“ with content, meaning liking and commenting on it. Instagram users further play an important role as opinion seekers: As mentioned above, „The Peoples' choice“ study by Berelson, Lazarsfeld and Gaudet 1944) has brought forward the two-step-flow model of communication and with it the concept of opinion leadership. As a counterpart to the so-called opinion leaders, who show considerable influence on their peers, the Instagram audience have been conceptualized as opinion seekers. Clark and Goldsmith (2008) attribute an important role to opinion seekers in the fashion context: „Opinion seekers are important to the spread of new fashions because they can act on the information they receive from the opinion leaders and may in fact become opinion leaders themselves.“ (P. 309) Thereby, they point to the fact that opinion leadership and seeking are not mutually exclusive behaviors. They follow the notions of several researchers (Bertrandias/ Goldsmith, 2006; Eastman/Flynn/Goldsmith 1996; Goldsmith 2000) when they suggest, and later confirm, that fashion opinion leadership and fashion opinion seeking are positively related. This notion again points to a relatively active audience role and the importance of audience members not only as message receivers, but also multipliers, pointing to the central role Instagram users as an audience partake in the mass media communication process: Instagram marketing is not only a way for businesses to communicate product information towards their audience, but also to realize an impact on consumer-to-consumer communication. (Fauds/Mangold 2009) The „act of consumers talking among themselves about a product or service“ is called word of mouth (WOM) and has long been a crucial consideration for the creation of advertisements. (Thorne 2008, p. 280) The relevance of WOM for Instagram marketing will be discussed further in a later chapter. Following Beatty, Morgan, and Vivek (2012), Adegbola, Gearhart and Skarda-Mitchell (2018) state that „when brand content effectively engages customers in social media, specifically Instagram, it can be seen through likes and comments. This allows the audience to act as co-creators, which gives the content message credibility.“ (Beatty/Morgan/Vivek 2002, p. 237) Back in 1981, Eurich differentiated two forms of audience feedback: A direct, intended and often spontaneous response by recipients and a less direct form which shows through the cancellation of a newspaper subscription, for example.

(Eurich 1981) This feedback differentiation, which was made at a time before the rise of social media, can still be applied on to Instagram audience feedback today: In such a new interpretation and application, the direct response form corresponds to liking and commenting and the indirect form to the following and unfollowing of an account.

2.3.1 Uses and gratifications of the Instagram audience

In the above, the development of the two-step-flow model, the notion of individuals' selective exposure to media content as well as the uses and gratifications approach have been cited to describe communication science's path towards the active, autonomous and benefit-seeking audience comprehension. This audience conceptualization is taken as a basis for the present research project, which presupposes engagement, a form of audience activity, as a central point of interest. The impact of benefit-seeking on such engagement remains to be further investigated and hence considered in quantitative analysis. Therefore, the possible gratifications users can possibly capitalize on Instagram will be examined in the following for the purpose of identifying aspects to include in the code book. A frequently cited classification for the benefits that can be gained through media use was developed by McQuail et al.: (Blumler/Brown/McQuail 1972; McQuail 1983; see also Burkart 2002)

2.3.1.1 Distraction and diversion

First, media are a useful tool for distraction and diversion, enabling escapism from one's day-to-day life. A study dated back in 1962 attributes recipients' escapist tendencies to the stressful living conditions in an industrialized society, with media serving as a vehicle for a distraction from role obligations. (Foulkes/Katz 1962) Chapter 2.3.2.3 will come back to the topic of escapism in the context of Instagram.

2.3.1.2 Personal relationships

Another category of media benefits is personal relationships. Multiple aspects need to be considered in the context of medias' significance for personal relationships. First of all, social networking sites are, naturally, mediators of personal communication. Even prior to the emergence of online social media platforms, Mc Quail et al. (1972; 1983) pointed to another instrumental social utility of

media use for social interactions, which is mass media use as a starting point for personal communication as well as a way to structure a personal encounter. Concerning Instagram, this would mean users conversing about Instagram content, sharing content with each other and chatting about it through the direct messaging function, or even using the app together. While such a form of Instagram use assumably occurs, it can not be included in the present analysis. As stated repeatedly, user engagement will be measured by the observable likes, comments and following. Nevertheless, Instagram content as a potential starting point for personal conversation and interaction is a relevant notion, pointing to the app's social significance. Another highly relevant concept the category of personal relationships as a mass media benefit points to are para-social interactions. (Blumler/ Brown/McQuail 1972; McQuail 1983) The topic and its implications for the current investigation will be covered in chapter 2.3.2.1.

2.3.1.3 Personal identity

McQuail et al. (1972; 1983) include personal identity as a media benefit category. Again, the more than one aspect is relevant: Burkart (2002) notes the relevance of social comparison, orientation, and categorization of oneself in relation to personal identity as a mass media benefit. Personal identity in relation to mass media is a topic that gained substantial significance with the rise of social networks sites and the accompanying blur of the line between communicant and communicators, recipient and publisher: Through social media, users can create and publish their very own persona, making them media figures themselves. The impact of this possibility and the (potentially negative) effects of sharing personal content, enabling others to give directly visible feedback on one's personal pictures, are a highly important field of research, however not a topic of the present investigation. Future research projects may include the influence of users' posting behavior on their engagement with commercial Instagram postings.

Nevertheless, it was only the elimination of the discrimination between recipient and publisher through platforms like Instagram that made the emergence of influencers possible. The topic of social comparison with media personas and categorization of oneself will be covered in the next chapter. The benefit orientation through mass media is related to the subject of influencers serving as advice-givers and will therefore be covered in a separate chapter.

2.3.1.4 Environment information and control

The last main media gratification category noted by McQuail et al. (1972; 1983) is control of and information about individuals' environment. This refers both to users' personal surroundings and the not immediately attainable outer world. The information users gain through Instagram about their personal environment is not of interest at this point, since not purely personal, but commercial Instagram postings are being investigated. However, the potential of Instagram to give an insight into parts of reality that are not directly perceptible for users builds a bridge to medias' usefulness for distraction and diversion. The topic and its relevance for escapism will be examined further in the following.

2.3.2 The influencer and audience relationship from an audience standpoint: Users' interactions with influencers as media figures

Research on media reception brought forward multiple investigations of the perception of and interactions with media figures by audience members. „A particular characteristic of the perception of media figures is that recipients – especially with audio-visual media offer – feel appealed or addressed, respectively." (Bilandzic/Matthes/Schramm 2015, p. 130) While the relationship with their audience from an influencer perspective will be addressed in a separate chapter, it is of interest at this point what factors matter in this respect from an audience perspective. Where possible, the factors impacting the perception and interaction of audience members with media figures will be considered in the code book for the subsequent quantitative analysis in order to investigate possible impacts of these same factors on Instagram users' engagement with influencer postings.

In case audience members react to being confronted with media figures, the subsequent interaction occurs in ways like increased interest and intensive thoughts, changed posture, facial expression, and gestures, or even talking to the screen. Bilandzic, Matthes and Schramm (2015) state that regarding the perception of media figures by individuals, three main cues are of relevance: „(1) The spatial distance towards the person as shown, (2) the non-verbal reference and (3) die verbal reference." (p. 130) In the present investigation, the spatial distance towards can only be taken into account in the form of noting if an individual is pictured as a whole versus in a portrait shot.

Literature on non-verbal reference is one of the most important sources for the present research intent and will be covered in a separate chapter. As elaborated above, verbal reference of influencers towards their audience will be analyzed in terms of posting caption analysis.

The way of reacting of audience members becoming concerning Instagram is the liking, commenting and following by Instagram users. Several research fields are especially relevant when it comes to audience members' reaction to and interaction with influencers: Para-social interaction and relationship, identification, and social comparison with media figures. The next paragraphs are divided into these parts, following Bilandzic, Matthes and Schramm (2015, see also Burkart 2002) who state the issues in relation to the perception of media figures. The researchers' notions will be complemented with current research specifically addressing Instagram figures and audiences.

2.3.2.1 Para-social interaction and relationship

The concepts of para-social interaction and relationship were originally based on the mass medias' characteristic of evoking the illusion of interaction. (Horton/Wohl 1956) When social networks are included in the definition of mass media, the illusion of interaction is no longer an illusion, but a necessity: Instagram users, for example, have the possibility to interact in the form of likes, comments and messages in response to media contents. However, especially in the case of influencers, it is questionable if such a reaction will result in a dialogue: Considering the large following of some influencers, it is assumable they will not answer to every single message addressing them. It was such lacking responsiveness that had led to recipients' relationships with media personas being called „para"-social. (Bilandzic/Matthes/Schramm 2015) Hence, assuming limited interactivity quality between influencers and their audience, research on para-social interaction and relationships will be examined at this point in order to gather implications for the present research project. Para-social interaction is defined as the immediate encounter of recipient and media figure during reception, whereas a para-social relationship describes a relationship outlasting and exceeding single encounters through media. (Bilandzic/Matthes/Schramm 2015, see definition on p. 132) Similar to regular human relationships, para-social ones develop over time. Bilandzic, Matthes and Schramm (2015) cite multiple studies on the phenomena of para-social interactions and relationships. Among the cited findings are the conclusions that no matter their gender, recipients tend to interact more intensively with male media figures and that both para-social interaction and relationship occur more intensively with either adolescent or older and less educated individuals. Further, the less social contacts and leisure activities an individual maintains, the more likely para-social interactions and relationships become. The cited findings point to a high relevance of personal factors: Overall, individuals' own communication behavior plays a central

role. Which media figures are being interacted with depends on individuals' characteristics and skills. „Often, the persona has traits the recipient would like to have himself and therefore symbolizes a kind of ideal self-image." (p. 140) In the present investigation, it cannot be taken into account whether an influencer is similar to its audience. However, it is of interest if there are any visual cues that trigger para-social interaction and relationships, resulting in higher engagement. The findings cited above suggest the notion that audience members might feel especially connected to media personas who they perceive as relatable and likable. In the course of the following quantitative investigation, visual cues inherent to Instagram postings will be documented and solidified as content types. The retrievable cues will be checked for hints of para-social relationships and interaction as well as relatability and likability.

2.3.2.2 Social comparison and identification with media figures: Audience perception of influencers

Individuals' identification with media figures needs to be differentiated from para-social interaction: „As opposed to parasocial interaction, in which there is interplay between viewer and persona, when identifying, viewers become engaged in media messages and discard their role and position as viewers" (p. 229), resulting in a high level of absorption and involvement. (Cohen 2009) Human beings share the basic need of comparing themselves to others in order to assess themselves, (Festinger 1954) which is driven by the motive to develop a self-image. Regarding social comparisons, lateral comparison with figures similar to oneself and upward comparison, with figures that are clearly superior in a certain respect, are differentiated. Lateral comparison is highly functional in real life as well as media contexts for individuals to assess their own skills and characteristics. Thus, individuals' frequent para-social interaction behavior with media figures similar to themselves appears plausible. Upward comparisons, however, can be dysfunctional in the sense that individuals' self-esteem is negatively impacted by an unreachable standard. (Bilandzic/ Matthes/Schramm 2015) Influencers' position as a reference standard is yet to question. The well-established and researched practice to integrate product advocates into marketing measures points to possible perception modes of influencers by their audience. Three types of product advocates can be differentiated: Typical consumers, experts, and celebrities. (Mayerhofer/Milchram/Reisinger 2002) In addition to these types, influencers have become a new type of third party endorses. (Freberg/ Freberg/Graham/McGaughey 2010) The advantages of advertising with the help of a prominent

product advocate include higher activation of the consumer, (Mayerhofer/Milchram/Reisinger 2002) and meaning transfer processes from the celebrity to the product or brand. (McCracken 1989) For optimizing the effectiveness of such measures, a match-up between brand and advocate image is crucial. (Kamins 1990) Further, Ohanian (1990; 1991) sees the credibility of the advocate, and with it the marketing measure's success, determined by the attractiveness, trustworthiness and expertise of the advocate. On social media platforms, however, compared to celebrities, influencers are more impressionable due to higher relatability and authenticity as perceived by the audience. (Nouri 2018) A central difference between influencer and celebrity marketing is that influencers are viewed as more accessible, credible, intimate and relatable. This may result from them often sharing rather personal content and results in strong para-social interaction. The strong para-social interaction, in turn, makes followers more susceptible to influencers' opinions and behavior. Because commercial messages are interwoven into their postings, they tend to be perceived as unbiased opinions, resulting in higher persuasive power. (Cauberghe/de Veirman/Hudders 2017; see also Abidin 2016) In the following investigation, visual cues inherent to Instagram postings will be documented and solidified as content types. In doing so, a focus will be put on observable cues with the potential to trigger social comparison and identification.

2.3.2.3 Envy versus escapism: Influencers as the girl next door versus globetrotter

The topic of escapism, becoming relevant in the context of the media gratifications distraction and diversion as well as environment information, has already been raised in the previous chapter. The code book for quantitative analysis will include notes on whether an Instagram posting is staged in surroundings that suggest escapism. Such escapism indicators could be tropical beaches as a background or the picturing of other exceptional situations. The indicator category of escapism references will be further developed based on a first portion of the examination material.

However, the same kind of images that are suitable to channel escapism could also cause envy: In a 2018 study, Chae applied quantitative measures to investigate female envy towards influencers through social comparison. Influencers' „luxurious life to which ordinary women can only aspire" (Chae 2018, p. 246) is the cause of such envy: „They have a sense of humor and their own perspective, but, more importantly, they exhibit what followers do not have but wish to have (…). Influencers' postings mostly brag about their luxurious life through high-end fashion items, holidays in exotic locations, interactions with mainstream celebrities, and expensive dinners at

famous restaurants (…).“ (Chae 2018, p. 246) What Chae points out as triggers of envy directly correspond to content that could possibly channel escapism. This possible paradox affirms the importance of including indicators of an extraordinary lifestyle of influencers into the code book.

2.3.3 Instagram users and the stream of commercial content: Reactance towards advertisement

The advertising industry has often dealt with the question of how the degree to which a message’s commercial source is obvious influences advertising effects and generally the perception by the audience. A large contribution to the research on commercial source disclosure can be found in the literature on advertorials or native advertising, respectively. Advertorials are a form of advertisement designed to look like editorials (hence the term „advertorial“) and aim at making use of the higher credibility of editorial content compared to advertisements by imitating content from a neutral source. (Burkart/Kratky/Stalzer 2004; Cameron 1994; Cameron/Ju-Pak/Kim 1996) Similarly, native advertising is defined as „a method of digital advertising that looks very similar to news articles or content that already exists online. It is narrowly defined as a paid form of advertising whose appearance is often in the form of editorial content from the publisher; it is broadly defined as a type of branded content that is similar to the format or design of the platform.“ (Evans/Jun/Lim/Phua 2017, p. 140; Federal Trade Commission 2015; Evans/Wojdynski 2016; Interactive Advertising Bureau 2013; Dal Zotto/Matteo 2015) As recipients are confronted with a steadily increasing number of advertisement messages, rising reactance towards such can be observed. The audiences of newspapers, magazines, radio and television pay significantly more attention to editorial contributions than advertisements and elaborate editorials with higher involvement. Consequently, commercial messages that hide their biased source exceed advertisements’ performance when it comes to information elaboration, credibility and perceived relevance. (Kim et al. 2001; see also Burkart/Kratky/Stalzer 2004)

„Influencer marketing can be classified as a form of native advertising because the nature of the paid relationship between the sponsoring brand the individual poster may be unclear“, Evans, Jun, Phua and Lim (2017, p. 140) note. They are among the researchers pointing to a negative impact of advertisement disclosures on users’ willingness to interact with said contents. Through effective advertising disclosures, consumers’ persuasion knowledge and coping mechanisms can be triggered. „The role of disclosure effectiveness in the context of native advertising plays a very important role in regard to consumer understanding and recognition of the content as advertising, because

oftentimes the presence of a disclosure is the only piece of information that distinguishes the communication as an advertisement“, Evans, Jun, Phua and Lim (2017, p. 140) argue further. Multiple studies investigating the impact of advertisement disclosures suggest negative effects of such on brand-related attitudes, credibility, purchase intention, brand memory and recall as well as online sharing intention. (Evans/Jun/Phua/Lim 2017) Hence, potential effects of the advertisement tag provided by Instagram are of high interest and the use of the tag to be included into the code book.

While the literature cited above point to negative effects of advertisement disclaimers, the research on indicators of a commercial message source is not consistent. A 2018 study showed a positive impact of the presence of multiple brand-related elements (company product and logo) on audience engagement that exceeded the mere presence of only one of these elements. (Adegbola/Gearhart/ Skarda-Mitchell 2018) It was found further that the combined presence of products and logos significantly increases engagement, (Murray 2008; Adegbola/Gearhart/Skarda-Mitchell 2018) supporting prior findings that the presence of such brand-related content helps viewers to relate with content and provide better persuasion. (Chartrand/Fitzsimons/Fitzsimons 2008) The results of said study indicate that a product alone is not sufficient to increase engagement, but additionally requires the presence of a logo to increase identification and engagement with a brand. A concluding remark even claims branded logos to be the „ultimate driver of audience engagement.“ (Adegbola/Gearhart/ Skarda-Mitchell 2018, p. 246) Hence, the code book for quantitative analysis will consider if one or more logos are visible in a posting or if a brand is tagged in the picture or caption, additionally to explicit advertisement disclosures using the advertisement disclaimer tag or clarifying hashtags like #ad or #sponsored.

In their 2017 study, Evans, Jun, Phua and Lim proposed a negative effect of such advertising disclosure language on attitudinal and behavioral outcomes. In general, the findings suggest negative impacts of disclosure on attitude towards both brand and intention to spread eWOM, but no negative effect on purchase intention. „When disclosure language clearly conveys the paid relationship between the producer (i.e., influencer) and sponsor (i.e., brand), the persuasive nature of the message, and the intention of the communicator, consumers are given crucial information they can use to interpret the nature of the communication and then activate persuasion knowledge.“ (Evans/Jun/Phua/Lim 2017, p. 145; Friestad/Wright 1994)

In the context of advertisement disclosures, it needs to be noted that the use of such is what brings influencers in touch with law and regulation: In Germany, for example, several influencers have

been sued for not disclosing sponsored postings. I March 2019, a German court decided that influencer Pamela Reif had to indicate every posting that features brand tags as an advertisement, even if she receives no money for it. (Süddeutsche Zeitung 2019) However, another German judge stated that the audience is undoubtedly aware of what influencers are and what they do, and that their presence on social media was founded on general commercial interest. Hence, he did not conclude that un-sponsored posts need to be disclosed as advertisements. (Eikel 2018) Development of the corresponding jurisdiction is to be expected.

While this paragraph highlighted the importance of certain influencer characteristics from an audience standpoint, the following chapter on the senders of Instagram marketing messages will address the specific characteristics and conceptualization of those, also in order to derive more aspects to be included into the code book.

3 The communicators: Influencers and business accounts on Instagram

When it comes to the senders of marketing messages on Instagram, the present research work will put a main focus on the postings of influencers. This approach follows the line of research that intends to identify if influencers, as alleged laypeople, apply what communication science implies. However, some postings issued by companies themselves on Instagram are included in the analysis, too: The results derived from the present research work are meant to benefit businesses using Instagram as a marketing platform. Therefore, not only the conduct of influencers hired by the businesses is to be analyzed. In order to be able to apply results on the companies' own conduct, their present approach to the use of content types needs to be understood. Like this, the results generated don't only serve to improve influencer marketing, but also the conduct of businesses themselves on Instagram. It is also of interest in what ways the use of content types through influencers and businesses differs.

3.1 Companies on Instagram

The use of Instagram as a marketing platform by companies must be divided into two categories: First, companies are active on Instagram through their own accounts. Second, companies use influencer marketing as a tool to spread their messages on the platform.

3.1.1 Company Instagram accounts

By offering the possibility to post aesthetically pleasing, creative content by using various vehicles like pictures, videos, and Instagram stories, Instagram exceeds the advertising potential of other platforms in many ways. (Lyfe Marketing 2018) In 2019, Instagram stated to cater to more than 25 million business profiles worldwide, with more than 200 million viewers visiting at least one business profile per day. Instagram provides realtime metrics on the performance of promoted (i.e. sponsored) posts and stories, including not only likes and comments but also insights into shares and savings. (Instagram Business 2019) The main objective of brands active on social media platforms is to attract a target audience of potential customers. This can be done by providing value and gratification through the shared content. In order to build stronger levels of engagement and create an outcome, the content shared by a brand must be designed in a way that is truly valuable for the recipient. (Malthouse/Haenlein/Skiera/Wege/Zhang 2013) Informational, entertaining, remunerative and relational content have been stated to be ways of delivering audience gratifications from a company perspective. (Conduit/Dolan/Fahy/Goodman 2016) The Instagram business platform recommends companies to include their logo, corporate colors or products into their content to make ads look distinct and to tell a story supporting the business goal, using well-crafted creative and high-quality photos and videos to amplify results. (Instagram Business 2019) Additional to creating and curating the content on the business account's feed, companies can create sponsored posts. The investment results in targeted visibility to a priorly defined audience. Possibilities for sponsored advertisements include creating an advertisement from scratch or sponsoring an existing posting or story. Advertisements are available in the form of stories, photo, video and carousel ads (the latter are postings including several visuals) as well as collection ads. Collection ads include a gallery of products resembling and directly linking to an online shop. All other advertisement forms appear like a regular posting on users' feeds, however including a button linking to the company profile or website and the disclaimer „sponsored". (Instagram Business

2019a) The product tag in both regular and sponsored posts is a particularly interesting feature for companies who would like to generate traffic to their online shop. (Instagram Business 2019)
It has long been stated that consumers dislike intrusive marketing. For companies, social media networks like Instagram constitute an „avenue through which companies invite consumers into their lives rather than utilizing paid advertising. Social media accounts operated by companies/brands function similarly to other users and aim to provide entertaining, informative, and persuasive information about a brand or product while being minimally invasive.“ (Adegbola/Gearhart/Skarda-Mitchell 2018, p. 232; Bóveda-Lambie/Hair 2012) The Instagram Business platform promises companies to help „drive awareness, increase customers and share your story among a highly engaged audience“ by offering a „seamless experience“. (Instagram Business 2019a) The 21st-century audience's sceptical and conscious encounter with commercial messages has been discussed above. For companies, Instagram provides a useful platform for engaging with this audience. Furthermore, using Instagram offers the possibility to gain exposure and reach not only through sponsored postings, but also organically by sharing content the Instagram audience is willed to interact with by itself. In the context of marketing with celebrities, McCracken (1989) refers to a meaning, or image, respectively, transfer from a celebrity to an endorsed product. Instagram users assumably aspire to associate themselves with the image of a brand when tagging business accounts in their own pictures. This practice is not only observable with influencers, but also non-influencers for example wearing an item by brand. This way, companies gain exposure free of cost. Due to such voluntary and active association with a brand by users, high value for the company in terms of word of mouth can be assumed. However, the exact influencing and outcome factors of such tagging by users is to be investigated further.

3.1.2 Influencer marketing through companies

Today's consumers find advertising disruptive and intrusive, often skip or even block it, showing avoidance and resistance. As a result, companies increasingly focus on alternative strategies like influencer marketing. Thereby, the advertisers attempt exploit influencers' opinion leadership potential and induce word of mouth processes: (Cauberghe/de Veirman/Hudders 2017) „While advertisers have used paid endorsers for many decades, influencer marketing provides connectivity and engagement between consumers and brands via digital and social media channels previously unavailable“, Carpenter Childers, Hoy and Lemon (2018) state. Companies use platforms like Instagram not only to communicate product information to customers, but also to enhance

customer-to-customer communication about opinions, attitudes and post-purchase experiences. (Fauds/Mangold 2009) Influencer marketing has emerged to become a tool for companies' attempts to initiate word of mouth processes: The concept of influencer marketing is based on word of mouth, which is defined as consumers' exchanging of marketing information among each other. Electronically transmitted word of mouth (eWOM) includes any statements by potential, actual or former customers about products or brands dispersed via online platforms. (Katz/Lazarsfeld 1955; Chu/Kim 2011; Gremler/Gwinner/Henning-Thurau/Walsh 2004; Cauberghe/de Veirman/Hudders 2017) Influencer marketing is deemed as a useful tool to initiate such processes. The significance of word of mouth will be further discussed below. Influencer marketing is now one of the most prevalent advertising approaches in the digital business environment. As a marketing practice, it is a strategy aiming at profiting from the influence and reach of important opinion makers and multipliers. How exactly the cooperation between influencer and company takes place differs from case to case, (Nirschl/Steinberg 2018) but generally speaking, the products and services of a company are being placed in the stream of content an influencer's postings. Nirschl and Steinberg (2018) propose reach of as well as relevance and reputation in the target group, audience resonance, goal definition and target group as success factors of influencer marketing through companies.
The present research project intends to contribute to the company conduct of influencer marketing by identifying picture compositions that are especially suitable to transport commercial messages.

3.2 Influencers – a 21st century marketing phenomenon

Influencers have first been recognized by scholars in the earliest stages of social media. (Carpenter Childers/Hoy/Lemon 2018) They are individuals who, through a large following on social network sites, have the power to affect purchase decisions of others through authority, knowledge, position or relationship with their audience. (Influencer Marketing Hub 2019) „Through blogging, vlogging or creating short-form content (e.g. Instagram, SnapChat, ...) they provide their followers an insight into their personal, everyday lives, their experiences and opinions. (…) Brands aim to stimulate influencers to endorse their products and this way build up their image among influencers' often huge base of followers." (Cauberghe/de Veirman/Hudders 2017, p. 801) From the businesses' view, influencers are „a third party who significantly shapes the opinions and purchasing decisions of other customers." (Jaakonmäki/Müller/vom Brocke 2017, p. 1153; see also Brown/Hayes 2008) The present analysis aims at identifying picture compositions as predictors of user engagement with an

Instagram posting, meaning that influencers themselves with their physical features and other characteristics are not the main field of interest, but rather how they compose their pictures, stage themselves, caption and tag their postings. Therefore, the following paragraphs will concentrate on certain practices of influencers which may trigger engagement by their audience. Nevertheless, the impact of influencers' physical appearance must not be neglected: Future studies may include a detailed physical description of influencers and test for moderating effects on the engagement with content types.

3.2.1 Conceptualization and characteristics of influencers: Opinion leader theory

Several decades prior to the rise of social network sites and their far-reaching impact on mass communication, the study „The People's choice" was conducted and initially published in 1944 by Paul Lazarsfeld, Bernard Berelson and Hazel Gaudet. (Lazarsfeld/Berelson/Gaudet 1944) The study helped to form a theoretical base that is still frequently quoted in the research of today's social media influencers. (Casalo/Flavián/Inánez-Sanchez 2018) At the time, Lazarsfeld et al. intended to investigate factors impacting voter behavior. Their theoretical approach regarding mass media impact was based on the stimulus-response model, suggesting a direct influence of mass media communication messages on audience members. (Burkart 2002) Nevertheless, the findings Lazarsfeld et al. brought forward pointed to a larger impact of personal communication as compared to mass media messages: The findings suggested that merely a small percentage of voters changed their preferred candidates due to mass media messages. Rather, recipients stuck to their priorly formed attitudes towards candidates formed in peer interactions, with mass media having reinforcing power only. According to the results, voters' opinions were mostly formed through personal communication, contradicting the mass communication model commonly followed at the time. The influence of interpersonal communication turned out as especially strong within the voters' primary groups. Hence, it turned out that the communication processes resulting in opinion changes had to be traced back to interpersonal discourse rather than mess media messages. (Lazarsfeld/Berelson/Gaudet 1968) Subsequent to the findings yielded by Lazarsfeld et al. that brought forward the opinion leadership concept, questions about the importance of interpersonal communication for opinion formation arose. (Katz 1957) In the course of further investigations on the phenomenon, Lazarsfeld et al. first conceptualized the group they went on to call opinion leaders: These individuals were described as focal points of interpersonal communication streams

with a tendency of trying to convince others of their own opinion as well as serving as advisors. Additionally, they were found to have more intensive mass media consumption patterns. (Lazarsfeld/Berelson/Gaudet 1968) The characteristics opinion leaders were originally described with further include above-average sociability and number of social contacts, active communication behavior, heavy mass media use as well as information seeking. Further, they are prone to be seen as experts in certain areas by their peers. Opinion leaders also show high interest in these specific fields. (Müller 1970) Klapper suggests specialization of opinion leaders on specific topics. (Klapper 1973) They are not to be mistaken with a society's leaders: Opinion leaders can be found in all social classes. (Lazarsfeld/Berelson/Gaudet 1968) In more recent research, Irving, Pingree, Scholl, Turcotte and York, (2015) suggest that the rise of the Internet has increased the role of opinion leaders in society since interactions can be carried out both offline and online. (Casalo/Flavián/ Inánez-Sanchez 2018) In their 2018 investigation of the antecedents and consequences of opinion leadership of influencers on Instagram, Casalo, Flavián and Inánez-Sanchez (2018) state that „research about opinion leadership, both offline and online, has followed two main streams": (Casalo/Flavián/Inánez-Sanchez 2018, p. 2) First, the distinctive characteristics and motivations of opinion leaders, and second their influence on decision-making processes.

While the original research on opinion leadership focused on voting behavior, (Lazarsfeld/Berelson/ Gaudet 1944) more recent investigations around the concept of opinion leadership have focused decision-making in general (e.g. Belch/Krentler/Willis-Flurry 2005) and more specifically on consumer and consequently purchasing behavior. (E.g. Djafarova/Ruhsworth 2017) For example, research suggests that fashion opinion leaders are important diffusors of fashion trends who have a great influence on their followers. (Angriawan/Summey/Thakur 2016; Mowen/Park/Zablah 2007) As stated above, research conducted in the 20th century attributes, inter alia, high sociability, information seeking, communication intensity, mass media use as well as expertise and specification in certain areas to opinion leaders. (Lazarsfeld/Berelson/Gaudet 1944; Müller 1970; Klapper 1973) More recent research focusing on opinion leaders on social network sites contributes to a more specified definition of this group. Leal, Hor-Meyll and de Paula Pessôa, for example, offer a set of characteristics to describe influencers that is adapted to their role on social network sites: Being considered as an expert, being an active member of an online community, participating with high frequency as well as making substantial contributions and being regarded as having good taste. The authors suggest that to be defined as opinion leaders, an individual may have at least one of those properties. (De Paula-Pessôa/Hor-Meyll/Leal 2014) The originally defined characteristics

of opinion leaders and the aforementioned characteristics of influencers show great similarity and will be examined in order to deduce categories relevant for the following quantitative analysis. Out of Leal, Hor-Meyll and de Paula Pessôa's set of influencer characteristics, (2014) their consideration as an expert, them being active online community members that show high participation and contribution are key aspects that on the one hand can also be found in the original literature on opinion leaders and on the other are feasible to be included in the present research project.

3.2.1.1 Influencers as focal points of interpersonal communication streams

Opinion leaders have been described as focal points of interpersonal communication streams, showing very active communication behavior and intensive mass media consumption patterns. However, influencers' intensive mass media consumption patterns and expressive communication behavior don't only apply to their expressive, but also their interactive, social communication patterns. (Lazarsfeld/Berelson/Gaudet 1968) Müller (1970) described opinion leaders as individuals with above-average sociability and number of social contacts. Hence, influencers' audience and their relationship with it, is of interest at this point, too.

A conceptualization as a focal point of interpersonal communication streams (Lazarsfeld/Berelson/ Gaudet 1968) implies high expressive communicative activity. The aspects ‚being an active member of an online community' and ‚participating with a high frequency as well as making substantial contributions' are defined by the Instagram algorithms as factors for the prioritization of users' content. (Instagram 2016) Participation with a high frequency implies not only regular but also many postings. A high level of communication activity, especially posts and replies, has been found to be related to the capacity of influence others in the online context (Huffaker 2010) additionally to leading to prioritization by the Instagram algorithm. In order to control for potential impacts of posting quantity, with the help of the posting date, the posting frequency and the time span since the last posting will be taken into account in the following analysis.

Opinion leaders descriptions point not only to them being focal points of communication streams but also to them having an above-average number of social contacts. (Müller 1970) The number of people „following" an influencer is publicly visible on his or her profile. This audience size not only reflects the network size but also the popularity of an Instagrammer. (Cauberghe/de Veirman/ Hudders 2017) Audience size or number of followers have often been put forward as a first step to

identify online opinion leaders. Cauberghe, de Veirman and Hudders hypothesize a positive effect of number of followers on influencer likability. The findings from their 2017 study show a positive effect of follower number on perceived popularity, which in turn showed to have a significant positive effect on ascribed opinion leadership, which had a significant positive effect on likability. The researchers conclude that the indirect effect of number of followers on likability is mainly explained by perceived popularity and note that audience size (i.e. number of followers) stands in relation to a user's popularity and their consideration as an opinion leader. Hence, the inclusion of an account's audience size into the code book is also relevant in terms of investigating likability.

However, „there is discussion about whether or not there exists a link between number of followers and opinion leadership" (Cauberghe/de Veirman/Hudders 2017 p. 799): It has been pointed out that perceived originality and uniqueness trigger positive effects. (Casalo/Flavián/Ibánez-Sánchez 2018) Despite finding a positive relation between audience size and influencer likability, Cauberghe, de Veirman and Hudders (2017) point to a possible negative effect of a big audience size on uniqueness as perceived by the audience, resulting in a negative impact on brand attitude. In alignment stands the fact that companies are increasingly collaborating with so-called micro-influencers: „Micro influencers are everyday people, including those we know, who typically have fewer than 10,000 followers. They create content, or what I call ‚shoppable context.' They are a powerful force with a high engagement rate: 80% of Americans seek recommendations before making a purchase", Forbes contributor Susan Akbarpour (2018) describes this group. The ambiguous notions on audience size effects point to a high relevance of considering an account's follower number as a control variable.

Regarding influencers' audience, not only the size of the following is of interest: Although being focal points of interpersonal communication streams, opinion leaders can be found in all social classes and do not necessarily differ from their audience when it comes to social status. Further, high sociability is one of influencers' distinguishing characteristics. (Lazarsfeld/Berelson/Gaudet 1968) Hence, influencers' interaction with their audience and interaction behavior, in general, is of interest at this point. Relationships on Instagram are not always reciprocal: Unless an account is set on private, users can freely decide whether to follow an account or not. Following someone back is not required. Cauberghe, de Veirman and Hudders (2017) were among the first to question and investigate possible impacts of the followers and followee ratio: The researchers point to several possible consequences the ratio between how many other users an account follows (followees) and by how many it is followed may have. For example, while accounts with by far more followers than

followees may be perceived as more „followable“, those following many accounts may seem like they are aiming at follow-backs. Hence, the number of other users an Instagram account follows will be considered in the code book. As already stated above, influencers can use post captions to trigger audience engagement. Accordingly, the content of posting captions is also of interest regarding the sociability of influencers. Another possible indicator for sociability is the presence of other persons in an influencer's postings and whether said influencer interacts with these other persons. Hence, the number of persons visible in a picture will be considered regarding influencers' sociability. Additionally, it will be considered whether an interaction between the pictured can be observed. The visual cues contained in Instagram postings identified in the course of the following quantitative analysis will be checked for further indicators for the pictured person's sociability.

3.2.1.2 Influencers as specialists, experts and advisors

„With so much content being created in so little time how does the average reader determine whom is an expert versus who is just an online user creating content?“ Daniel Newman, a contributor at Forbes, asks. (Newman 2014) It has already been pointed out in the above that a typical characteristic of opinion leaders is their perception as experts by their audience. (Lazarsfeld/ Berelson/Gaudet 1968; Müller 1970) What, however, legitimates influencers as experts? Regarding businesses on Instagram, their role as experts in their field is out of question. It is of interest, though, if there are certain triggers that make influencers appear as experts, potentially resulting in higher engagement by their audience: In a 2014 study, expert content was shown to be 88 % more effective in creating brand lift than a brand's own content. (Nielsen 2014) Newman (2014) points to a high subjectivity of the expert concept depending on the field of interest. However, he notes relevant experience over a long period of time as an indicator of expertise. Hence, the number of posts of an account, which is visible next to the numbers of followers and followees, will be included into the code book also because of its relevance as an indicator of long-existing practice and, hence, potential expertise. In this regard, also the concentration of an account on aspects like content types, objects etc, as will be identified in the content analysis, is relevant: If, for example, an influencer concentrate on showing fashion items, their expertise in the fashion field becomes assumable. The same fashion-focused influencer then posting sports-related content could possibly have a very different effect due to lacking perceived expertise. Hence, the frequency in which an account posts images focused on a certain topic (e.g. product type, fashion brand) will be taken into

account:Their perception as experts partly results from opinion leaders' high interest in specific fields and specialization on certain topics. (Müller 1970; Klapper 1973) This points to the question to what degree influencers specialize not only on certain topics but also on certain content types for their postings and what effect this has. „(…) Sometimes consumers want to buy what others have bought, but at other times, they might be very attracted to unique products that are not obvious to obtain (…). Two opposite social needs explain these preferences, i.e. the need for uniqueness and the need for conformity", Cauberghe, de Veirman and Hudders (2017, p. 808) note, following Kamins, Mazursky,Noy and Steinhart (2014) as well as Bearden, Hunter and Tian (2001). In their 2017 study, the cited scholars investigate a possible „indirect positive effect of divergence of the product design on attitude towards the brand through perceived brand uniqueness", which supposedly „is weaker when the brand is promoted by an influencer with a high number of followers compared to when it is promoted by an influencer with a moderate number of followers." (p. 808-809) While effects of influencer audience size have already been highlighted as a field of interest above, the need of both uniqueness and conformity by individuals (Bearden/Hunter/Tian 2001) point to possible effects of variation (corresponding to uniqueness) versus specialization (corresponding to conformity) through influencers. Here, not only the specialization or variation of advertised products is of interest, but the use of different content types. Once the data collection for the quantitative analysis is completed and content types have been identified, the variegating use of content types by Instagram accounts can be analyzed. This topic appears even more relevant considering that perceived originality and uniqueness have been found to positively influence perceived opinion leadership. (Casalo/Flavián/Ibánez-Sánchez 2018) A study conducted by Heribert Gierl suggests that the placement of advertisements in contexts unexpected by the recipient have a more favorable effect, partly due to variety of content. Hence, the question arises whether the use of a large set of content types results in higher overall account assertiveness. Variety, newness and surprise potential are also among the collative stimuli triggering strong activation as stated by Berlyne (1974).

3.2.2 How influencers exert their influence: Opinion leadership and eWOM

The disproportionate impact of opinion leaders on others has long been recognized, (Lazarsfeld/ Berelson/Gaudet 1944; Katz/Lazarsfeld 1955) and their identification is crucial for the diffusion of electronic word of mouth. (Cauberghe/de Veirman/Hudders 2017)

3.2.2.1 Opinion leadership

Audience size or the number of followers have often been put forward as a first step to identify online opinion leaders. However, „there is discussion about whether or not there exists a link between number of followers and opinion leadership“: (Cauberghe/de Veirman/Hudders 2017, p. 799 The literature on the relationship between audience size and opinion leadership is discordant. While some researchers' findings suggest a clear connection between follower number and opinion leadership, some conceptualize the follower number as being an indication for popularity rather than influence, and hence opinion leadership. Cauberghe, de Veirman and Hudders (2017), who make reference to this discrepancy, note that the number of followers an individual has may be used as a cue for heuristic popularity evaluations by the audience. Their research findings from 2017 show a positive effect of follower number on perceived popularity, which in turn showed to have a significant positive effect on ascribed opinion leadership, which had a significant positive effect on likability. There was a significant indirect effect for perceived popularity, but not for ascribed opinion leadership. Also, Cauberghe, de Veirman and Turcotte (2017) note that audience size (i.e. number of followers) stands in relation to a user's popularity and their consideration as an opinion leader. The characteristics of opinion leaders, (Lazarsfeld/Berelson/Gaudet 1944; Müller 1970; Klapper 1973) also in their developed version as conceptualized for influencers, (De Paula-Pessôa/ Hor-Meyll/Leal 2014) will be considered in the following quantitative analysis. It is of central interest whether references to these characteristics can, on the one hand, be found in Instagram postings and, on the other hand, if impacts on audience engagement can be observed.

3.2.2.2 (Electronic) Word of mouth

The opinion leadership concept was one of the first to point out the importance of interpersonal relationship for decision-making. (Lazarsfeld/Berelson/Gaudet 1944) Today, the notion that

information received by consumers through interpersonal relationships has a stronger impact than traditional advertising is well-established in marketing and consumer behavior literature. (Clark/ Goldsmith 2008; Cauberghe/de Veirman/Hudders 2017) „(…) The advent and still growing popularity of social media has [even] amplified the effects of peer recommendations, as it empowered consumers to share their opinions and experiences one-to-many.“ (Cauberghe/de Veirman/Hudders 2017, p. 800) The act of exchanging marketing information among consumers, which play a crucial role in changing consumer attitudes and behavior towards products and services, is called word of mouth (WOM). (Katz/Lazarsfeld 1955; Chu/Kim 2011) Marketing activities on social media platforms like Instagram enable users to engage in social interactions such as commenting and liking. Thereby, users voluntarily display their brand preference along with their Instagram persona, possibly initiating electronic word of mouth. (Chu/Kim 2011). (This, again, contributes to the conceptualization of an active audience examined above.) As a consequence, audience members thereby turn into opinion leaders themselves: As cited before, Clark and Goldsmith (2008) noted an opinion leader potential for opinion seekers in the context of fashion, again pointing to the important role of audience members as multipliers. Probably the main reason why companies choose to work with influencers is that the endorsements issued by them may be interpreted as highly credible electronic word of mouth by the target audience. (Abidin 2016) Electronic word of mouth (eWOM) is defined as „any positive or negative statement made by potential, actual, or former customers about a product or company, which is made available to a multitude of people and institutions via the Internet.“ (Gremler/Gwinner/Henning-Thurau/Walsh 2004, p. 39; cited also in Cauberghe/de Veirman/Hudders 2017, p. 801) As noted above, „the significance of WOM in influencing consumer decision making has been well recognized in marketing and advertising literature“ (Chu/Kim 2011, p. 48) as a trustworthy source of information which consumers often rely upon when they search for information to base their purchase decision on. (Chu/Kim 2011; Blackwell/Engel/Kegerreis 1969; Gilly/Graham/Wolfinbarger/Yale 1998)

3.2.2.3 Triggers of eWOM

Given the evidential impact of word of mouth, it is of interest what factors trigger such recommendation processes and if some of them are apparent in Instagram marketing postings. While, regarding the present research project, the impact word of mouth itself is not a focal point, the question remains open if the drivers of word of mouth also trigger engagement with Instagram

postings. Oetting (2009) differentiates four categories of word of mouth drivers: Pre-, during- and post-purchase, and undetermined triggers. The next paragraphs will be structured following Oetting's categorization and add findings by other researchers. With respect to the category of pre-purchase triggers, Oetting cites a study by Chattopadhyay, Goldenberg and Moldovan from 2006: They found that an innovation's originality stimulates word of mouth, with the actual usefulness of as a mediator determining its valence. With its thematic resemblance to originality, newness is stated as a post-purchase trigger of WOM by Oetting (2009). With regard to involvement as a driver for word of mouth, Oetting (2009) lists exclusive knowledge about and access to a new product as a WOM trigger, following Holms and Lett (1977). Feng and Yang (2015), too, state newness of the product as an antecedent of WOM. The newness and originality of a featured product can hardly be observed in quantitative analysis. However, indicators of newness in the posting caption may occur. Therefore, the quantitative analysis will consider if there is any indication of the newness of any portrayed feature. As for WOM triggers during purchase, Oetting (2009) lists participation and personal relationships „Service marketing research has shown how increased intensity of participation in the delivery of a service can lead to increased positive word of mouth and more referrals", Oetting (2009, p. 44; File/Judd/Prince 1992) states. Similarly, scientific evidence suggests that companies can enhance word of mouth by improving the relationship quality with customers. (Oetting 2009) In their 2011 study, Chu and Kim propose that perceived tie strength, high levels of trust and susceptibility to interpersonal influence as antecedents of eWOM. Trust as an antecedent of WOM refers to the importance of credibility for influence potential. Arenas-Gaitán, Rondan-Cataluña and Ramírez-Correa (2018) identify perceived encouragement as an antecedent of WOM. The meaning of relationship quality, participation and encouragement for word of mouth point to the relevance of Instagram content addressing such: The actively involving, i.e. encouraging potential of Instagram post captions has been mentioned above. Additionally, the code book will consider if the caption contains encouraging messages or messages explicitly aimed at the audience as such, addressing relationship quality. Oetting (2009) argues that the post-purchase category of word of mouth triggers is probably the most researched one. He states product involvement, satisfaction or dissatisfaction, emotions and network externalities as such antecedents of WOM. While the involvement of the audience through posting captions has been discussed above, this section mainly addresses involvement through the picture and its content itself. Mitra, Sundaram and Webster (1998) found involvement with the product to be a primary driver of WOM. Products that are important and relevant to the buyer don't only lead to high involvement, but also

to excitement – and consequently word of mouth: “Experience with the product (…) produces a tension [excitement] which is not eased by the use of the product alone, but must be channelled by way of talk, recommendation, and enthusiasm (…)” (Dichter 1966, p. 148; Oetting 2009, p. 46) Further, involvement has been shown to have a positive moderating effect on the link between satisfaction and word of mouth. (Bayón/Wangenheim 2007) Oetting (2009) notes that involvement can, however, not be attributed to the post-purchase triggers of WOM exclusively, since involvement can be present throughout all stages of interaction with a product – or even person.

The different kinds of involvement point to some indicators that can possibly be observed in Instagram postings with a marketing background: Self-involvement occurs when a product is perceived as a vehicle for gratification. (Oetting 2009) This points to the possible impact of the product (or even subject) a picture is focused on for the engagement with a posting. Hence, the product category will be considered in the quantitative analysis.

The assumption of an impact of the product category is supported by what Oetting (2009) describes as category involvement, which directly points to the existence of products an individual feels involved by, independent of a purchase situation. Dichter (1966) defines other-involvement as „the giving of advice and sharing of interesting or noteworthy stories.“ Such advice-giving and sharing of interesting stories can possibly be observed in the caption of an Instagram posting. Hence, the code book will consider if stories or advice are explicitly shared in the caption. „In this line of research, positive word-of-mouth behavior is usually seen as a result of satisfaction with the purchase and/or consumption process, as determined by the degree to which expectations have been met, exceeded or fallen short“, Oetting (2009, p. 46) states. Mitra, Sundaram and Webster (1998) listed superior product performance, reaction to problems, and price-value-perception as examples as concrete WOM triggers in this regard and state that their study found satisfaction to be the cause of 60 % of positive word of mouth. Also Feng and Yang (2015) state customer satisfaction as antecedents of WOM, while pointing to an overall greater complexity of eWOM as compared to WOM. Since most of the examined postings are sponsored endorsements, if not advertisements from companies themselves, sincere customer satisfaction with the pictured products is a hardly observable factor. However, a positive description of the endorsed items in the picture caption or suggestive poses could possibly have an impact and will, therefore, be included in the code book.

However, Westbrook (1987) sees affect and not satisfaction per se as the primary driver for word of mouth: He states that, when partialling out affective influences, satisfaction shows a weak negative relationship to WOM. Also Derbaix and Vanhamme (2003) point to emotion-related effects on

WOM: „According to this theory, only 10% of emotional experiences are kept secret. Since surprise leads to substantial cognitive work, and sharing with others can help ‚alleviate the burden', they hypothesize a significant direct relationship between surprise and word of mouth, and, potentially, an indirect relationship through affective responses evoked from the surprise." (Oetting 2009, p. 47) Oetting (2009) proposes network externalities as his last post-purchase driver for WOM. In this regard, network externalities mean the active recruitment of more users by users themselves. Referral incentives as well as asking for word of mouth by firms, which are mentioned by Oetting (2009) in the category of undetermined WOM triggers, point to similar processes. Hence, the quantitative analysis will consider potential calls to action in terms of tagging or reaching out to other users.

4 Imagery components: Manifest elements of posted pictures as engagement triggers

In the chapters above, various phenomena, concepts and other notions relevant in the context of influencers and the Instagram audience's engagement with postings have been examined. As the last step leading towards the development of a code book for quantitative analysis, this subsequent chapter will provide definite visual cues which can potentially be found in Instagram postings. These include basic picture composition elements, photography and editing style as well as body language and non-verbal communication.

4.1 Basic picture composition elements

The pictorial design of Instagram postings and its impact are the central point of interest in the present investigation. No matter if pictures are posted by influencers or business accounts, they have certain objectively observable elements. In the paragraphs above, some more in-depth factors of picture analysis, like the presence of brand logos, for example, were already pointed out and included in the code book for quantitative analysis. In this chapter, some more obvious and „superficial" manifest picture characteristics will be discussed and included in the code book. The typical picture elements that can be found in Instagram postings will be partly be developed a priori and then refined and complemented in a first step of analyzing the examination material. As for the

most basic components of a posting, like in part already mentioned, the posting account, date of issue as well as the location and situation where the picture was taken will be included into the code book. Further, the picture format (square or rectangular) will be noted. In order to describe the image buildup, notes concerning the fore-, middle-, and background will be taken. The photography and editing style as relevant descriptive aspects will be discussed in the following paragraph. Next, the perspective the picture was taken from will be considered. This includes notes on whether the pictured persons' bodies are visible fully, partly or only their face is in focus. Notes will be taken on whether the image appears rather symmetrical or asymmetrical, too: According to the theory of Christian and Denise Mikunda, who are considered as the originators of strategic dramaturgy, in order to appear balanced, a picture can bear more elements on the right side of the visual. (Mikunda 2018) Other scholars suggest that symmetrical stimuli can be processed more easily by individuals (Jones/Little 2003; Wilkinson/Wilson 2002) and result in higher brain activity. (Knutsen/Sasaki/ Tootell/Tyler/Vanduffel 2005) In order to consider these notions on symmetry versus concentration of elements on the right side of the picture, the code book will take into account if the elements in a picture are arranged in a balanced or rather one-sided order. Curalate, a platform for visual analytics and marketing, conducted an algorithm-based analysis of eight million Instagram posts that included factors like background ratio, dominant color, lightness and color saturation. These factors were then correlated with the likes of the corresponding posts. The analysis's results pointed out that images with high lightness, one instead of multiple dominant colors and generally rather muted colors (low saturation) resulted in more likes than compared to their opposite. This role of colors as stated in the results of the Curalate study (Lowry 2013) partially contradicts the literature on activation: Berlyne (1974) named three main categories of stimuli suitable for triggering activation. Among those categories are the intensive stimuli, which are cited by Berlyne as color scheme and brightness and suggesting beneficial effects of bright and striking colors. In order to further investigate the impact of color schemes, the code book will take into account if a picture features rather vibrant or muted colors, one or more dominant colors, and whether it appears rather light or dark.

4.2 Photography and editing style

Research has shown that photography style may influence the liking of advertisements and the engagement with them. Following Murray (2008), Adegbola, Gearhart and Skarda-Mitchell (2018)

state that „the use of photography in social media marketing is related with higher engagement irrespective of whether they are amateur or professionally produced images.“ (Adegbola/Gearhart/ Skarda-Mitchell 2018, p. 240) The authors categorize the photography style used in commercial social media postings as commercial and domestic photography. While commercial photography features posed images that are heavily edited and focused on the placement of product or service, domestic photography appears more spontaneous and is less lighted and edited. (Adegbola/ Gearhart/Skarda-Mitchell 2018, p. 240; Schroeder 2013) Potential influences of such photography and editing style may be included in the subsequent analysis. How these picture capturing modes may be applied by businesses and influencers on Instagram remains to be identified in the complementing and refining part of the code book creation with the help of some example examination material.

4.3 Body language and non-verbal communication

Sales literature has emphasized the importance of non-verbal communication: Research suggests that non-verbal messages not only account for a majority of overall communication impact but also trigger favorable consumer responses. (Ebster/Pauser/Wagner 2018; Graham/Hecker/Stewart 1987; Leigh/Summers 2002; Wood 2006) The relevance of non-verbal communication behavior in this context is underlined by a recent study conducted by Ebster, Pauser and Wagner (2018) at the University of Vienna. The researchers point out that although different streams of literature „agree on the importance of nonverbal communication for a multitude of response factors,“ (p. 344) „recommendations on specific nonverbal communication behaviors in the literature are rare“ (p. 345) Ebster, Pauser and Wagner contributed to filling this gap with their 2018 study. The findings of the present investigation concerning nonverbal communication and body language resulting in beneficial effects for influencers may be of relevance for sales literature, too. The scholars note that charisma is a significant skill for salespeople which manifests both verbally and nonverbally. Similar to salespeople, the individuals pictured in Instagram postings often have the intent to promote, and ultimately sell, a product. Following Heide (2013), Ebster, Pauser and Wagner go on to argue that charismatic nonverbal communication can be conceptualized as „the ability to modulate nonverbal behavior to enhance client engagement“. (Heide 2013, p. 305; Ebster/Pauser/ Wagner 2018) The latter notion directly points to the relevance of non-verbal communication for engagement, although from a face-to-face context point of view. Research on nonverbal

communication, especially from a marketing perspective, points to a whole set of criteria to be taken into account. Generally speaking, non-verbal marketing communication includes communication through body language (including facial expression) and material objects. (Gröppel-Klein/Kröber-Riel 2013)

The structure of the following paragraphs follows a categorization of communication elements by Weinberg: Weinberg (1986) differentiates between non-verbal and verbal communication elements. From this perspective, verbal elements are taken into account in the form of language and argumentation style. Due to the visual nature of the examination material, both language and argumentation style can and need not to be considered in the present investigation. The non-verbal category of communication elements as described by Weinberg (1986) includes vocal and non-vocal elements. The vocal category, consisting of elements like voice volume, talking speed and intonation, are also not to be included in the code book for the just stated reasons. However, the category of non-vocal communication elements points to a whole set of variables to be considered in the following content analysis: Weinberg (1986) classifies non-vocal communication elements in a physical and a material category. The physical category is sub-divided into static and dynamic elements. The static elements, which are body build, face form and skin color will be neglected in the following analysis: The investigation aims to identify effects of picture composition, not physical features of the pictured individuals. However, such static features have been proven to have an impact on individuals' perception by others: Flake, Freeman and Hehman (2015) confirmed that static facial cues like the bone structure influence evaluations of an individual's ability by others. Hence, future investigations may take such factors into account. Finally, the dynamic elements of non-vocal communication are the factors facial expression, eye contact, gestures, body posture, orientation, movement and distance. (Gröppel-Klein/Kröber-Riel 2013; Weinberg 1986) Coming back to Weinberg's (1986) categorical level of non-vocal communication elements, where he differentiated physical (static, dynamic) and also material elements, besides dynamic physical factors, also the expressive potential of material elements is of interest in this context. Such material elements include objects directly belonging to an individual's appearance (clothing, jewelry, etc.), items used by an individual, and objects surrounding an individual. The aspects of body language will be discussed in the following paragraphs. Both the topic of facial expression and non-verbal communication through objects will then be discussed in separate chapters.

4.3.1 Body language

In his category of non-verbal, non-vocal, dynamic physical communication elements, Weinberg (1986) lists gesticulation, body movement including posture, orientation and distance.The distance of bodies pictured in an Instagram posting will be considered in the code book in the form of documenting how a person's body is cropped, meaning whether only the face, upper body, or the full body is shown. In the context of Instagram pictures, posture, orientation and movement of the body can be subsumed as poses: It is reasonable to assume that in most cases, the way the body of pictured individuals is positioned intentionally. While such poses are certainly no sub-conscious body language, similar effects still may occur.

For example, an upright body posture has often been related to perceived confidence and competence. (Cooper, 2019, cites various approaches towards the topic) Profound literature on specific effects of body posture, orientation and movement turns out to be scarce, underlining the relevance of the present research approach. The following quantitative analysis will identify a set of frequently used poses and investigate potential effects on engagement. The impact of gesticulation, however, has already been researched more profoundly. Its relevance, especially in a marketing and sales context, becomes visible through the development of methods such as the Berner System, which helps to analyze the gestural behavior in interaction situations. (Daw/Frey/Hirsbrunner/Pool 1981; Gröppel-Klein/Kröber-Riel 2013) Symmetrical stimuli can be processed more easily by individuals (Jones/Little 2003; Wilkinson/Wilson 2002) and result in higher brain activity. (Knutsen/Sasaki/Tootell/Tyler/Vanduffel 2005) Merhabian (1969) first pointed to positive of effects the symmetry of a communicator's arm movements on recipients' attitude. Cui (2017) later confirmed such positive impact of symmetrical arm gestures on perceived charisma. An in-depth study of the phenomenon conducted by Ebster, Pauser and Wagner (2018) differentiates between high and low gesture cultures, depending on how much intensive gesticulation is common. Their findings suggest that „in low-gesture cultures such as the United States or Central Europe, particular emphasis should be put on symmetrical arm postures, actions, and functions; asymmetrical movements should be emphasized in high-gesture cultures such as Israel.“ (Ebster/Pauser/Wagner 2018, p. 357) Following these findings, the code book guiding the following quantitative analysis will take gestures and their symmetry into account. Also, the general symmetry of the pictured individual's pose will be considered in order to test for the effects of not only arm gesture but overall pose symmetry.

4.3.2 Face and facial expression

Additionally to the aspects covered in the chapter above, Weinberg (1986) lists facial expression and eye contact in his category of non-verbal, non-vocal, dynamic physical communication elements.

4.3.2.1 Presence and orientation of faces

Faces capture attention (Bruce/Young 1998) not only in day-to-day-life. According to Bakhshi et al. (2014), the presence of faces increases the engagement with Instagram posts: Shared photos that feature a face generate 38 % more likes and 32 % more comments than such without. (Bakhshi/ Gilbert/Shamma 2014) Not only the mere presence but also the orientation of the face has a grave impact: The so-called left cheek bias subsumes the phenomenon that people tend to offer their left cheek when their face is about to be captured: No matter if painted or photographic, no matter if self-portrayed or pictured by others – the left cheek bias is consistent across time and media. (Lindell 2018) The effect is attributed to an emotion-based account: „(…) emotion is a lateralized function with the right side of the brain dominant for emotion processing. (…) the left side of the face is predominantly controlled by the emotion-dominant right hemisphere. The left cheek consequently expresses emotion more intensely than the right cheek“ (Lindell 2018, p. 3) Research indicates an intuitive understanding of this effect: When asked to pose in a way expressing emotionality, people tend to offer the left cheek and vice versa when asked to conceal emotion. (Clode/Nicholls/Wood/Wood 1999) Based on these findings, both the presence of faces and their orientation will be considered in the code book for quantitative analysis.

4.3.2.2 Facial expression

„Perceivers often largely agree in the inferences made about others from their appearance, and these inferences can be consequential, predicting real-world outcomes (…) Given the importance of these inferences, understanding the underlying facial cues from which they arise is critical“, Flake, Freeman and Hehman (2015, p. 1123; Berry 1991; Albright/Kenny 1987; Moskowitz 1990) state. Humans are sensitive to the emotions of others as observable in their faces, often resulting in overgeneralizing to infer others' personality characteristics. Due to this, different photos of the same individual may evoke different perceptions of the pictured. (Flake/Freeman/Hehman 2015) It has

been proven that cues contained in individuals' faces evoke powerful effects on how these individuals are perceived and, hence, interacted with by others. (Brewer 1988; Fiske/Neuberg 1990; Flake/Freeman/Hehman 2015) In their 2015 study, Flake, Freeman and Hehman confirmed their suggestion that the evaluation of factors such as warmth, valence, basic trust, need for tenderness, and trustworthiness tends to be based on dynamic facial musculature (facial expression), resulting in a variable perception of the same person across different photographs. In contrast, they state that evaluations of ability, for example, are rather based on more static facial cues like the bone structure of the face, resulting in more consistent evaluations. (Flake/Freeman/Hehman 2015) Following these findings, and the notion of the importance of facial expression as a cue for perception by viewers in general, the facial expression of the individuals shown in Instagram pictures will be included in the code book in order to be able to identify possible effects. Suler (2008) suggests that people respond positively to images if they are strongly emotionally impacted by them. (see also Lindell 2018) A previous chapter on emotions as triggers for engagement has covered the topic of mirror neurons. Findings suggest that individuals will empathically „mirror" not only movements, (Luciano/Rizzolatti 1999; Rizzolatti/Sinigaglia 2007) but also the emotions of other individuals. (De Waal/Preston 2002; Decety 2002; Gallese 2001; Keysers 2011; Botvinick/Bylsma/Fabian/Jha/ Prkachin/Solomon 2005; Cheng/Decety/Lee/Lin/Yang 2008; Di Pellegrino/Lloyd/Morrison/Roberts 2004; Jabbi/Keysers/Swart 2007; Batson/Decety/Lamm 2007) Hence, emotions, as shown in a picture, will assumably result in audience reactions according to them, with strong emotions (e.g. a light smile as compared to open-mouthed laughter with closed eyes) having stronger effects. Following the notion that emotional processes are related to involvement, (Gröppel-Klein/Kröber-Riel 2013) a determinative antecedent of engagement, and that engagement is conceptualized as of partly emotional nature in general (Brodie/Glynn/Hollebeek 2014) the facial expressions of individuals pictured in Instagram postings will be taken into account, also in consideration of their intensiveness. Cauberghe, de Veirman and Hudders (2017) note that cues like influencers' following size should not be the only criterion for assessing successful persuasive communication and that also, factors like their likability and credibility determine their value as opinion leaders. „The challenge for advertisers thus becomes to select the most efficient and suitable influencer, also keeping the type of product they want to promote in consideration." (Cauberghe/de Veirman/ Hudders 2017, p. 799) The chapter on Instagram's audience has already pointed out the relevance of the concepts of para-social interaction and relationships as well as social comparison. Concerning para-social interaction and relationships, it has been noted that audience members might feel

especially connected to media personas who they perceive as relatable and likable. The literature on social comparison and identification with media figures points to influencers being credible, trustworthy, experts, relatable and authentic as audience triggers of comparison and identification. It is of interest at this point which facial cues can result in viewers attributing these characteristics to individuals shown in Instagram postings. In the course of the following analysis, the specific impact of certain facial expressions can hardly be documented. Nevertheless, by including the exact facial expression in the code book, effects on engagement with postings can be controlled for.

4.3.2.3 Eye contact

Weinberg (1986) included eye contact in his category of non-verbal, non-vocal, dynamic physical communication elements. Coombs and Holladay (1994) are among the scholars pointing to the beneficial effects of eye contact. In the case of pictures posted on Instagram, eye contact can be translated as the pictured individual looking into the camera versus somewhere else. In consumer behavior, the presence of eyes is categorized as an emotional cue triggering activation. Eye tracking heatmaps of advertising visuals frequently show a big focus on a model's eyes. (Gröppel-Klein/ Kröber-Riel 2013) Thus, the code book will take into account whether the pictured individual looks into the camera or not.

4.4 Nonverbal communication through objects

Weinberg (1986) categorizes material communication elements as nonverbal and nonvocal. The types of elements listed here can be directly included in the code book for the subsequent quantitative analysis: First, there are objects belonging to the appearance of the communicator, for example, clothing and jewelry. The sub-categories for such elements are to be developed in the course of the refinement of the code book by means of a first part of the examination material. The same applies to elements in the personal use of the communicator, i.e. pictured individual. An example of such tools as named by Weinberg (1986) are cars. In the following, mainly Instagram postings of commercial origin will be analyzed. Therefore, it can be assumed that advertised products and the way in which they are presented play will prove to play a crucial role. Weinberg (1986) lists stimuli used in the communicator's interaction process, too: Such stimuli can be meals, presents, and so on. Applied onto the present investigation, meals may rather be attributed to the

aforementioned category of elements of personal use of the communicator. Presents, however, can be made by the communicator by offering a giveaway to his or her audience through a lottery. Thus, it may be included in the code book whether such offers are being made in the picture caption. Since the participation in such lotteries often involves the condition to like and comment on the respective posting, this is an important control variable. The last type of nonverbal, non-vocal, material communication elements as listed by Weinberg (1986) are stimuli in the surroundings of a communicator, like buildings and even other persons. Buildings and if the respective communicator, i.e. the pictured individual, and whether he or she is located inside or outside, may be included in the code book. Further, the presence of other individuals in a picture needs to be included.

The set of objects relevant for non-verbal communication listed above is a first step in creating a comprehensive code book. However, these a priori defined categories have to be complemented based on the examination material in order to ensure a comprehensive analysis of all possibly relevant visual cues in a picture.

III Content Types as the Building Blocks of Instagram Marketing

The chapters above have given an insight into relevant theoretical framework concerning Instagram marketing and laid the basis for a code book that is suitable to guide the quantitative analysis of Instagram postings to be conducted in the next step. In the following chapter, the exact methodological approach and, importantly, the operationalization of engagement applied will be described. Further, the selection and collection of the examination material will be explained. Next, the code book categories gathered a priori will be solidified. Based on this, a first part of the examination material will be analyzed and the resulting refinement of the code book be described. Finally, the data collection will be conducted and its results be presented in the form of a catalogue of content types. In doing so, the following chapter aims at answering the first research question: What are typical content types used by influencers and businesses in Instagram marketing and how are they defined? The identification and description of content types, meaning frequently used imagery in commercial Instagram postings, is the main research objective and source for deriving useful implications from the present project. A catalogue of content types with their typical characteristics and effects on the audience can be an extremely useful tool for marketers and

influencers. It is assumed here that the content types used by influencers have emerged from „naive“ practice – and not knowledge gained within the study of marketing and communication science. Hence, the subsequent investigation of science’s applicability and validity when it comes to this practice is highly interesting.

5 Methodology: Quantitative analysis of Instagram postings

In order to collect a set of data suitable to derive and define content types, a quantitative analysis of Instagram postings will be conducted: The examination material will be analyzed and described along the code book categories. The approach to developing the code book, defining its categories partly a priori and partly based on the examination material, follows a multistage approach towards the elaboration of a codebook for qualitative purposes as proposed by Kuckartz. (2016) Borrowing from qualitative research methods appears reasonable: The subsequent analysis is designed to analyze a vast amount of examination material. However, the postings will not only be analyzed regarding the numbers they generate (likes, comments) or the objective characteristics (tags, caption, sponsorship disclosure etc.) they have, but also regarding their qualitative characteristics – the actual content of the image.

The identification of content types will be carried out using various statistical techniques. Additional to extensive descriptive analysis of the data, a factor analysis will be conducted: After the identification of content types as factors, the degree to which a posting matches the typical characteristics of a content type can be determined through its factor loading. Once typical picture compositions have been identified, their typical features can be described in detail. It is also of interest to what degree such typical picture composition schemes are followed or variated. The relationships observable between numeral and external post characteristics and content types will, in a next step, (B) be tested for their match-up with existing scientific research findings.

5.1 An operationalization for making engagement with Instagram posts comparable: Assertiveness index

The main factors for assessing the effectivity of an Instagram posting are likes, comments, and the account's followers. Both the number of likes and comments are related to the number of followers. As accounts have differing audience sizes, it is usually hard to compare them or single posts made by them with each other. Therefore, an index making comparisons possible was developed for the present investigation. The index takes likes, comments and the user's following size into consideration and can be used to make statements about a single posting's or a whole account's engagement. Not all the factors that contribute to engagement as assessed by the Instagram algorithm can be considered at this point: The Instagram app itself offers business account users a ranked overview of posts which is sorted by the number of interaction with the posting. Likes, comments, shares and saves are included as such interactions. Therefore, the index was termed „assertiveness index" and not engagement index. Titling the index with the term engagement would implicate the consideration of the non-observable factors addressing the relationships between users like direct and tags of the user as well as picture savings and shares. The assertiveness index calculates the ratio between likes, comments and followers. These measures are, on one hand, the best observable numbers when analyzing Instagram content. On the other hand, they can also be regarded as the main engagement indicators. The number of comments is usually considerably smaller than the number of likes: Likes exceed the average number of comments by far: Jaakonmäki et al. have found that an average Instagram post by a professional blogger received 50 times more likes than comments. (Jaakonmäki/Müller/vom Brocke 2017; see also Han/Jang/Lee 2015) Other than likes, which clearly and by a single tap on the screen communicate endorsement, comments require conscious effort and can be positive, negative, neutral, etc. Therefore, liking implies rather implicit processing, in contrast to the conscious, effort-requiring commenting. (Lindell 2018) Paine (2011) distinguishes several degrees of engagement, starting with liking, then proceeding to commenting, re-sharing and hash-tagging, followed by the final evolvement of advocacy. In what can be seen as an engagement intensity scale, he attributes comments a higher position than likes. Due to these notions and the fact that sharings and savings by Instagram users cannot be considered in the present investigation, the assertiveness index adjusts the weighing of comments by multiplying the number of comments on a posting with the average factor by which the number of likes exceeds the number of comments. An unweighted operationalization approach

was followed by Adegebola, Gearhart and Skarda-Mitchell: For their 2018 investigation of the connections between posting behavior and audience engagement on Instagram, they calculated a „total engagement score“ (p. 242) for each post. This score summed up the number of likes and comments, each divided by the number of the account's followers. (Adegbola/Gearthart/Skarda-Mitchell 2018) For controlling and comparison, a similar unweighted approach might be replicated in the course of the present research work. Two modes of calculation that differ in terms of whether a single posting (posting assertiveness) or a whole account (account assertiveness) is being analyzed were defined for the assertiveness index.

5.1.2 Relative posting assertiveness

The relative posting assertiveness cancels out the effect of an account's audience size and hence makes it possible to compare postings of different content types between accounts. The measure can be consulted for finding out what content types are most assertive.

relative posting assertiveness = (posting likes + adjusted number of comments) / account follower number

5.1.4 Relative account assertiveness

The relative account assertiveness measures an account's capability to generate likes and comments with its postings while cancelling out its audience size. This measure is suitable for investigating possible impacts of an account's conduct on assertiveness.

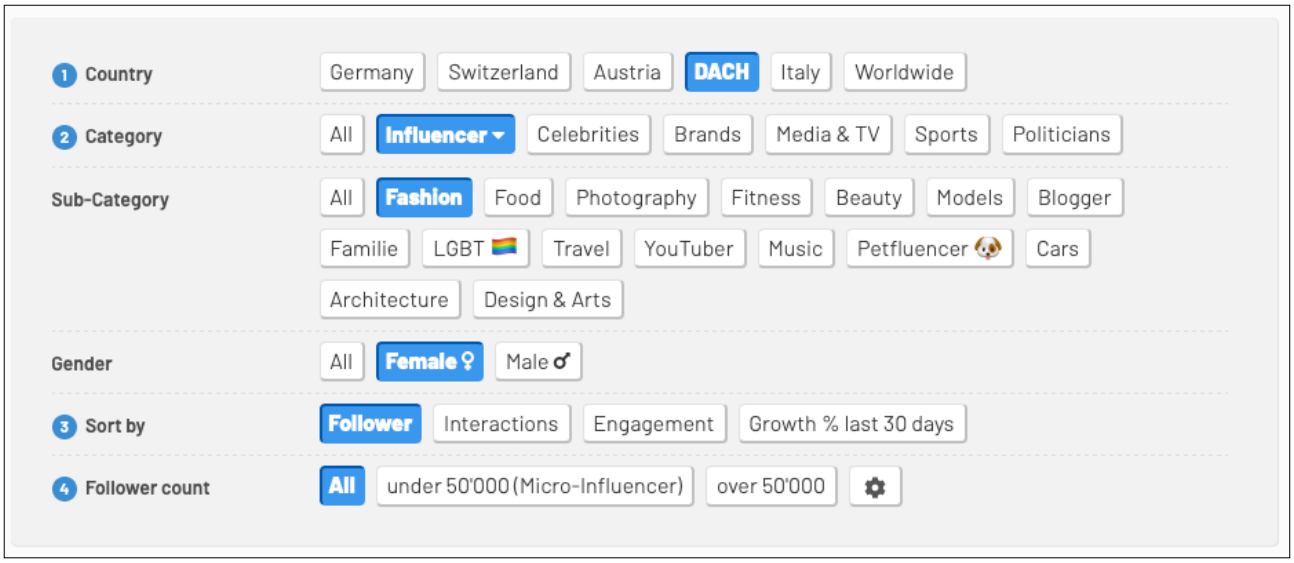
relative account assertiveness = Σ [(posting likes + adjusted number of posting comments) /15] / account follower number

5.2 Examination material

80% of the examination material will be collected from influencer Instagram accounts. The other 20% will be collected from fashion business accounts. The focus on postings of influencers is set due to the underlying interest of the present research project: Are influencers, who are former laypeople to marketing, following rules (unconsciously or consciously) that have been proven to be effective by research? Also, the aforementioned consideration that businesses partly use imagery that belongs to integrated marketing campaigns plays a role. Only fashion-focused profiles will be

analyzed. This was chosen for several reasons. Since it accounts for a significant part of the worldwide economy, fashion is one of the most important industries. (McKinsey & Company 2016) Social influencers were found to have an important role in the fashion industry (Hennings/Langner/ Wiedman 2010) and consumers use social media content as a source for inspiration for their clothing. (Aragoncillo/Orús 2018) Fashion is one of the incentives for using image-sharing social network sites like Instagram. (Lee/Mull 2014) Research suggests that Instagram is especially suitable for fashion marketing compared to other social networks because users tend to take more actions, purchase more often as a consequence of looking at content (Globalwebindex 2015) and higher engagement in general. (Locowise, 2017; Casalo/Flavián/Ibánez-Sánchez 2018) Only postings by female influencers will be analyzed. This limitation to the examination material collection was made due to the approach the investigation follows to focus on other visual cues than the immediate physical characteristics of the pictured persons. Inter alia Flake, Freeman and Hehman (2015) have confirmed effects of individual's static physical characteristics. Here, a significantly differing impact of males versus females is assumed. In order avoid a resulting distortion of the data, postings by male influencers are not included. Future research may investigate the effects and differences of content types as issued by male versus female influencers. However, not all pictures showing male persons can be cancelled out. The presence of a male individual will, in these cases, be noted in order to be able to identify possible effects. Further, only influencers from the DACH region (Germany, Austria, Switzerland) will be analyzed: Like this, the cultural background of influencer audiences will be controlled for as much as possible. Inter alia Ebster, Pauser and Wagner (2018) point to differing responses to the same visual cues by individuals of different cultural backgrounds.

The influencer and brand profiles that will be analyzed will be selected with likeometer.co. The tool allows to track influencers depending on geographic regions, categories, sub-categories and gender. They can be sorted by either follower number, interactions they can achieve, engagement, or their growth in the last 30 days. Additionally, profiles can be filtered by their follower count. Likeometer.co provides an engagement rate for every listed profile which will be noted. Of each account taken into consideration, whether influencer or business, 15 postings will be analyzed. This number of postings corresponds to 5 rows of three in the Instagram grid. In total, 38 influencer profiles and 12 business profiles with audience sizes from 10 000 will be analyzed. Thus, all in all, 750 images will be analyzed. In order to be able to retrace every analyzed posting, the URL leading to it will be noted. Only postings that were issued four weeks or longer before the day of analysis



Graphic: Screen capture taken from the log in section of likeometer.com.

will be analyzed: An account's newest postings may still be displayed in his or her followers' feeds or explore sections, resulting in growing numbers of likes and comments. For older postings, less significant growth is suspected. Like this, a warping effect of likes and comments adding up can be avoided. For the same reasons, all pictures by the same account will be analyzed within one day.

6 Code Book and data collection

Part II laid the theoretical basis for the present investigation and served to derive a first set of variables to include in the code book for the following quantitative analysis.

6.1 A priori defined variables

The code book criteria derived from the initial citation of relevant literature are:

1.2 The Instagram algorithm: Engagement as a condition for visibility

- format of posted picture
- gallery posting
- likes
- comments
- number of followers
- captions (involving; questions)
- geotags
- tags of other users
- hashtags
- ratio of likes, comments and followers

1.3.1 Creator, context and content-related features of a posting

- follower number
- geotags
- picture backdrop
- posting date
- weekday of posting
- number of previous posts / overall number of postings
- caption

1.3.2 CBE - consumer brand engagement concept

- showing of emotions (neutral vs. emotional faces)
- backdrop (nature)
- objects in the picture; clothing style / covering of skin (with regard to eroticism)
- range of content types (with respect to variety, newness, surprise potential)
- brightness
- striking vs. muted colors
- centrally featured product

2.3.1 Uses and gratifications of the Instagram audience

- un-reachable situations / escapism
- picture crop (person shown in portrait vs. whole body; in regard to spatial distance)
- caption: Reference to audience
- escapism indicators / Indicators of extraordinary lifestyle

2.3.3 Instagram users and the stream of commercial content: Reactance towards advertisement

- Instagram advertisement tag
- logos visible
- tag of brand
- caption: Advertisement disclosure through text or hashtag

3.2.1 Conceptualization and characteristics of influencers: Opinion leader theory

- posting date
- posting frequency
- time span since last posting
- follower number (with regard to likability)
- followees
- caption: Sociability
- number of persons in picture
- interaction with other persons
- number of posts
- concentration on content types / products
- variegating use of content types

3.2.2 How influencers exert their influence: Opinion leadership and eWOM

- caption: Indicators of newness
- caption: Involving, encouraging, explicitly aimed at audience (with regard to relationship quality)
- featured product, subject of picture
- caption: Advice
- caption: Positive description of brand / product
- caption: Call to action

4.1 Basic picture composition elements

- posting account
- date of issue
- location
- situation
- picture format (rectangle vs. square)
- foreground
- middleground
- background
- photography and editing style
- perspective
- crop of body
- symmetry vs. asymmetry
- arrangement of objects balanced vs. one-sided
- vibrant vs. muted colors
- one vs. more dominant colors
- brightness vs. darkness

4.2 Photography and editing style

- photography and editing style

4.3.1 Body language

- distance of bodies (picture crop)
- gestures (symmetrical vs. asymmetrical)
- general pose

4.3.2 Face and facial expression

- presence of face(s)
- orientation of face(s)
- facial expression
- intensiveness of facial expression
- look into the camera

4.4. Nonverbal communication through objects

- objects belonging to the appearance of an individual
- objects in use
- stimuli used in the interaction process
- caption: Giveaway
- surroundings of pictured individual
- presence of other individuals

5.2 Examination material

- male person

6.2 Complement and refinement of the code book

The part of the examination material that serving for complementing and refining the code book consisted of 15 postings each by two influencer accounts per category (1 million +, 500k +, 100k +, 50k+, 10k+ followers) and three brand accounts. Consequently, a total of 195 images served for the identification of additional posting characteristics, which makes up 26% of the entire examination material. Based on this first examination, the aspects defined a priori have been rearranged and

complemented, resulting in a total of 93 variables and sub-variables which more accurately define a main aspect. Importantly, the following variables have been added: The distance from which an individual is shown, whether animals are shown in a picture, notes on faces (e.g. if sunglasses are worn), head tilt, recognizability of a commercial purpose. In the appendix, the final state of the code book can be found. Superficial analysis of these first 20 % of the data set show first tendencies the Instagram postings resembling each other: For example, 76,2 % of all initially analyzed pictures were either lighted bright or very bright, with the colors of 63, 6 % of images being highly or very highly saturated. 62,1 % of the postings were shot from a frontal perspective. 68,9 % of pictures showed only one individual, of which 47,1 % were standing. Gestures turned out to be rather diverse: 23 differing arm positions were identified in the initial analysis. These categories may be narrowed down further after the complete analysis. Among the most used picture settings were shots taken in a room with personal belongings (15,5 %), at a beach (12,1 %), and on the street (16 %).

6.3 Data collection

As elaborated above, the accounts whose postings were being analyzed were identified with the tool likeometer.at. Since there were numerous fashion influencer profiles in each of the predefined audience size categories, the influencer profiles taken into account needed to be narrowed down further: Those profiles were selected which showed an obvious focus on mainstream fashion (e.g. no niche styles like gothic). Profiles of mothers posting pictures of their children were not analyzed. Also, fitness-centered accounts were not taken into account. Apart from these criteria, the influencer profiles were selected in a way so that the audience sizes of accounts within each category were evenly distributed. The business accounts, too, were initially intended to be selected according to audience size categories. However, the likeometer search results for fashion business accounts in the DACH region did not show enough accounts within each audience size category. Hence, all identifiable fashion brand accounts, including three businesses selling fashion watches, needed to be selected. The analyzed were selected starting from the picture posted four weeks prior to the day of analysis.

III Results

7 Outcome variables: Engagement measures

7.1 Follower number

The mean audience size of the analyzed accounts was a rounded 665 thousand followers per account. The number of followers positively correlated highly with the number of likes (r = ,824; α = ,000) and showed a medium strength relation with comments (r = ,308; α = ,000). However, the follower number also correlated positively with the number of likes per follower (r = ,227; α = , 000), suggesting that a high follower number does have a positive impact on engagement, even if the follower number is cancelled out. Since the number of followers is part of the formula for calculation the relative posting assertiveness, this outcome index is not considered at this point.

The analyzed influencer accounts had a higher mean of followers compared to the analyzed business accounts. However, this difference can be attributed to the sample: If the sampling of accounts would not be restricted to the DACH region, a different picture may emerge. In the DACH region, there was no fashion business account with a follower number higher than 1,5 million found at the time of analysis.

Descriptive Statistics

	N	Minimum	Maximum	Mean
followers	750	10594	4212310	664731,66
Valid N (listwise)	750			

Correlations

		followers	likes	comments	likes_per_follower
followers	Pearson Correlation	1	,824**	,308**	,227**
	Sig. (2-tailed)		,000	,000	,000
	N	750	750	750	750

followers

account_type	Mean	N	Std. Deviation
business account	556405,58	180	382270,955
influencer account	698939,89	570	967579,082
Total	664731,66	750	865940,437

7.2 Likes and comments

On average, one of the analyzed postings generated 19 048 likes, accompanied by a mean number of 202 comments. On account level, a mean number of 287 727 likes and 3 032 comments were generated with 15 postings.

	All postings (N = 750)		Postings analyzed per account (15 postings, 50 accounts)	
	Likes for all analyzed pictures	**Comments for all analyzed pictures**	**Likes for all 15 analyzed postings of an**	**Comments for all 15 analyzed**
N	750 postings	750 postings	15 postings * 50 accounts	15 postings * 50 accounts
Minimum	77	0	3856,00	25,00

Maximum	259000	11800	2809000,00	15947,00
Mean	**19048,48**	**202,16**	**285727,140**	**3032,4200**

A positive correlation between the number of likes and comments was confirmed (r = ,402; α = , 000). As already examined above, the number of likes showed a medium positive correlation with the number of likes per follower (r = ,256; α = ,000), pointing to a positive impact of a high follower number on relative engagement. The mean number of likes for influencer postings was almost four times as high as the mean number of likes for business account postings. However, this high difference is highly influenced by the higher audience size mean of the analyzed influencer accounts.

7.3 Relative assertiveness indices

Above, an assertiveness index for measuring postings', but also accounts' impact relative to their follower count has been proposed. Comments occur scarcer than likes and can be viewed as more difficult to generate by a posting account, pointing to a higher quality of engagement as opposed to likes. Hence, in this investigation, greater depth of engagement is attributed to postings that are commented on more often. This is why for the calculation of the assertiveness index, the number of comments is being multiplied with the average number by which likes are more frequent than comments in order to adjust comments' weighing. Dividing the total number of likes by the total number of comments generated with the 750 analyzed postings shows that per one comment, there were 94,2241001 likes. This number will serve as the multiplying factor for adjusting the weighing of comments for the relative posting and account assertiveness indices:

*relative posting assertiveness = (posting likes + posting comments * 94,2241001) / account follower number*

*relative account assertiveness =[$\Sigma_{account}$(posting likes + posting comments * 94,2241001) / 15] / account follower number*

The adjoint table shows the means of the relative posting assertiveness indices. Both indices' values are significantly higher for influencer accounts as compared to business accounts, suggesting that influencer accounts generate engagement of higher quality.

	Relative posting assertiveness			**Relative account assertiveness**		
	Total	Influencer accounts	Business accounts	Total	Influencer accounts	Business accounts
Mean	0,15488	0,16857	0.02907	0,11529	0,12071	0.01029

7.4 Likes per follower

Likes are not only the most frequent, but also most easily interpretable mark of the engagement with an Instagram posting. Hence, in addition to the relative assertiveness indices, which adjust comments' weighing, the number of likes per account followers is being calculated in order to provided an unweighted yet comparable measure.

Likes per follower = Posting likes / account followers

The maximum count of likes per follower is 0,2948 and the mean at 0,28817. These low numbers illustrate the impact of the restricted visibility of postings due to the Instagram algorithm. Also, they suggest that reach does not guarantee engagement. It needs to be noted that the likes per follower number is not an accurate measure: The follower count may be the most important influence factor on a postings reach, but it is not the only one. Also other users who do not follow the posting account may see and like a posting, for example when they discover it on the explore page. The measured mean number of likes per followers was higher for influencer as accounts than for business accounts. ANOVA attested a small impact of account type on likes per followers. (F = 4,955; Sig. = ,026; Partial Eta Squared = ,007).

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
relative_number_of_likes	750	,0000	,2948	,028817	,0266801
Valid N (listwise)	750				

Mean

account_type	likes_per_follower
business account	,024968
influencer account	,030032
Total	,028817

8 Quantitative description and influence of single variables

The underlying research intent of the present paper is to investigate the imagery frequently used for Instagram postings with a commercial background. Hence, not only combinations of features, but also the general frequency of those and their impact on the number of likes, comments, and posting assertiveness (relative and absolute) are of interest. The following paragraphs will present results concerning the single variables on which data have been collected in terms of their frequency, impact on the measured outcome variables, and noticeable differences between influencer and business accounts. During data collection, seemingly low variation in the examination material has

been observed by the researcher. Nevertheless, an analyzed number of 750 postings may be too low to draw generalizable conclusions about the masses of visuals posted on Instagram daily. Hence, like the catalogue of content types that is the research central interest, the findings described below may be interpreted accordingly. However, describing the frequency of occurrence of pictures features and their images is a valuable contribution to understanding the practice of business and influencer Instagram marketing.

8.1 Account specific variables

8.1.1 Followee number

The analyzed accounts followed a mean number of 785,56 accounts, meaning that they were followed by almost a thousand times more users than they followed themselves (mean number of followers: 664731,66). Positive correlations between followee number and the number of followers were found (r = ,139; α = ,000). However, followee number and likes as well as likes per follower correlated negatively. (r = -,091** and -,152; α = ,000) On average, influencer accounts followed more other Instagrammers than business accounts.

Mean

account_type	followees
business account	695,25
influencer account	814,08
Total	785,56

8.1.2 Total number of postings

The total number of pictures an account had already posted was positively correlated with the follower number, suggesting that Instagrammers who either posted very frequently or since a long time also had more followers. Interestingly, there were negative relations between the total number of postings and the likes and relative posting assertiveness found. On average, the analyzed business accounts had a higher number of past postings than the analyzed influencer accounts.

Mean

account_type	total_postings_number
business account	3353,67
influencer account	1795,74
Total	2169,64

Correlations

		followers	likes	comments	relative_posting_assertiveness	likes_per_follower	total_postings_number
total_postings_number	Pearson Correlation	,193**	-,128**	-,060	-,291**	,023	1
	Sig. (2-tailed)	,000	,000	,100	,000	,523	
	N	750	750	750	750	750	750

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

8.1.3 Posting frequency

Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
account_posting_frequency	followers	3,573E+14	22	1,624E+13	57,778	,000	,636
	likes	5,151E+11	22	2,341E+10	33,801	,000	,506
	comments	37943487,9	22	1724704,00	6,683	,000	,168
	relative_posting_assertiveness	6,539	22	,297	18,910	,000	,364
	likes_per_follower	,165	22	,007	14,784	,000	,309

An account's posting frequency was calculated by dividing 15 (the number of analyzed postings) by the number of days in which these 15 pictures were posted. The shortest time span of posting 15 pictures were just four days and the maximum 108 days. With 12 %, the biggest share of accounts posted within 14 days, (posting frequency 1,07) meaning that it's most common to post twice daily, followed by 10 % posting within 9 days and 8 % posting within 17 days. If an account posts more frequently, the calculated posting frequency coefficient decreases: For example, 15 postings in 14 day results in the coefficient of 1,07 while 15 postings issued in 20 days results in the coefficient 0,75. A rising coefficient points to a lower posting frequency. Hence, the negative correlations found between posting frequency and likes, comments, relative assertiveness and likes per follower point to positive effects of high posting frequency. The positive relation with follower number suggests that less postings may benefit follower number, but most likely occurs due to the fact that business accounts post with a higher frequency. All analyzed postings by an account have the same posting frequency coefficient. Hence, posting frequency can also be treated as a group variable. ANOVA was conducted in order to further substantiate the results. The analysis of variance confirmed significant relationships between the posting frequency and the measured outcome variables. The strongest effect was found between posting frequency and the follower count. The question remains open whether accounts with a big audience size post more frequently or if posting more results in more followers. The relation between posting frequency and likes, comments, as well as the relative indices cancelling out follower numbers suggest that overall, a high posting frequency is beneficial to the engagement outcome. The adjoining table shows which posting frequencies ranked highest for the measured outcome variables. Since there was great variation in the posting frequency of accounts, the rankings must be interpreted accordingly.

Correlations

		account_posting_frequency	followers	likes	comments	relative_posting_assertiveness	likes_per_follower
account_posting_frequency	Pearson Correlation	1	,099**	-,173**	-,114**	-,362**	-,103**
	Sig. (2-tailed)		,007	,000	,002	,000	,005
	N	750	750	750	750	750	750

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

posting frequency (top ten values)											
frequency (%)		followers		likes (mean)		comments (mean)		relative posting assertiveness		likes per follower	
1,07	12 %	0,68	3666787	0,68	125205,15	1	1040,27	0,79	0,5143	0,68	0,09322
1,67	10 %	0,75	2119436,5	0,75	94297,9	0,75	544	0,48	0,2868	0,71	0,06634
0,88	8 %	2,14	1806601,67	1	67874,17	1,25	510,83	0,71	0,2745	0,14	0,04730
1,5	6 %	1	1332674	0,88	35654,84	0,79	498,33	0,88	0,1959	0,44	0,04445
1,88	6 %	1,15	1032297	1,5	21705,27	0,68	408,93	1	0,1655	1,15	0,03938
2,14	6 %	2,5	962783,67	2,14	21168,84	0,88	290,77	0,14	0,162	0,75	0,03665
2,5	6 %	3	778976,5	0,56	13643,07	2,14	239,33	0,5	0,1529	3	0,03665

0,56	4 %	0,88	621428,5	1,25	12165,47	0,56	217,77	0,56	0,139	1,36	0,03545
0,71	4 %	1,5	556196	1,15	11570,67	0,71	168,6	0,29	0,1124	1,5	0,03350
0,75	4 %	1,25	539840	2,5	10860,62	1,15	162	0,75	0,1071	1,67	0,02922

In the last paragraph, it was shown that the analyzed business accounts had already issued more postings than the influencer accounts in the sample. This may be a result of business account's overall higher posting frequency: While the overall mean posting frequency was 1,3566, business accounts posted with an average frequency of 1,8867, compared to 1,1892 for influencer accounts.

8.2 The context of postings

9.2.1 Setting

The variable „setting" describes the general context of a picture and has proven suitable to distinguish the various content types typical for Instagram pictures. A detailed description of the variable manifestations of setting and with what other picture characteristics they occur frequently will follow later on.

9.2.2 Background, middleground, foreground

ANOVA attested significant impacts of the picture background on the measured outcome variables with an exception of relative posting assertiveness. The backgrounds of the analyzed pictures showed highly differing background variations, with buildings, walls, or streets being the most popular options (corresponding to the measured settings). In the adjoint table, the 15 top-ranking backgrounds in terms of their frequency and the means of the measured outcome variables are shown.

Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
background	followers	9,207E+13	80	1,151E+12	1,640	,001	,164
	likes	1,699E+11	80	2,124E+9	1,674	,000	,167
	comments	42781232,4	80	534765,406	1,957	,000	,190
	relative_posting_assertiveness	2,248	80	,028	1,196	,128	,125
	likes_per_follower	,074	80	,001	1,347	,029	,139

background											
Frequency		Mean number of followers		Menan number of likes		Mean number of comments		Mean relative posting assertiveness		Mean likes per follower	
building	14,1 %	island	4212310	island	190000,00	restaurant	2169,33	Venice canal	0,4016	Venice canal	0,100323
wall	10,5 %	art installation	2037377	ferris wheel	111433,33	art installation	2037,00	bathroom	0,3718	fence	0,077215
street scene	8,7 %	ferris wheel	2037377	art installation	84200,00	door	1192,67	door	0,3451	island	0,073613
plain	6 %	garage	1961087	sparkling	62000,00	sparkling	1049,00	changing room	0,2638	food	0,071590
sky	5,5 %	advertisement	1661834	ocean	60802,45	arches	1034,00	bus stop	0,2618	door	0,065106
room	5,1 %	pillows	1500724	arches	60000,00	island	817,00	restaurant	0,2607	fountain	0,061787
table	3,2 %	water	1500724	advertisement	58600,00	bathroom	777,00	sparkling	0,2561	rooftop	0,059720
ocean	2,9 %	ocean	1499596	record store	58000,00	ferris wheel	741,33	kitchen	0,2523	windmills	0,058665
beach	2,7 %	storefront	1286332	fabric	48031,10	forest	730,00	arches	0,2507	staris	0,054973
garden	2,7 %	fabric	1168238	city view	36046,70	record store	610,00	eiffel tower	0,2478	rocks	0,049324
nature	2,5 %	hills	1141738	beach	35839,60	advertisement	418,00	couch	0,2116	magazine stand	0,049130
plants	2,1 %	city view	1111171	car	35173,00	festival	352,00	shoe box	0,2037	carpet	0,046060
festival	1,6 %	car	1102291,25	garage	34400	fabric	339,8	record store	0,1839	other	0,041368
graphic	1,6 %	plain	1044775,91	bathroom	32296,33	hills	339,67	clothes	0,18	terrace	0,038335
not recognizable	1,6 %	reflection	1006191,6	festival	30630	reflection	327,4	plants	0,1744	beach	0,038239

In 60,0 % of pictures, no particular middleground was recognizable. The most frequently occurring middlegrounds were streets (7,7 % of all pictures) and persons (3,2 %). One person was in the foreground of 69,9 % of all analyzed postings. Second-ranking in terms of frequency was more than one person in the foreground (4,7 %), follower by items (4 % of all analyzed pictures). ANOVA showed that there was no significant relation between the foreground and the measured outcome variables. The table below shows the means of all outcome variables depending on the foreground; no particular pattern appears to emerge.

foreground										
Frequency in %		Mean number of followers		Menan number of likes		Mean number of comments		Mean relative posting assertiveness		Mean likes per follower	
person	69,9	curtain	1500724	blossoms	70000,00	table	1778,29	house	0,6446	person	0,097138
persons	4,7	plate	1500724	sushi	60000,00	blossoms	1089,00	person	0,5281	phone	0,096485
items	4	railing	1500724	basket with flowers	46000,00	sushi	1034,00	breakfast	0,3062	coffee	0,069802
food	1,3	plant	1232419	foot of person,	46000,00	foot of person,	606,00	stairs	0,2840	statue and product	0,069222
wrist	1,3	feet	1083669	individual	44834,00	individual	603,00	blossoms	0,2749	bra	0,067395
person and animal	0,9	phone	961782	plant	39007,33	basket with flowers	405,00	sushi	0,2507	coffee and croissant	0,067395
table	0,9	window	927090	bra	25800,00	person	238,00	table	0,2371	bracelet	0,066413
hand	0,8	palm trees	895798	palm trees	23812,50	person	221,71	dog	0,2350	water	0,063585
shoes	0,7	car	870552	person	23056,31	dog	203,67	floor	0,2187	house	0,052362
bag	0,5	bracelet	821884	persons	19884,69	0	170,44	chair	0,2177	food	0,049794
bed	0,5	statue and product	821884	bed	17652,25	bra	154,00	foot of person,	0,1642	fruit	0,045891
floor	0,5	person	758759,59	phone	14800,00	bed	127,25	individual	0,1619	feet	0,044479
dog	0,4	bra	755422	dog	12965,67	house	125,00	cornfield	0,1612	window	0,042004
plant	0,4	coffee	755422	table	12352,43	persons	115,97	basket with flowers	0,1340	persons	0,03863
person	0,3	coffee and croissant	755422	coffee and croissant	12000,00	plant	115,00	items	0,1323	legs	0,035973

Due to the high variability of back- and foregrounds, a comparison between influencer and business accounts is not conclusive.

Also, the notes for the intended variable „symmetry of objects“ allowed no reliable conclusions; the documentation of objects symmetry was hardly possible for most pictures.

8.2.3 Weekday of posting

The 750 analyzed pictures were posted evenly distributed throughout the week, with the most images issued on Sundays (112) and the least on Saturdays (100). The means of likes and likes per follower peaked on Wednesdays. Also, the mean follower number of accounts posting on Wednesdays were highest. However, analysis of variance showed no significant relationships between the weekday of a posting and the measured outcome variables. Still, Wednesday appears to be the best day for posting in order to achieve high engagement, followed by the weekend days and Thursdays. Both businesses and influencers may profit from posting more on Wednesdays, Mondays, and Saturdays.

weekday											
Frequency		Mean number of followers		Menan number of likes		Mean number of comments		Mean relative posting assertiveness		Mean likes per follower	
Sunday	17,2 %	Wednesday	22842,54	Wednesday	22842,54	Thursday	274,40	Monday	0,1185	Wednesday	0,031815
Thursday	16,5 %	Saturday	20509,29	Saturday	20509,29	Saturday	241,79	Sunday	0,1161	Thursday	0,031458

Friday	16,3 %	Sunday	19018,64	Sunday	19018,64	Wednesday	197,37	Wednesday	0,1049	Sunday	0,030172
Tuesday	14,7 %	Monday	19001,53	Monday	19001,53	Sunday	190,45	Tuesday	0,1029	Saturday	0,029082
Wednesday	14,4 %	Thursday	18714,96	Thursday	18714,96	Tuesday	184,55	Thursday	0,0908	Monday	0,027758
Monday	14,3 %	Friday	17674,46	Friday	17674,46	Monday	184,33	Friday	0,0847	Friday	0,026136
Saturday	13,3 %	Tuesday	15719,89	Tuesday	15719,89	Friday	145,39	Saturday	0,0772	Tuesday	0,025299

8.2.4 Picture format

86% of all posted pictures were in portrait format, 11,9 % were square and only 1,9 % horizontal. This illustrates the high use of upright format pictures by Instagrammers, as opposed to the square format „traditional“ for Instagram. This tendency towards the portrait format can probably be traced back to benefits in the eyes of the Instagram algorithm, which is said to benefit postings that are being looked at for a longer time; portrait format pictures gain more screen exposure since it takes longer to scroll past them. Analysis of variance revealed significant, but minimal impacts of the picture format on the measured outcome variables. A mean comparison revealed that pictures in horizontal format turned generated the highest mean of likes, which was almost twice as high as the mean of likes generated by portrait format postings. It needs to be noted, though, that there was only a small portion of horizontally formatted pictures among the analyzed postings. (N = 14) Hence, the beneficial outcome of horizontal pictures may result from the strikingness due to abnormality, the accounts that posted them or the picture content. In any case, mean comparison showed a superiority of the portrait format to square format.

picture format											
Frequency		**Followers**		**Mean number of likes**		**Mean number of comments**		**Mean relative posting assertiveness**		**Mean likes per follower**	
horizontal	1,87 %	horizontal	1119098,29	horizontal	38947,29	portrait	221,76	portrait	0,1056	horizontal	0,064468
portrait	86,27 %	portrait	685606,36	portrait	20255,85	horizontal	116,43	horizontal	0,0822	portrait	0,029154
square	11,87 %	square	441506,19	square	7141,14	square	73,18	square	0,059	square	0,020762

Business accounts used a horizontal format in 2,2 % of cases and influencer accounts in 1,8 %. The portrait format was used by influencer accounts in 90,7 % and by business accounts in 72,2 % of cases. Businesses used the square format, whose performance in terms of engagement was worst, three times more often than influencers.

8.2.5 Perspective

In 69,5 % of all analyzed images, the featured subjects or objects were pictured from a frontal perspective. 11,4 % were shot from either above or slightly above (6,5 % and 4,9 %) as opposed to 12 % shot from below or slightly below. (1,2 % and 10,8 %) Bird view perspective was noted for 42

postings, making up 5,6 % of all images. ANOVA only showed a small significant positive relation between perspective and the number of likes per follower. Pictures taken from slightly above resulted in the highest average of likes per follower, such taken from a frontal perspective ranked second and shots from slightly below third. There were no major differences between influencer and business accounts in terms of perspective use.

perspective		
	frequency	mean likes per follower
frontal	69,5 %	0,030226
shot from slightly below	10,8 %	0,026376
shot from above	6,5 %	0,023178
birdview	5,7 %	0,022040
shot from slightly	4,9 %	0,035632
graphic	1,3 %	0,011791
shot from below	1,2 %	0,026376

8.2.6 Videos

Video postings were not included in the analysis. The analyzed accounts posted a maximum of four videos in the observed time span. 70% of accounts did not post a single video, 16 % posted one, 10 % posted two, 2 % posted three, and another 2 % posted four videos. In general, influencers posted more videos than businesses.

8.2.7 Gallery postings

66 % of accounts issued at least one gallery postings, which contains more than one image. The size of a gallery posting (from 0 for only one picture per post) had small, but significant influence on the number of likes, ($r = ,166$; $\alpha = ,000$) comments ($r = ,092$; $\alpha = ,011$), but none with the measured relative outcome variables. Influencers issued more than three times as many gallery postings as business accounts. Posting more galleries may be beneficial to business accounts' results.

8.2.8 Geotags and tags in picture

In 60,7 % of all analyzed postings, the location was tagged. Further, 57,7 % percent of pictures were marked with at least one tag in the picture. The quantity of tags in a picture showed a small correlation with the number of comments. ($r = ,086$; ; $\alpha = ,018$) and a medium strength correlation with relative posting assertiveness ($r = ,310$; $\alpha = ,000$). The correlation between number of tags and following size was negative, suggesting that Instagrammers with big audience sizes rather don't set many tags in their postings (or vice versa). Most frequently, it was a brand account that was tagged in a picture.

tags in picture			
	total	businesses	influencers
own account	17,0 %	0,6 %	22,3 %
other person	12,3 %	22, 4 %	8 %
brand	35,6 %	3,9 %	43 %
photographer	6,4 %	0,6 %	8,3 %
make up artist	2,2 %	0 %	3 %
third pages	14,4 %	6,1 %	17,1 %
other	0,3 %	0 %	0,4 %

Oftentimes, multiple brand accounts were tagged in one posting. The second most frequent tags were users tagging their own accounts in their posting, followed by tags of third pages which occasionally repost pictures of those who tagged them. Businesses tagged personal accounts almost three times as often as influencers did. Telling from a mean comparison, overall, the kind of tags in a picture do not appear to have a major impact on engagement.

8.3 Posting captions

8.3.1 Caption length

Only 4,4 % of the analyzed postings had no caption. More than half of all captions (52,2 %) were one to three sentences long. The mean number of followers the accounts posting pictures with no or very short captions had was highest, suggesting that the bigger the audience size, the shorter the captions Instagrammers set under their pictures. Consequently, the mean numbers of likes and also comments for postings with short captions were highest. Nevertheless, also the likes per follower were highest for short captions. Solely the values of relative posting assertiveness were highest for postings with long captions. ANOVA confirmed significant, yet minimal relations between caption length and followers, likes, likes per followers, and relative posting assertiveness. The relationship with comments was not significant. Overall, these findings suggest that a longer caption does not positively impact engagement.

Caption length											
Frequency		Followers		Likes		Comments		Relative posting assertiveness		Likes per follower	
2-3	28,5 %	< 1	1077468,52	< 1	38268,72	0	279,58	4 + +	0,161	0	0,044483
1	23,7 %	0	1056611,33	0	38152,64	< 1	268,03	4 +	0,11	< 1	0,033046
< 1	17,3 %	1	645725,46	1	18353,55	4 + +	244,99	1	0,1006	2 to 3	0,028075
4 +	13,9 %	2 to 3	587586,14	4 +	15526,04	4 +	213,35	0	0,0955	4 + +	0,027537
4 + +	12,1 %	4 +	557657,78	2 to 3	12327,2	1	193,47	< 1	0,0834	1	0,026582
0	4,4 %	4 + +	309425,38	4 + +	7063,11	2 to 3	131,87	2 to 3	0,0751	4 +	0,024673

In general, business accounts used longer captions than influencer accounts: 88,8 % of their captions were longer than three sentences.

8.3.2 Caption content

ANOVA did not point to any major impact of the different caption content variables on the engagement outcome. However, a comparison of the means of all measured outcome variables showed some noticeable differences in engagement. For example, the mean number of likes was

higher for postings with captions containing a simple notion, user tag or giveaway announcement. The mean number of likes per follower was considerably higher if a caption contained a question or narration. Comment numbers were significantly higher if there was a giveaway announcement or direct audience reference. The jump in the comment numbers in case of questions was less striking. The relative posting assertiveness value doubled in case of a user tag in question. In conclusion, analysis of the means in outcome variables depending on verbal caption content suggest that, when cancelling out follower numbers, users tags, questions and narrations in the caption may have beneficial effects. While a rise in comments due to a giveaway is obvious, also direct reference to the audience appears to be an effective tool for enhancing audience engagement in terms of comments. When leaving the follower number as a multiplier, simple notions, giveaways, and user tags appeared to be relatable with high engagement and following sizes.

Caption content					
		Mean number of likes	Mean number of comments	Relative posting assertiveness	Mean likes per follower
simple notion	0	16225,24	195,99	0,1037	0,028425
	1	25675,94	218,08	0,0912	0,029744
question	0	19222,56	196,86	0,0959	0,029789
	1	17916,91	236,64	0,1243	0,225010
audience reference	0	18168,90	162,53	0,0899	0,029180
	1	23446,34	400,31	0,1484	0,027003
narration	0	19806,81	193,49	0,0834	0,029209
	1	17540,88	219,39	0,1319	0,280370
brand reference	0	20095,37	206,36	0,1090	0,029790
	1	16273,79	191,02	0,0799	0,028863
user tag	0	20269,96	214,80	0,1109	0,029725
	1	13175,82	141,22	0,0457	0,024579
giveaway	0	18770,80	175,47	0,0945	0,028765
	1	29650,71	1028,71	0,2527	0,028679

Concerning the caption content, differences between influencer and business account are of high interest. In 40,1 % of all captions, a reference to a brand was made. Businesses verbally referred to brands more often than influencers and asked questions more often. Also, business accounts mentioned and tagged other Instagram users far more often in their captions, often referring to a model or influencer shown in a picture. Twice as often as businesses, influencers used a posting captions for narrations. Influencers stuck with simple notions in their captions almost three times more often than businesses did, filling their captions space with simple notions (no complete sentence, rather a picture title like e.g. „beach day“). Both influencers and businesses directly referred to their audience in less than a fifth of all cases. Questions were posed even more seldom. Influencers announced giveaways or promotional offers four times as often as businesses did. Businesses may profit from conducting more giveaways, as well as referring to their audiences more often. On the other hand, influencers may benefit from more questions in their captions.

caption content			
	total	businesses	influencer
simple notion	30,5 %	12,2 %	36,3 %
question	13,3 %	17,8 %	11,9 %
audience reference	16,7 %	14,4 %	17,4 %
narrating	33,5 %	20,6 %	37,5 %
user tag	17,3 %	46,7 %	8,1 %
brand reference	32,1 %	46,1 %	27,7 %
giveaway	3,6 %	1,1 %	4,4 %

8.3.3 Hashtags

The number of hashtags was shown to correlate negatively with the number of followers, implicating that the bigger an account's audience size, the less hashtags are being used. (r = -,320; α = ,000) Interestingly, however, the number of hashtags also correlated negatively with the number of likes and likes per follower. A minimal negative correlation was also found between hashtags and comments number. The relative posting assertiveness had no significant relation to hashtag numbers. These findings suggest that, paradoxically, hashtags, which are meant to increase a postings reach, appear to diminish engagement. Generally, businesses turned out to use more hashtags than influencers did. Marketing managers may want to overthink this practice.

Correlations

		hashtags_number
followers	Pearson Correlation	-,320**
	Sig. (2-tailed)	,000
	N	750
likes	Pearson Correlation	-,244**
	Sig. (2-tailed)	,000
	N	750
relative_number_of_likes	Pearson Correlation	-,195**
	Sig. (2-tailed)	,000
	N	750
comments	Pearson Correlation	-,095**
	Sig. (2-tailed)	,009
	N	750
absolute_posting_assertivenss_by 100M	Pearson Correlation	-,196**
	Sig. (2-tailed)	,000
	N	750
relative_posting_assertiveness	Pearson Correlation	,018
	Sig. (2-tailed)	,632
	N	750
hashtags_number	Pearson Correlation	1
	Sig. (2-tailed)	
	N	750

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

8.3.4 Emojis

The use of emojis in a posting caption is highly common: 77,3 % of the analyzed captions contained at least one emoji. On average, 1,93 and a maximum of 14 emojis were used in a caption. The biggest stake of 29,6 % of captions contained one emoji, followed by 18,4 % with two and 12,5 % with three emojis. In the analyzed cases, the number of used emojis correlated positively with the number of comments (r = ,129; α = ,000), relative posting assertiveness (r = ,130; α = ,028) minimally, with likes. (r = ,080 ; α = ,028) Consequently, emojis use appears not to have any major impact on engagement outcome. There were no grave differences in emojis use between business and influencer accounts apparent.

8.4 Colors

8.4.1 Brightness and saturation

The evaluation of saturation and brightness must, be interpreted with caution: A differing perception of those by other coders must be expected. In order to ensure replicability of the scales applied here,

a detailed explanation and description of the saturation and brightness grading from 0 to 5 can be found in the appendix. In short, a brightness grade of 5 would be attributed to an overexposed or visibly artificially lightened picture. This was the case for 16,9 % of analyzed images. 4 corresponds to a well, but seemingly about naturally lighted picture, (65,3 %) whereas 3 describes a lighting similar to dawn. (14,8 %) The grades two and one would be attributed to very dark pictures that were for example taken at night. (2,9 %) As for the saturation scale, 0 corresponded to a black and white picture. On the contrary, 5 corresponds to obviously edited, oversaturated colors. Similar to the brightness scale, 4 corresponds to seemingly natural to very slightly muted colors. In the middle of the scale, 3 corresponds to slightly muted colors, whereas 2 was ascribed to images with low and 1 to images with very low saturation. With 73,3 %, a vast majority of images were graded with saturation level four, followed by grade 3 for 15,5 % of pictures with muted colors. Only 2,9 % of pictures were ascribed the very low saturation grades 1 and 2, and only 3,1% where in black and white (no color saturation). 16,9% of pictures featured highly vibrant, over-saturated colors.

frequencies			
brightness		saturation	
0	0 %	0	3,1 %
1	2,5 %	1	0,7 %
2	14,5 %	2	0,5 %
3	0,3 %	3	15,5 %
4	65,3 %	4	73,3 %
5	16,9 %	5	6,9 %

ANOVA showed significant, but minimal relationships between brightness and the measured outcome. The same held true for saturation, with an exception of saturation and relative posting assertiveness not having a significant relationship. Nevertheless, a comparison of means revealed instructive differences in means of the outcome variables. Some brightness and saturation gradings occurred in less than 1 % of cases and are to be interpreted accordingly.

brightness									
Mean number of followers		Mean number of likes		Mean number of comments		Mean relative posting assertiveness		Mean likes per follower	
1	1556138,33	3	30829,23	4	238,48	4	0,1169	3	0,042333
3	889916,44	4	19393,48	3	195,87	3	0,0757	2	0,029959
4	643337,36	5	9368,43	1	106	2	0,0622	1	0,027309
5	564800,54	2	8639,47	5	87,7	5	0,061	4	0,026743
2	428138,37	1	2522,73	2	82,53	1	0,0338	5	0,024871

saturation									
Mean number of followers		Mean number of likes		Mean number of comments		Mean relative posting assertiveness		Mean likes per follower	
1	3884996,2	1	139815,44	1	841,4	4	0,1047	1	0,076894
5	1105153,85	5	39516,33	5	446,13	3	0,097	3	0,031429
4	644587,28	4	17868,42	4	192,31	5	0,0812	4	0,028276
2	589522	3	12866,31	3	142,44	1	0,0552	5	0,027214
3	469287,9	2	11673,5	2	78,5	2	0,0531	0	0,025416
0	449446,83	0	7200,52	0	69,83	0	0,0526	2	0,007829

The mean number of likes per comments was highest for relatively dark pictures. Relative posting assertiveness was highest for naturally lighted to rather dark pictures. The outcome for very bright pictures turned out relatively low, suggesting that high brightness of pictures is not beneficial for engagement outcome. Telling from the high ranking in relative posting assertiveness, picture brightness of 4 appears to be most beneficial. Business profiles showed a tendency to post brighter pictures than influencer accounts: Brightness grade 5 was attributed to 38,3 % of business accounts'

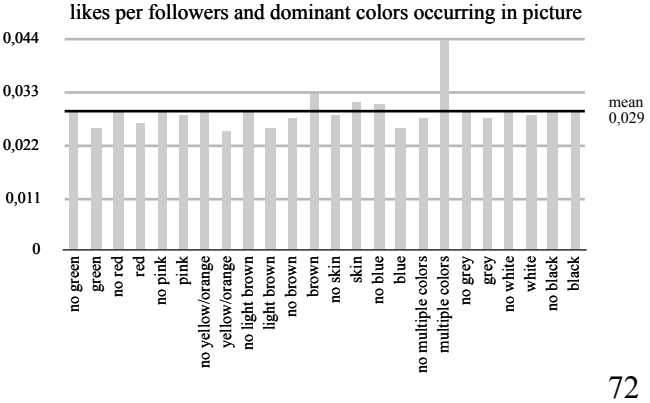
pictures. However, 67,5 % of influencer pictures were ascribed to brightness grade 4, which showed superior performance outcomes.

Overall, highly saturated pictures generated about double the number of mean likes, even more than double the number of comments as pictures with a seemingly natural saturation (grade 4) did. Postings with highly vibrant pictures were issued by business accounts more than twice as often by business than by influencer accounts (12,2 % compared to 5,3 % of all postings). On the other hand, cancelling out follower numbers revealed a superiority of more dim colors with regard to likes per follower. In comparison, mean number of followers of accounts posting highly saturated pictures was highest. These observations suggest that while Instagrammers with large audiences may tend to post highly saturated pictures, such with more muted colors may result in better engagement. Businesses, who tend to post more saturated pictures (12,2 % of business' postings were ascribed to saturation grade 5) may make use of this observation.

8.4.2 Dominant colors

In order to test for potential effects on engagement, the dominant colors occurring in a posted picture have been documented. 77,3 % of images contained two or three dominant colors. Only 8 % showed one single dominant color, as opposed to 14,7 % of images that featured 4 or more dominant colors. Occurring in 57,2 % of all pictures, white was the most frequently occurring dominant color. Black was second-most frequent (34,9 % of all pictures) and blue third (25,6 %). There were noticeable differences in the mean numbers of likes for pictures featuring multiple colors, grey, white, or brown as dominant colors. As visible in the adjoint graphic, the mean number of likes per followers only showed a significant increase if a picture contained a mix of many different colors. Further, the presence of brown, skin and skin color led to higher than average mean numbers of likes. The same held true for pictures not containing blue as a dominant color. The mean number of comments showed a high difference with regard to the dominant color pink: Such pictures containing pink as a dominant color resulted in a mean

dominant colors			
	total	businesses	influencers
green	17,9 %	18,9 %	17,5 %
red	10,8 %	15,6 %	9,3 %
pink	11,6 %	15,0 %	10,5 %
yellow/ orange	5,9 %	6,1 %	5,8 %
light brown	16,5 %	15,0 %	17,0 %
brown	23,9 %	19,4 %	25,3 %
skin	10,0 %	6,7 %	11,1 %
blue	29,7 %	42,8 %	25,6 %
multiple	7,5 %	7,8 %	7,4 %
grey	19,5 %	21,7 %	18,8 %
white	57,2 %	57,2 %	57,2 %
black	30,9 %	18,3 %	34,9 %



number of comments more than twice as high. However, ANOVA showed that there were almost no significant effects of dominant colors on the outcome variables. Those effects that were significant were minimal, partial eta squared ranking below 0,1. There were no major differences with regard to how many dominant colors appeared in a picture observed between influencer and business accounts. Also the use of dominant colors in general showed no grave differences. Businesses tended to use blue, red and pink more, while influencers used brown, skin tones and black more often.

8.5 Individuals in the picture

8.5.1 Present individuals

78 % of the analyzed pictures showed one individual, followed by 15,6 % showing no and 4,7 % of images featuring two individuals. The number of individuals in a picture showed a small positive correlation with the number of likes (r = ,103; α = ,000) and a medium correlation with the number of likes per follower (r = ,225; α = ,000). An ANOVA confirmed a significant difference in means of likes per follower depending on the number of individuals shown in a picture (F = 16,54; α = ,000; partial eta squared = ,152). Comparing the means of likes per follower showed that such postings with relatively many pictured individuals resulted in far better outcome than pictures showing only one individual, which was the most common variant. These observations allow the conclusion that while in most pictures, only one individual can be seen, the picturing of more persons may be beneficial for engagement. With regard to the number of present individuals, there were no major differences between business and influencer accounts observable. However, business accounts posted a slightly higher number of pictures showing more than one individual.

individuals shown in picture	
one person shown	78,0 %
no person shown	15,6 %
two persons shown	4,7 %
more than two persons	1,7 %

mean number of likes per follower and number of individuals shown in picture	
10	0,294777
18	0,106400
4	0,030823
5	0,029727
3	0,029458
1	0,029404
2	0,026600
0	0,023714
7	0,004593
Total	0,028817

98,3 % of pictures showed no interaction with other individuals, meaning that even in pictures featuring more than one person, interactions were scarce. Male persons were present in only 2,9 % of pictures. ANOVA showed a small, but significant relation between the relative number of likes and the presence of a male person (F = 31,445; α = ,000; partial eta squared = ,112). 14 of the 750 analyzed postings showed one or more animals. No considerable impacts of the presence of animals on engagement were found.

8.5.2 Distance of individuals

The perceived distance was measured for both featured subjects and objects. Most pictures (58,8 %) showed a „medium“ proximity, meaning that individuals or items did not appear very close, but were still recognizable in detail. 27,3 % of the analyzed images were shot close up. ANOVA showed that there were no grave significant impacts of distance on the measured outcome variables. Mean comparison did not reveal any striking patterns in engagement outcome, either. There were no grave differences between business and influencer accounts in terms of observable.

Distance											
Frequency		Mean number of followers		Mean number of likes		Mean number of comments		Mean relative posting assertiveness		Mean number of likes per follower	
medium	58,8 %	far	814580,17	relativley far	21982,05	far	229,42	medium	0,1091	far away	0,047398
close	27,3 %	close	743561,42	close	19618,68	relativley far	229,39	close	0,0931	medium	0,030294
relatively far	9,2 %	relativley far	722721,74	far	19507,58	medium	212,89	relativley far	0,0838	medium far	0,030003
far	1,6 %	medium	615359,91	medium	18687,38	close	175,86	far away	0,0676	close	0,02823
medium far	0,8 %	medium far	576797,67	far away	7421	far away	74	far	0,053	far	0,027546
graphic	0,4 %	far away	294664,5	medium far	3724,67	medium far	37	medium far	0,0366	relativley far	0,022729
far away	0,3 %	graphic	96010,67	graphic	1510,67	graphic	13,33	graphic	0,0265	graphic	0,016468

8.5.3 Visibility of body

Big variation in terms of which parts of individuals' bodies were either visible in or cropped out of the picture was observed during analysis. The different variants and their frequency are stated in the adjoining table. In the biggest portion of cases, a pictured individual's whole body was shown. A popular crop was also showing persons until their knees, hip, or decolletee. All other crops occurred in less than 4 % of cases. ANOVA showed no grave significant relations between the visibility of a body and the measured outcome variables. An additional variable was coded in order to measure to what extent an individual's body was shown, scaled from 0 for no individual in picture until 5 for whole body of an individual visible. Significant, yet low correlations between the degree to which a body was visible and likes, (r = ,147; ; α = ,000) and comments (r = ,108; ; α = ,000) were found. These observations suggest no major variations of engagement depending on the degree to which a body is shown or how a picture of an individual is cropped. Comparison between business and influencer accounts made no grave differences concerning the degree of body visibility

visibility of individuals	
full body	36 %
no individual(s) in picture	15,5 %
until knees	15,1 %
until hip	12,9 %
until decolletee	5,6 %
until mid stomach area	3,9 %
shoulders to knees	2 %
hand only	1,9 %
feet cropped	1,3 %
hand and legs	1,2 %
from shoulders	0,9 %
legs only	0,8 %
face partly	0,4 %
feet only	0,4 %
torso only	0,4 %
chin to knees	0,3 %
decolletee until knees	0,3 %
face only	0,3 %
from decolletee	0,3 %
from hip	0,3 %
from mid stomach area	0,3 %
hand and torso	0,1 %

degree of body visibility			
	total	busines	influen
no body visible	15,5 %	17,8 %	14,7 %
small part of body visible	3,1 %	4,4 %	2,6 %
body partly visible	10,5 %	12,8 %	9,8 %
most of body visible	34,9 %	30,0 %	36,5 %
full body visible	36,0 %	35,0 %	36,3 %

apparent.

8.5.4 Body posture

The most common general poses of individuals pictured in Instagram postings were standing, sitting, and walking. ANOVA showed no significant relations between the general pose and the measured outcome variables exceeding a partial eta square value of 0,07. Comparison of means showed no striking patterns for engagement variations due to body posture. There were also no grave differences between business and influencer accounts observable.

Body posture											
Frequency		Mean number of followers		Mean number of likes		Mean number of comments		Mean relative posting assertiveness		Mean number of likes per follower	
standing	45,6 %	kneeling / squatting	1732985,09	kneeling / squatting	77678,18	kneeling / squatting	360,82	walking	0,1071	kneeling / squatting	0,036057
sitting	20,4 %	sitting	846504,05	lying	29206,77	sitting	283,05	sitting	0,1069	standing	0,031476
walking	11,2 %	lying	820501,45	sitting	22878,29	lying	277,32	standing	0,1025	sitting	0,029763
lying	2,9 %	standing	687863,97	standing	21472,38	standing	225,7	lying	0,0814	walking	0,026951
kneeling/ squatting	1,5 %	walking	501101,19	walking	13734,77	walking	156,25	kneeling / squatting	0,0517	other	0,026206
other	1,2 %	other	398379,44	other	5795,11	other	74,11	other	0,0478	lying	0,020338

8.5.5 Body orientation

45,9 % of bodies were positioned frontally, facing the camera. Just over 11 % were turned turned either left or right and around 3 % each slightly left or right. In 5,2 % of pictures, individuals had turned their back towards the camera. ANOVA showed no significant relations between the body orientation and the measured outcome variables exceeding a partial eta square value of 0,049. However, mean comparison shows that a left-side orientation may be beneficial to engagement outcome: Left and slight left orientation ranked highest in all measured outcome variables except likes per follower. These observations suggest that although Instagrammers tend to show frontally positioned individuals in their postings, generally, left-side orientation may be beneficial. In terms of body orientation, there were no grave differences between influencer and business accounts observable.

Body orientation											
Frequency		Mean number of followers		Mean number of likes		Mean number of comments		Mean relative posting assertiveness		Mean number of likes per follower	
frontal	45,9	turned left	950555,4	slightly turned left	33770,08	slightly turned left	346	slightly turned left	0,1556	turned right	0,033635
turned left	11,3	slightly turned left	859171,58	turned left	33446,18	turned left	275,2	turned left	0,1274	slightly turned left	0,030461
turned right	11,2	turned right	841992,04	slighlty turned right	23964,24	slighlty turned right	262,62	slighlty turned right	0,1125	turned left	0,030214
back towards camera	5,2	slighlty turned right	689668,24	frontal	20141,09	frontal	247,31	frontal	0,1049	frontal	0,030208
slightly turned left	3,2	frontal	666583,67	turned right	19543,11	turned right	162,11	back towards camera	0,0814	slighlty turned right	0,029282

slighlty turned right	2,8	back towards camera	535974,69	back towards camera	16492,82	back towards camera	153,36	turned right	0,0699	back towards camera	0,026979
from where i stand	1,7	from where i stand	498286,15	other	6059,1	other	47,8	other	0,0445	other	0,026553
other	1,3	other	429047,6	from where i stand	6006,23	from where i stand	37,77	from where i stand	0,0253	from where i stand	0,01529

8.5.6 Arm gestures and their symmetry

The arm gestures shown were similarly diverse as the picture crop variations. ANOVA showed minor relations between the arm gestures and likes, likes per followers, and comments. In almost the same amount of pictures, individuals' gestures were either symmetrical or not symmetrical. ANOVA showed no considerable relations between and gesture symmetry and the measured outcome variables. Mean comparison of arm gestures and their symmetry along the measured outcome variables generally did not show any striking differences due to gesture. A jump in likes per followers in case the pictured individual was holding something posed an exception to this: For such pictures, the mean likes per followers had a value of 0,043403, which was way above the total average of 0,028817. Also the means of relative posting assertiveness, comments, and likes were higher than average for such pictures. This suggests that individuals holding items, especially advertised products, may have result in higher engagement. Between influencer and business accounts, there were no grave differences in terms of arm gestures observable.

arm gestures	
one up one down	29,7 %
both arms/hands down	25,3 %
no individual in picture	13,3 %
one hand near hip, one down	6,3 %
both arms/hands up	6,1 %
not recognizable	5,9 %
in front of torso	4,9 %
both hands near hip	3,3 %
holding something	2,7 %
other	1,6 %
in front of torso/down	1,1 %
near hip/up	0,8 %

symmetry of gestures	
no visible gestures	20,1 %
gestures not symmetrical	38,9 %
symmetrical gestures	40,9 %

Mean

arm_gestures	followers	likes	comments	relative_posting_assertiveness	likes_per_follower
holding something	1465358,95	65825,65	616,65	,1796	,043403

8.5.7 Clothing style

In 77,25 % of all analyzed images that featured at least one individual, these were dressed in either a modest way or revealing only parts of legs and arms: Generally, a little revealing clothing style was most common. Revealing outfits, for example with a prominent decolletée or both legs and arms exposed, were worn in 13,55 % of cases, followed by lingerie or bikinis in 7,58 % and no clothes at all in 1,61 % of pictures. Analysis of variance attested significant, yet generally rather low relations between the clothing style and outcome variables. The strongest relationships were found between the number of likes and the number of followers. Indices cancelling out the follower number showed lower impact of clothing style, in the case of relative posting assertiveness being

clothing style											
Frequency		Mean number of followers		Mean number of likes		Mean number of comments		Mean relative posting assertiveness		Mean number of likes per follower	
modest outfit	50,48 %	naked	2466834,8	naked	92260,80	revealing outfit	470,07	modest outfit	0,1203	naked	0,063823
arms and legs naked	26,77 %	revealing outfit	1022470,48	lingerie or bikini	36386,87	naked	418,40	revealing outfit	0,0905	revealing outfit	0,034539
revealing outfit	13,55 %	arms and legs naked	864781,61	revealing outfit	35089,29	lingerie or bikini	224,77	arms and legs naked	0,0831	lingerie or bikini	0,033568
lingerie or bikini	7,58 %	lingerie or bikini	826761,55	arms and legs naked	23085	arms and legs naked	208,49	lingerie or bikini	0,0650	arms and legs naked	0,033023
naked	1,61 %	modest outfit	482408,54	modest outfit	12844,95	modest outfit	169,11	naked	0,0589	modest outfit	0,025448

Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
clothing_style	likes	1,244E+11	5	2,487E+10	20,692	,000	,122
	relative_number_of_likes	,026	5	,005	7,721	,000	,049
	comments	8947322,92	5	1789464,58	6,147	,000	,040
	relative_posting_assertiveness	,266	5	,053	2,235	,049	,015
	absolute_posting_assertivenss_by 100M	308422054	5	61684410,7	15,598	,000	,095
	followers	6,930E+13	5	1,386E+13	20,945	,000	,123

clothing style			
	total	businesses	influencers
naked	1,3 %	0,6 %	1,6 %
lingerie or bikini	6,3 %	7,2 %	6,0 %
revealing outfit	11,2 %	7,2 %	12,5 %
relatively modest	22,1 %	17,2 %	23,7 %
modest outfit	41,7 %	48,9 %	39,5 %

barely significant. The mean number of followers, likes, and likes per follower rose along with the degree to which an individual's clothing was revealing: The mean number of likes for a picture showing a naked individual was more than 7 times as high as for pictures of individuals in modest outfits. After cancelling out the following size, the mean number of likes per follower was still almost twice as high for postings showing a naked individual as compared to one in lingerie or bikini. Postings with individuals in revealing outfits, no clothes at all or in lingerie or bikini also generated more comments. The mean number of followers of accounts posting a picture showing a naked individual was more than twice as high as of those showing individuals in revealing outfits. However, the relative posting assertiveness showed a different picture: Here, modest outfits achieved the highest mean, followed by pictures with no individual and pictures with revealing outfits. In conclusion, nakedness appear to have beneficial effects on engagement and following size. Comparison between influencer and business accounts showed that there were no major gaps regarding the degree to which the pictured outfits were revealing. Generally speaking, business account postings showed more modest outfits.

8.6 Faces

9.6.1 Presence of faces

70,9 % of all analyzed pictures showed at least one face. With 65,6 %, most pictures showed exactly one face. This corresponds to 92,4 % of postings showing at least one face. Considering that in an evenly big stake of pictures showing persons, only one individual was shown, a strong focus

of single individuals in Instagram postings appears to be prevalent. Two faces were shown in 5,3 % of pictures and even more in only 2,3 %. ANOVA confirmed minor relations between the number of present faces and likes, likes per followers, and comments. Mean comparison showed that the number of likes per follower was more than twice as high for pictures showing four or more individuals as compared to such showing only one. As already examined in the paragraph on the presence of individuals, beneficial effects of showing more than one face in a pictures might need to be considered by Instagrammers.

Number of present faces											
Frequency		Mean number of followers		Mean number of likes		Mean number of coments		Mean relative posting assertiveness		Mean number of likes per follower	
no face visible in picture	29,1 %	three faces visible	1031017,6	four or more faces	33256,00	one face	255,39	four or more faces	0,1431	four or more faces	0,075580
one face visible	65,6 %	one face visible	756793,27	two faces	24669,18	three faces	158,40	two faces	0,1204	two faces	0,030472
two faces visible	3,7 %	two faces visible	659335,75	one face	23119,14	two faces	142,07	one face	0,1058	one face	0,030339
three faces visible	0,7 %	no face visible in picture	458954,89	three faces	16149,00	no face visible	94,77	no face visible	0,0834	three faces	0,029458
four or more faces visible	0,9 %	four or more faces visible	362542,86	no face visible	8749,86	four or more faces	77,43	three faces	0,0301	no face visible	0,023653

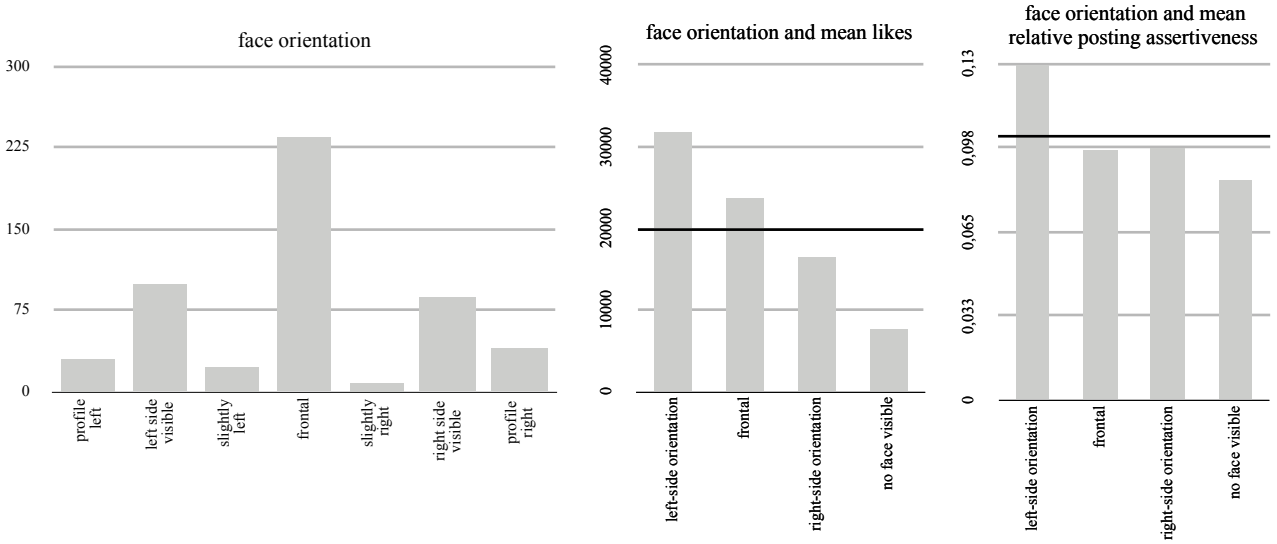
The tendency to show only one face was stronger for influencer accounts: 69,3 % of all influencer postings showed exactly one face, compared to 5,9 % of posts by businesses. More than one face in the picture was shown by 8,3 % of business postings and 4,2 % of influencers'. No face at all was visible in 37,8 % of business and only 26,3 % of influencer pictures.

8.6.2 Orientation of faces

If a face was shown in a picture, in most cases, it was shown from a frontal perspective. Similar to body orientation, the orientation of faces was relatively evenly distributed between left and right: There was no prevalent preference between either the left or right side of the face observable. ANOVA showed only minor relations between face orientation and the measured outcome variables, with no partial eta squared value exceeding 0,073. No major effects were found even after in a newly created variable, all variants of left- and right-side orientation had been condensed. Nevertheless, mean comparison revealed that generally, left-side orientation ranked highest in the means of the outcome variables. Face orientation was not noticeably different in influencer and business account postings.

Face orientation									
Mean number of followers		Mean number of likes		Mean number of comments		Mean relative posting assertiveness		Mean number of likes per follower	
slightly left	1109479,3	profile left	43735,55	slightly left	325,71	slightly left	0,1883	slightly left	0,036211
profile left	1012260,1	slightly left	31354,46	frontal	289,69	various	0,1862	profile right	0,034416
left side visible	802094,53	left side visible	28125,48	left side visible	289,38	turned away	0,1292	frontal	0,031144
frontal	779886,74	frontal	23705,31	profile left	282,71	profile right	0,124	right side visible	0,030743
right side visible	755407,80	right side visible	20611,07	turned away	233,29	left side visible	0,122	left side visible	0,02988
slightly right	664409,75	turned away	18018,67	various	182,25	profile left	0,1047	slightly right	0,027986

turned away	472885,81	various	10338,25	right side visible	166,1	frontal	0,096	profile left	0,0272
0	412199,49	slightly right	9849,75	slightly right	155,38	right side visible	0,0886	turned away	0,024695
profile right	368696,49	profile right	8440,59	profile right	106,71	0	0,0789	0	0,023712
various	201525,25	0	6280,66	0	66,93	slightly right	0,0492	various	0,020266



9.6.3 Head tilt

In 70 % of pictures, there was no tilt of the head recognizable. All measured head tilt variations (slight or significant and left, right, down, up) occurred, distributed relatively even, in 2,5 % to 4,8 % of cases. ANOVA showed significant, yet low impacts of head tilt on the number of likes (F = 3,268; α = ,001; partial eta squared = ,038) and the relative posting assertiveness. (F = 15,622; α = , 000; partial eta squared = ,160) In general, there were more tilted heads visible in influencer accounts' postings compared to business accounts'.

9.6.4 Notes on face

Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
notes_on_face	followers	2,535E+13	20	1,268E+12	1,723	,026	,045
	likes	4,928E+10	20	2,464E+9	1,853	,013	,048
	comments	2623044,01	20	131152,200	,429	,987	,012
	relative_posting_assertiveness	1,753	20	,088	3,941	,000	,098
	likes_per_follower	,012	20	,001	,805	,709	,022

It was noted whether there were any striking, possibly outcome-influencing remarks to be made about the pictured faces: In 13,3 % of all pictures, the individuals' eyes were covered by sunglasses, and in 6,4 % of pictures the face was partially covered or cropped. ANOVA revealed minor significant relations between notes made on the face and likes (F = 3,188; α = ,000; partial eta squared = ,084) as well as relative posting assertiveness (F = 3,753; α = ,000; partial eta squared

= ,098). Mean comparison pointed to beneficial effects of heavy make-up, a partially hidden face, and sunglasses worn in a way not covering the eyes.

9.6.5 Facial expression

A neutral expression occurred most frequently in Instagram postings that showed a face: In 65,37 % of cases, the pictured individual did not show any particular emotion. While a serious or goofy expression (e.g. tongue out) could be only seen in a minimal stake of pictures, laughs and smiles could be seen in almost a third of the analyzed pictures.

facial expression											
frequency		followers		mean number of likes		mean number of comments		mean relative posting assertiveness		mean number of likes per follower	
neutral	65,37 %	laugh	921980,43	laugh	38715,79	light smile	297,66	serious	0,3185	serious	0,068268
laugh	13,23 %	neutral	749260,43	smile	27281,08	laugh	293,63	light smile	0,1232	other	0,032003
light smile	11,48 %	smile	666616,06	neutral	20209,06	neutral	242,00	smile	0,1130	laugh	0,031311
smile	7,00 %	light smile	657123,9	light smile	19648,15	smile	208,53	laugh	0,1070	neutral	0,029592
serious	1,95 %	other	302618,4	other	10147,40	serious	173,00	neutral	0,0982	light smile	0,028835
other	0,97 %	serious	174628,5	serious	4216,70	other	59,80	other	0,0775	smile	0,026935

ANOVA showed significant, but minor relations between the facial expression and the measured outcome variables. Nevertheless, mean comparison delivered an insight into engagement differences due to facial expression. The mean number of followers of accounts posting pictures showing happy faces ranked highest. Mean numbers of likes were highest for pictures showing a laugh, (here defined as an open-mouthed smile) followed by a smile and then a neutral expression. It needs to be noted that the mean number of likes for pictures showing a laughing face was was almost twice as high as the mean number of likes for pictures showing neutral faces. The mean number of likes per follower was highest for serious faces: The mean value was more than twice as high as for all other expressions. However, such an expression only occurred in 1,95 % of cases. Exceptional facial expressions ranked second, followed by laughs. The most comments were generated by postings showing a laughing or smiling face. In terms of mean relative posting assertiveness, postings showing a serious face achieved a value almost three times as big as the second-ranking light smile. There were no grave differences between influencer and business accounts in terms of the showed facial expressions observable.

A variable was computed to measure the degree to which happiness was expressed in a picture, which a scale ranging from 0 for no present face, 1 for a serious expression, 2 for neutral, 3 for a light smile, 4 for a smile, and 5 for a laugh. The expression of happiness is correlated positively with likes ($r = ,204$; $\alpha = ,000$) and comments ($r = ,120$; $\alpha = ,001$). However, there was no significant correlation between happiness expression and the indices cancelling out follower

numbers, suggesting that accounts with more followers tend to show more expressions of happiness. Indeed, a positive relation between expression of happiness and the follower number was found. Hence, it can be concluded that expressions of happiness do not significantly influence the engagement with a picture. Positive correlations between expressions of positive emotion can be explained by the fact that Instagrammers with more followers tend to post more pictures showing faces with happy expressions.

Mean

look_into_camera	followers	likes	comments	relative_posting_assertiveness	likes_per_follower
no individual looking into the camera	545535,14	14987,20	171,47	,1051	,027132
individual looking into the camera	935916,76	28288,32	271,99	,0874	,032650
Total	664731,66	19048,48	202,16	,0997	,028817

Correlations

		followers	likes	comments	relative_posting_assertiveness	likes_per_follower	expression_of_happiness
expression_of_happiness	Pearson Correlation	,139**	,204**	,120**	,055	,049	1
	Sig. (2-tailed)	,000	,000	,001	,130	,181	
	N	750	750	750	750	750	750

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

8.5.6 Look into the camera

If at least one face was visible in a picture, in 43 % of the cases a pictured individual looked directly into the camera (31,9 % of all analyzed pictures). While ANOVA showed no significant relations exceeding a partial eta squared value of ,028, mean comparison revealed several substantial differences: The mean number of likes generated by pictures showing an individual looking into the camera was approximately twice as high as in cases where there was no „eye contact“. Also the number of likes per follower was significantly higher. On average, a look into the camera also lead to one hundred more comments. Interestingly, though, pictures where no individual looked into the camera had a slightly higher mean relative posting assertiveness. A look at the means of followers depending on looks into the camera reveals why: Apparently, there is a relation between an Instagrammer’s following size and looking into the camera. Whether more looks into the camera lead to more followers or if individuals with a bigger audience size rather look into the camera can not be clarified at this point. In general, though, it can be assumed that a straight look into the camera may be beneficial for the engagement outcome. Businesses may consider this conclusion: While an individual looking into the camera was shown in 33,2 % of influencer postings, only 22,2 % of business accounts’ pictures showed a direct look towards the photographer.

8.6 Commercial background of postings

8.6.1 Advertisement labels and commercial purpose

It has been elaborated above that Instagram influencer marketing is widely regarded as a non-intrusive way of marketing that avoids the reactance audiences show towards traditional advertising. Hence, it is of high interest how advertisement labels and the degree to which the commercial purpose of a posting is visible influence the engagement with postings. Only 2,5 % of influencer postings were marked with the advertisement tag provided by Instagram and even less (0,7 %) had an advertisement-declaring hashtag in their caption. Influencers mostly declared the commercial background of a posting by setting a verbal disclaimer in the caption: This was done in 34,9% of all pictures posted by influencers. Most often, the disclaimer was set at the beginning of the caption (49,2 % of all cases) or at its end. (32,6%) In 59,6 % of all influencer postings, no commercial purpose was recognizable, whereas 25,7 % showed an obviously sponsored origin. For 13,5 % of influencer postings, it was not clear whether the posting was sponsored or not. Only 4,5 % of postings had a clearly observable commercial intent that was not clarified. However, there were also some cases where kind of commercial purpose was not clear: Sometimes, multiple brands were tagged in a picture and an advertisement declaration existed: The number of postings by influencers that were declared as advertisement exceeded the number of postings with a clearly recognizable commercial purpose. Most likely, this can be explained with the legal regulations requiring influencers to declare their posting as an advertisement as soon as a brand is recognizable in a posting, even if they have not been sponsored by the brands shown. Like this, paradoxically, the legislation which is meant to enhance transparency concerning the commercial background of postings also contributes to confusion about the exact intent and sponsor. Because advertisement tags and hashtags occurred seldom, the three variants of advertisement declarations were subsumed into a variable measuring the mere existence of an advertisement label. ANOVA attested minimal, yet significant relations between the existence of an advertisement declaration and the measured outcome variables with an exception of likes per followers.

Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
advertisement_declaration	followers	1,340E+13	1	1,340E+13	18,283	,000	,024
	likes	1,273E+10	1	1,273E+10	9,468	,002	,012
	comments	2767409,79	1	2767409,79	9,292	,002	,012
	relative_posting_assertiveness	,509	1	,509	21,798	,000	,028
	likes_per_follower	,001	1	,001	1,690	,194	,002

Mean

advertisement_declaration	followers	likes	comments	relative_posting_assertiveness	likes_per_follower
no advertisement declaration	582477,52	16513,08	164,78	,0836	,028038
advertisement declaration existent	881946,49	25743,89	300,87	,1420	,030874
Total	664731,66	19048,48	202,16	,0997	,028817

Surprisingly, all of the measured outcome variables ranked higher for postings bearing an advertisement declaration as compared to such that were not labelled as having a commercial background. Telling from these results, an obvious commercial background does not appear to result in disadvantaged in posting engagement, but rather in increased outcome. There are various possible explanations for this phenomenon, including that influencers who achieve high engagement rates may be chosen for business cooperations more often. The mean number of comments for advertising influencer postings may also result from giveaways requiring users to comment.

With this respect, a differentiating view at both influencer and business accounts is necessary since businesses have an obvious commercial intent underlying their overall activity on Instagram. It needs to be noted, too, that the analyzed business accounts had lower mean numbers of followers (mean of 698 940 for influencer and 556 406 for business accounts). Therefore, the differences in likes between influencer and business accounts will only be measured with outcome variables cancelling out the follower number. Comparing the means of likes per follower and relative assertiveness indices shows a superiority of influencer compared to business accounts in terms of engagement.

commercial purpose											
frequency		mean number of followers		mean number of likes		mean number of comments		mean relative posting assertiveness		mean number of likes per follower	
no commercial purpose recognizable	45,3 %	commercial purpose clearly recognizable	939632,07	commercial purpose clearly recognizable	26676,81	commercial purpose clearly recognizable	350,76	not clear	0,1472	no commercial purpose recognizable	0,032368
business account	23,6 %	no commercial purpose recognizable	636381,75	no commercial purpose recognizable	24174,17	no commercial purpose recognizable	228,94	no commercial purpose recognizable	0,1303	commercial purpose clearly recognizable	0,029038
commercial purpose cleary recognizable	19,6 %	business account	563392,98	not clear	14694,86	not clear	216,39	commercial purpose clearly recognizable	0,1077	reference to own blog	0,0273
not clear	10,3 %	not clear	541930,83	business account	5594,87	reference to own blog	61,67	reference to own blog	0,0394	business account	0,024996
reference to own blog	1,2 %	reference to own blog	289311,44	reference to own blog	2650,44	business account	28,25	business account	0,0165	not clear	0,021677

While the difference in likes per follower does not appear grave, the difference in relative assertiveness is noticeable, suggesting a significantly higher number of comments for influencer postings. This assumption is confirmed by the calculation of the mean comments per follower for both account types: With 0,000065, the mean number of comments per posting and follower of influencers is more than twice as high than the one of business accounts (0,000028) These observations lead to the conclusion that while there is a small difference in likes per followers, the gap between generated comments is more grave. Analysis of variance confirms significant differences in the relative number of likes and relative assertiveness, with the biggest effect of account type allegiance on the relative account assertiveness. However, regarding the described numbers, it needs to be kept in mind that business accounts may sponsor their postings, resulting in a boost of visibility and, hence, engagement.

Mean

account_type	relative_number_of_likes	relative_posting_assertiveness	relative_account_assertiveness
business account	,024968	,0163	,0163
influencer account	,030032	,1260	,1260
Total	,028817	,0997	,0997

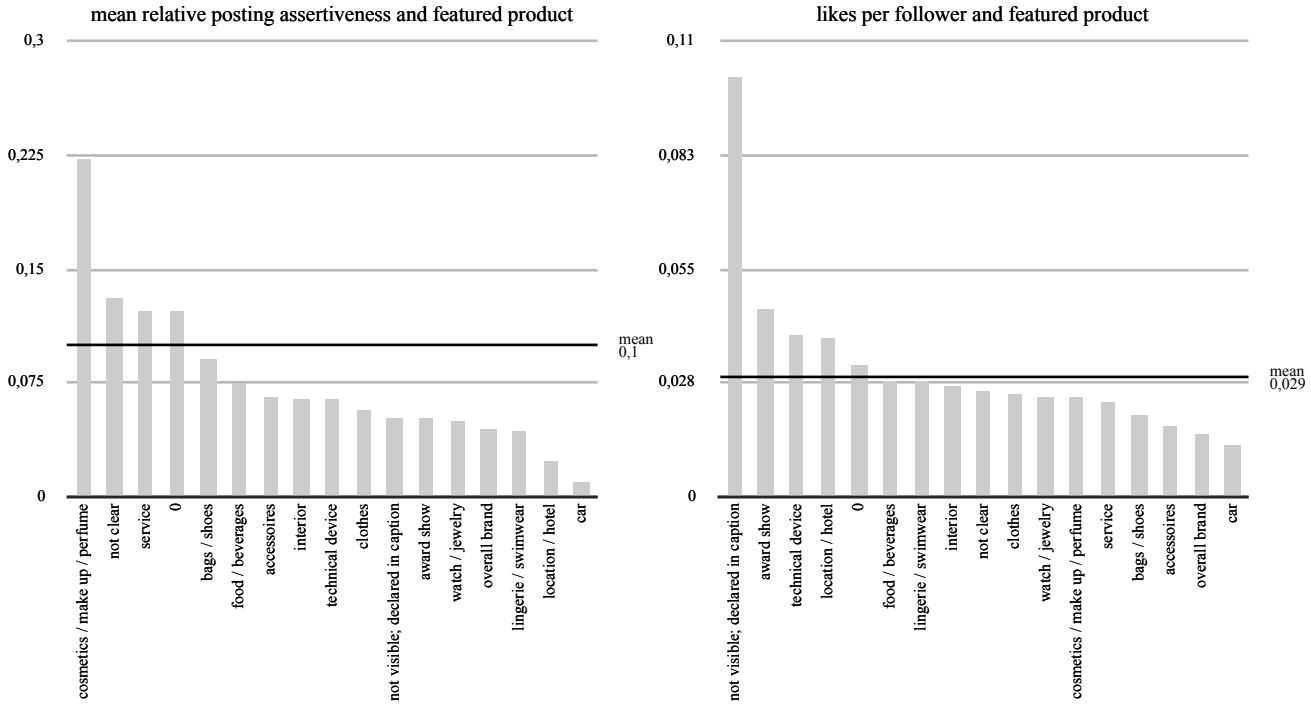
Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	relative_number_of_likes	,004[a]	1	,004	4,955	,026	,007
	relative_posting_assertiveness	1,646[b]	1	1,646	75,433	,000	,092
	relative_account_assertiveness	1,646[c]	1	1,646	148,151	,000	,165

8.6.2 Featured items

Due to the focus on fashion influencers and businesses, the main featured item in the analyzed pictures were clothes, followed by watches and other jewelry and cosmetics including perfumes. ANOVA attested minimal yet significant relations between the kind of featured product and the measured outcome variables. Comparison of means showed that the mean value relative posting assertiveness exceeded its general average if cosmetics or a service were advertised or if a sponsored item was not clearly recognizable or not existent, respectively. The mean of likes per follower showed a clear superiority for advertised items that were not visible in the picture, but declared in the caption. Likes per followers were also high for an award show which took place during the time of observations and was mentioned in the content of several analyzed influencers and one business account. Further, the mean likes per follower exceeded the general average if technical devices or locations like hotels were advertised. The mean of likes per follower was slightly higher than average if no particular item was advertised. All in all, the engagement outcome appears to be highest if an advertised product is either not shown, not shown but clarified in the caption, or shown but not clarified as such. In 56,1 % of influencer postings, there were no particularly advertised products observable. The same held true for 27,8 % of businesses' postings.

featured items											
Frequency		Mean number of followers		Mean number of likes		Mean number of comments		Mean relative posting assertiveness		Mean likes per follower	
no item featured	49,3 %	not visible; declared in caption	3666787	not visible; declared in caption	138000	cosmetics / make up / perfume	803,3	cosmetics / make up / perfume	0,2224	not visible; declared in caption	0,101452
clothes	24,0 %	overall brand	1749541,5	location / hotel	43020,75	not visible; declared in caption	564,5	not clear	0,1308	award show	0,045442
watch / jewelry	5,3 %	location / hotel	1161189,25	overall brand	42500	overall brand	358,5	service	0,123	technical device	0,038806
cosmetics / make up / perfume	4,0 %	lingerie / swimwear	918097,38	lingerie / swimwear	37100,81	not clear	242,65	0	0,1224	location / hotel	0,038089
not clear	3,5 %	car	870552	cosmetics / make up / perfume	26456,33	location / hotel	217,5	bags / shoes	0,091	0	0,031927
bags / shoes	3,2 %	interior	804796,67	0	21363,1	0	213,61	food / beverages	0,0756	food / beverages	0,028376
lingerie / swimwear	2,1 %	cosmetics / make up / perfume	774991,57	award show	16186,5	lingerie / swimwear	207,81	accessoires	0,0669	lingerie / swimwear	0,027899
accessoires	1,9 %	0	665542,64	not clear	16031,77	interior	175	interior	0,0645	interior	0,027081
food / beverages	1,7 %	accessoires	662297,57	clothes	13713,24	accessoires	132,21	technical device	0,0643	not clear	0,025475
award show	1,3 %	clothes	647171,51	watch / jewelry	12769,2	clothes	129,17	clothes	0,0575	clothes	0,024914
overall brand	0,8 %	watch / jewelry	584234,05	accessoires	10979,79	bags / shoes	100,08	not visible; declared in caption	0,0521	watch / jewelry	0,023947
service	0,8 %	not clear	416701,58	technical device	8956	watch / jewelry	90,38	award show	0,0519	cosmetics / make up / perfume	0,023914
location / hotel	0,5 %	bags / shoes	401345,04	bags / shoes	6868,17	food / beverages	82,31	watch / jewelry	0,0504	service	0,02283
not visible; declared in caption	0,5 %	technical device	399505,33	car	5255	technical device	79	overall brand	0,0454	bags / shoes	0,019551
interior	0,4 %	food / beverages	374582,77	service	5201,67	service	57,67	lingerie / swimwear	0,0433	accessoires	0,017317
technical device	0,4 %	award show	356202	interior	5148,33	car	34	location / hotel	0,0235	overall brand	0,015162
car	0,1 %	service	339255,5	food / beverages	4650,15	award show	24,4	car	0,0097	car	0,012513



8.6.3 Brand logos

ANOVA showed that there were no significant differences in means depending on brand logo visibility. Logos were visible in 15,1 % of pictures and occurred most frequently in the postings of accounts with an audience size between 100 and 500 thousand. Business account postings showed brand logos more frequently: While influencers made included logos in only 12,3 % of their postings, business accounts did so in 23,9 % of pictures.

9 Frequently occurring posting characteristic combinations

While an in-depth analysis of various picture characteristics has given an insight into typical components of Instagram postings, the next chapter will focus on identifying and investigating frequently occurring combinations of such features:

RQ1: What are typical content types used by influencers and businesses in Instagram marketing and how are they defined?

9.1 Explorative factor analysis

One possibility to trace frequently occurring combinations of picture characteristics here called content types, are statistically traceable with explorative factor analysis. This statistical approach requires variables on an interval scale level. Hence, all of the priorly identified typical picture components for which this was possible were recoded accordingly. Nevertheless, explorative factor analysis turned out not to be suitable for identifying content types: While the adjoint component matrix shows nine different factors, none of the factors explains variability for more than two variables exclusively. Hence, in order to make predictions on combinations of typical picture characteristics, correlations between single categories will be used.

Component Matrix[a]

	Component								
	1	2	3	4	5	6	7	8	9
naturalness_of_surroundings						,491			
weekday									,767
size_of_gallery_posting					,563				
format_numerological									
number_of_tags_in_picture						,454			
advertisement_declaration					,473	,439			
caption_length	,634								
emojis	,508				,504				
hashtags_number	,554						-,408		
visibility_of_body		-,509	-,416						
closeness		,491	,536						
one_vs_multiple_dominant_colors						-,479			
leftside_body_orientation				,752					
aboveness_perspective									
brightness		,450							
saturation							,453		
number_individuals	,449	-,442	,603						
number_of_present_faces	,469	-,462	,597						
expression_of_happiness									
commercial_purpose_recognizability		,423							
leftside_face_orientation				,738					
movement_in_pose								-,529	

Extraction Method: Principal Component Analysis.
a. 9 components extracted.

9.2 Correlation matrix

Picture characteristics occurring in correlating manner were identified by analyzing a bivariate correlation matrix. All correlations significant at a level of ,000 and with a correlation coefficient of 0,3 (which expresses a relatively strong relation) or higher will be stated below.

Number of followers

The number of followers correlated positively with the number of likes (,824**) and comments (, 308**). Also, the average number of likes and comments for one an account's 15 analyzed postings were related positively (,876** and ,602**, respectively). However, relative posting assertiveness sank with rising follower numbers (or vice versa; ,-,345**). The same held true for the number of hashtags: The higher the follower number, the less hashtags were used (-,320**). No significant correlation higher than ,3 was observable between the follower number and the actual picture content. However, the number of individuals and present faces, expression of happiness, recognizability of commercial purpose, movement in the pose, visibility of body, and „aboveness" of perspective showed low positive correlations with the number of followers.

Followee number

The followee number showed no positive correlations higher than ,3 with any other variable. Lower positive correlations existed between followee number and the total number of postings (,295**) and account posting frequency (,169**), suggesting that accounts that are generally more active in terms of postings are also active in terms of following more accounts.

Likes

The number of likes, without the effect of audience size being cancelled out, was positively related not only to number of followers (,824**), but also the number of galleries (,437**) and videos (, 334**) per account, and the number of comments (,402**). Picture content variables only showed correlations with likes that were lower than ,3.

Likes per follower

The number of likes per follower showed no major (> ,3**) correlations with any other measured variables. However, the index was correlated positively with the number of followers (,227**), number of dominant colors (,136**), number of shown individuals (,225**) and faces (,172**) and movement in pose (,088**). Several negative correlations offer conclusive implications, too: Likes per follower were lower for higher followee numbers (-,152**), account posting frequency (-, 103**), caption length (-,105**), number of hashtags (-,195**) and picture brightness (-,151**). Since all of these variables' values rank higher for business accounts' postings, lower numbers of likes per followers may stem from the business source of postings. However, businesses may try to post less, with shorter captions, less hashtags, and less bright pictures in order to improve their engagement outcome.

Comments

Generally, the number of comments was higher if an account posted more videos (,402**), a picture expressed happiness (,377**), the commercial purpose was clearly recognizable (,377**), and if the account posted much on Sundays (,512**) and Saturdays (,512**). Hence, in order to improve engagement in terms of comments, Instagrammers may generally post more videos, show happier faces, clarify commercial intents, and post more on the weekends.

Relative posting assertiveness

The relative assertiveness of a posting was significantly lower if the account posting frequency (-, 362**) and audience size category were high (-,345**). These findings suggest while the number of likes grow exponentially, not linearly, with higher follower numbers, the assertiveness of postings decreases. A positive relation was found with the number of tags in picture (,315**). Weaker, but

significant correlations were found between relative posting assertiveness and left-side body orientation (,132**), advertisement declarations (,168**), caption length (,113**), number of emojis (,130**), and account's postings on Tuesdays (,113**), suggesting that all these factors may benefit the engagement with an account's postings.

Relative account assertiveness

The overall relative engagement with an account was higher if the number (-,391**) and frequency (-,487) of issued postings was low and there was less commerciality recognizable (,423**). Account assertiveness rose for accounts frequently posting on Sundays (,353**) and decreased for many Saturday postings (-,334).

Total number of issued postings

The number of already issued postings, was positively related with the account posting frequency (, 648**). Further, there was a positive relation between total postings number and of recognizability of commercial purpose found (,359**), suggesting that accounts with a higher degree of obvious commerciality (business accounts or accounts posting pictures declared as advertisements) issue more postings or vice versa. With a rising number of already issued postings, the relative account assertiveness index sank (-,391**).

Account posting frequency

As pointed out above, account posting frequency and the total number of already issued postings showed a strong relation. Accounts with higher obviousness of their commercial intent appeared to post more frequently (,361**) or vice versa. Relative posting (-,362) and account assertiveness (-, 487) sank with rising posting frequency. Accounts posting very frequently showed a tendency to post more on Thursdays (,306) and less on Sundays (-,378**).

Weekday of posting

If scaled from 1 for Monday and 7 for Sunday, the weekday of posting showed no correlations with any picture content variables. A higher number fo postings on Sundays issued by an account resulted in higher account assertiveness (,353**), suggesting beneficial effects of frequently posting on Sundays for the engagement with an account. On the other hand, many Saturday postings were related negatively with account assertiveness (-,334**).

Gallery postings

The size of a gallery postings showed a positive correlation with the number of galleries issued by the posting account (,392), suggesting that if accounts posted many gallery postings, they also included a higher number of pictures in those. The number of gallery postings an account issued

was further positively correlated with the number of followers (,358**), suggesting that either accounts with more followers posted more galleries or vice versa.

Videos per account

Posting a higher number of videos (measured on account level) was correlated positively with the numbers of followers (,379**) and likes (,334**), but not with any relative engagement indices.

Tags in picture

The number of tags in picture rose along with the number of pictured individuals (,261**) and the relative posting (,315**) and account (,374**) indices. The latter two correlations suggest that more tags in a picture may have a beneficial impact on the quality of engagement with both postings and accounts.

Caption length, emojis and hashtags

The longer the caption, the more emojis (,350**) and hashtags (,486**) were being used. Further, the number of hashtags and emojis correlated positively (,176**), suggesting that if a lot of the one was used in a caption, a lot of the other was used, too. As stated before, the number of used hashtags correlated negatively with the number of followers (-,320**), suggesting that spare use may benefit accounts.

„Unnaturalness" of surroundings

The variable „unnaturalness of surroundings" was computed to measure the degree to which a pictured individual was shown in a natural setting (e.g. in nature, at a beach) versus in an unnatural background like a studio. The naturalness of surroundings was positively related to closeness: If an individual was shown in a studio similar settings, close-up shots were more likely (-325**). Consequently, visibility of body (-,348**) was negatively correlated. The same held true for the movement shown in a pose: If pictured in studios, individuals more likely to lay or sit (-,345**).

Number of dominant colors

A higher number of dominant colors in a picture showed no major (> ,3**) correlations with any of the other measured variables. However, there were smaller correlations traceable with the likes per follower (,136**), color saturation (,185**), number of individuals (,158**) and present faces (, 188**) as well as the expression of happiness (,145**).

Saturation

Like the number of dominant colors, picture saturation showed no major correlations with any other variables. Smaller correlations became apparent with picture brightness (,223**), number of present

faces (,121**), expression of happiness (,181**), recognizability of commercial purpose (,181**; suggesting that businesses and frequently advertising influencers use more colorful pictures).

Brightness

If scaling account types with 1 for influencer and 5 for business accounts, brightness showed a positive correlation (,322**), attesting, again, that business account have a tendency to pose lighter pictures.

Number of individuals

The number of pictured individuals correlated positively with the visibility of body (,381**), number of present faces (,645**) and movement in pose (,350**). Smaller relations became apparent with the expression of happiness (,241**) and likes per follower (,225**), confirming overall beneficial effects of showing individuals in pictures.

Visibility of body

When more parts of the body were visible, individuals were rather pictured in unnatural settings (, 348**), from a shorter distance (-,457**) and from below (,386**). Further, if more of a body was visible, there was a tendency to a higher number of individuals (,381**) or faces (,571**) in the picture. Further, with higher body visibility, there was higher movement in the poses (,691**) and expression of happiness (,496**) apparent.

Movement in pose

The lowest scaling in terms of movement in pose was attributed to individuals pictured lying, then sitting, standing, walking, and finally showing other movements like jumping. Higher movement was associated with more expressions of happiness (,447**). Further, there were relations with the pictured number of individuals (,350**) and faces (,446**) as well as naturalness of setting (, 345**).

Distance and perspective

As already elaborated, proximity was positively associated with unnatural studio settings (,325**) and negatively with the visibility of a body (-,457**). If a picture was taken from an above perspective, there were rather less bodies (-,386**), faces (-,311**), and movement in pose (-, 402**) visible.

Number of faces

If one or more faces were shown in a picture, these postings showed a strong tendency to express happiness (,601**) or show moving individuals (,446**). Weaker relations became apparent between the number of faces and dominant colors (,188**) as well as saturation (,121**), the likes

per followers (,172**), number of followers (,103**) and likes (,154**), suggesting overall beneficial effect of face presence on engagement.

Expression of happiness

As already pointed out, expression of happiness strongly correlated with body visibility (,496**), number of present faces (,601**) and movement in pose (,447**). Weaker, but conclusive relations were found between happiness expression and followers (,139**), likes (,204**) and comments (, 120**), suggesting overall beneficial effects of faces expressing happiness on engagement.

Left-side orientation of face and body

The left-side orientation of face and body showed a high positive correlation (,616**), suggesting that if a body was positioned left-sidedly, also the left side of a face would be visible and vice versa. Left-side orientation showed no other correlations higher than ,3** with any of the other measured variables. However, there were smaller significant correlations between left-side orientation of face and follower number (,108**) and likes (,149**). Left-side orientation of the body was positively associated with relative posting assertiveness (,132**; α = ,002) and relative account assertiveness (,199**; α = ,005), suggesting an overall benefits of left-side orientation.

Recognizability of commercial purpose

The degree to which the commercial purpose was obvious was scaled from 0 (no commercial intent apparent) over 3 (commercial intent not clear), 4 for (influencer declaring posting as an advertisement) until 5 for business accounts' obviously commercially motivated postings. Positive relations between this variable and the total number of postings (,359**), posting frequency (, 361**), and more postings on Saturdays (,360**) were found. Further, there was a negative relation with the relative account assertiveness (-,423**).

10 Catalogue of content types

Explorative factor analysis has proven not to be suitable for identifying frequently used content types in the data set. Since most of the variables describing Instagram pictures were of naturally nominal character, correlation analysis is only suitable to describe the content types to a limited degree. However, the insights gained through in-depth analysis of single variables, their impact on engagement, and their correlations with each other can be used to describe frequently used picture combinations: The mere elaboration of a detailed code book capturing typical Instagram posting features already poses a major contribution for recognizing frequent picture characteristics.

Defining and refining the variable „setting“ has brought forward the typical context types pictures for Instagram postings are regularly being taken in: The variable documented the surroundings a picture had been taken in.

Among all analyzed postings, most pictures had been staged near a building, but without a visible „street scene“ showing other individuals, stores or cars.[3] The second biggest share of pictures was taken with a room in the background (personal belongings visible). Postings showing a street scene as a background followed third in terms of frequency. The mean of followers were highest for accounts posting pictures staged in a studio, at a festival or beach. Highest means of likes were generated by pictures taken in a studio that had a recognizable room as a background (no personal belongings visible), pictures taken at a beach, such taken at a festival and shots in front of a plain studio background. However, such photos that were staged at a restaurant resulted in most comments, followed by postings situated at a festival or in a studio room. The highest means likes per follower resulted from postings staged in a studio room, at a beach, in a plain studio, or at a festival. This suggests that Instagrammers with a high follower count, who, as elaborated above, also receive more likes relative to their audience size, tend to post pictures staged in a studio or at the beach. A crosstable of account size categories and settings supports this assumption. If the comment weighing is adjusted and the audience size is cancelled out, a different picture emerges: Relative posting assertiveness was highest for restaurant pictures, plain indoor shots and outdoor street scene shot. All in all, it can be concluded that staging Instagram pictures in a studio or beach may result in the most beneficial outcome.

setting											
quantity (N)		**followers**		**likes (mean)**		**comments (mean)**		**relative posting assertiveness**		**likes per follower**	
outdoor: building surroundings	161	studio: room	1793587,47	studio: room	53513,87	restaurant	858	restaurant	0,1789	studio: room	0,043367
indoor: room	122	studio: plain	1136708,1	outdoor: beach	44705,42	outdoor: festival	375,61	indoor: plain	0,1678	studio: plain	0,037423
outdoor: street scene	116	outdoor: festival	1072434,22	outdoor: festival	39867,83	studio: room	345,6	outdoor: street scene	0,1246	outdoor: beach	0,036019
outdoor: nature	75	outdoor: beach	1072230,22	studio: plain	26800,31	portrait	317,86	outdoor: building surroundings	0,1162	outdoor: street scene	0,033374
exceptional	69	outdoor: city view	1032561,86	exceptional	21341,12	outdoor: beach	263,64	indoor: room	0,1025	restaurant	0,032395
outdoor: beach	55	outdoor: nature	787640,64	portrait	21238,14	outdoor: nature	224,25	outdoor: nature	0,0953	indoor: plain	0,031659
studio: plain	42	portrait	786418,43	outdoor: nature	19538,2	outdoor: city view	197,86	portrait	0,0875	outdoor: festival	0,030803
indoor: plain	24	exceptional	674243,54	outdoor: city view	16715,14	outdoor: building surroundings	190,59	outdoor: beach	0,086	outdoor: nature	0,027962
outdoor: festival	23	restaurant	606609,12	restaurant	15310,76	exceptional	182,75	outdoor: city view	0,0795	indoor: room	0,02704
restaurant	17	outdoor: building surroundings	531300,86	outdoor: street scene	15177,47	outdoor: street scene	173,49	outdoor: festival	0,0773	outdoor: building surroundings	0,025704
studio: room	15	food picture	491599,86	indoor: room	12949,38	studio: plain	150,4	exceptional	0,0654	food picture	0,022104
graphic	10	outdoor: street scene	459242,59	outdoor: building surroundings	12040,7	indoor: room	131,09	studio: room	0,0395	exceptional	0,021917
portrait	7	indoor: room	457253,43	indoor: plain	7841,13	indoor: plain	79,75	studio: plain	0,0379	portrait	0,020381
outdoor: city view	7	graphic	415634,5	food picture	4645,29	food picture	62,71	food picture	0,0293	graphic	0,010372
food picture	7	indoor: plain	392893,08	graphic	1875,4	graphic	20	graphic	0,0279	outdoor: city view	0,010182

audience_size_category * setting Crosstabulation

Count

		setting															
		exceptional	food picture	graphic	indoor: plain	indoor: room	outdoor: beach	outdoor: building surroundings	outdoor: city view	outdoor: festival	outdoor: nature	outdoor: street scene	portrait	restaurant	studio: plain	studio: room	Total
audience_size_category	10000	5	0	1	8	48	4	23	1	0	6	29	0	3	7	0	135
	50000	2	2	1	0	14	14	22	0	0	9	4	0	3	3	1	75
	100000	27	3	4	9	25	2	60	2	5	11	46	2	4	9	1	210
	500000	22	1	4	6	20	23	29	0	7	34	25	3	4	12	5	195
	1000000	13	1	0	1	15	12	27	4	11	15	12	2	3	11	8	135
Total		69	7	10	24	122	55	161	7	23	75	116	7	17	42	15	750

[3] This setting was named „outdoor building surroundings“.

The use of settings was compared between influencer and business accounts for the ten most frequently used settings. Influencers and businesses used outdoor building surroundings as a backdrop almost equally often. A plain indoor setting, ranking second in terms of relative posting assertiveness, was used by influencers more often. Outdoor street scene were chosen as a shooting location by influencers in 10,1 % more of cases. Businesses may profit from the relatively high engagement with this setting type (see table above). The same holds true for the outdoor beach setting. On the other hand, influencers may profit from shooting in front of a plain studio background: The setting ranked second in terms of likes per follower, but was used by influencers in only 3,3 % of cases as compared to 12,8 % of cases by businesses.
In the paragraphs below, other picture characteristics that typically accompany the most frequently occurring setting types will be elaborated in order to describe the mostly used content types. Due to the nominal scale level of most variables, crosstables were used for this purpose.

10.1 Outdoor: Building surroundings

Influencer accounts posted more pictures of the outdoor: building surroundings content type than business accounts. Brand accounts were the most frequently occurring tags in such pictures. The variation in caption length was high. 26 % of building surrounding picture captions contained a simple notion, questions were asked in 14,3 %, the audience was referred to in 17,4 %, narrations occurred in 37,6 %, users were tagged in 13,7 %, and brands referred to in 26 %. The main part of pictures of this content type showed individuals fully (37,8 %) or almost fully (21,7 %, together 59,7 %). If the body was partly cropped out of the picture, in a fifth of cases the body was visible until the knees. Most often, individuals were shown from medium proximity (62,1 %) or up close (24,8 %, together 62,35 %) and from a frontal perspective (73 %). Exactly one person was in the foreground in almost three thirds of building surrounding pictures (72 %). Generally, there was exactly one individual present in 80,1 % of cases and one face in 72 %. In 13,7 % of cases, the individual's eyes were covered with sunglasses. The faces, which were mostly shown frontally and without a head tilt, showed a neutral expression in almost 79 % of cases. More than two thirds of pictured individuals did not look into the camera. Interactions with others of any kind were observable seldom. Typically, the pictured individuals were standing and pictured frontally. The most frequent arm gestures were one arm up, the other one down or both hands down. Clothing was mostly modest (65,5 %) for the described content type. Brightness and saturation levels 4 occurred

most frequent. Two to three dominant colors were visible in 73,3 % of pictures. Among these, white (occurring in 54,7 % of pictures), black (33,5 %), blue and brown (27,3 % each) were visible most often. 24,8 % of building surrounding postings were declared as advertisements. Like in general, a verbal declaration positioned at the beginning of a caption was used for this purpose most often. Brand logos were rather not shown. In half of the building surroundings pictures, no commercial purpose was recognizable, 20,4 % stemmed from business accounts, and 17,4 % had a clearly recognizable commercial intent.

10.2 Indoor: Room

More indoor: room content type pictures were issued by influencer accounts compared to businesses. 70,8 % of captions were up to three sentences long, containing rather few emojis and hashtags, quite often a simple notion (41,6 %), rarely questions (8,3 %), audience or brand references and narrations in one third of all cases each. In more than half (62,5 %) of indoor: room postings, the pictured individuals' bodies were shown fully or almost fully. If the body was partly cropped, it was most times visible until the knees. Like in general, one person was the most frequently occurring foreground; exactly one individual was shown in 75 % of cases. Typically, these individuals were sitting and positioned facing the camera (frontal) with either one arm up and one down or both arms down. The (in 70,8 % of cases) one pictured face was mostly oriented frontally and showed a light smile. In half of all cases, the individual's head was tilted, most frequently slightly to the right side. In slightly more than half of the pictures taken in the indoor: room setting, no individual looking into the camera was shown. Typically, the pictured individuals were clothed relatively modest. Interactions with others occurred in no case. Also, no males or animals were shown. Most of indoor: room shots were taken from up close and a frontal perspective. Both brightness and saturation mostly ranked at level 4. 70,8 % of the indoor: room content type postings showed two dominant colors, most frequently those were white and blue. The featured products were mostly not visible, but declared in caption. Brand logos were visible in 4,2 % of cases. A commercial background was clearly recognizable for the biggest share of indoor: room postings. Half of the pictures taken in a room showing personal belongings were declared as advertisements in their caption.

10.3 Outdoor: Street Scene

Outdoor: street scene pictures were posted by influencer accounts more frequently than by businesses. Most of the postings of this content type were issued on Wednesdays. In 16,4 % of cases, Instagrammers tagged their own accounts in outdoor: street scene pictures. Other persons were tagged in 8,6 % of cases, one or more brands in 32,8 %, and third pages in 10,3 %. 65,5 % of captions were one to thee sentences long and in almost half of captions, one or two emojis occurred. Simple notions and narrations filled the captions most often, accompanied by (most often, in 30,1 % of cases) five hashtags. Most individuals were shown fully. In a quarter of postings, however, major parts of the pictured bodies were cropped out. In 82,8 % of cases, exactly one individual was pictured, being the foreground in 74,1 %. The pictured individuals were mostly standing and pictured frontally, with one arm up and one down or both arms down. Exactly one face was shown in 64,7 % of pictures, often with the eyes covered by sunglasses and some times with the head tilted slightly left (5,2 %, most frequent tilt variation). Most faces were shown frontally and with a neutral expression, not looking into the camera. The main featured product were clothes, with individuals being dressed in a modest way, showing off brand logos in only 8,6 % of cases. Mostly, pictures were taken from medium distance and from slightly below, or from above. Brightness and saturation levels mostly ranked at 4, with a tendency towards less lightened and saturated pictures. Most often, three dominant colors were visible in outdoor: street scene postings. These were predominately white (57,7 %), black, or blue (29,3 % each). For more than a half of postings of this content type, no commercial purpose became apparent (56,3 %). Less than one quarter of postings were declared as advertisements. If so, this was done exclusively verbally in the caption either at the end or in the beginning.

10.4 Outdoor: Nature

Businesses used nature settings for their posts more often than influencers. Brands and own accounts were tagged most frequently in such pictures. While 25,3 % of analyzed outdoor: nature postings were issued by business accounts, a commercial purpose was recognizable in 28,6 % of all others. With one third, the biggest stake of caption consisted of two or three sentences. Exactly one emoji occurred in the biggest stake of captions (25,33 %). About one third of captions each had simple notions, narrations, or brand references in them. The most frequent number of hashtags was

five. Full visibility of a body and only parts visible (3 on a body visibility scale from 0 to 5) were most frequent (28 % of pictures each). If bodies were partly cropped, in most cases they were visible until the hip. Individuals were generally dressed mainly in modest outfits or such only revealing arms and legs. Exactly one individual was pictured in 73,3 % of cases, most often standing, with a frontal body orientation, and one arm held up, the other one down. One single face was pictured in 64 % of outdoor: nature postings, in 25,3 % of cases frontally and in 17,3 % showing the left side of the face. Most often, individuals had not tilted their heads, showed a neutral facial expression, and did not look into the camera. Medium proximity and a frontal perspective were chosen for most photographs. Most frequently, the brightness of outdoor: nature pictures was ranked at 4, however, 25,3 % of pictures were very bright (level 5). Saturation was mainly classified as 4. 80 % of all analyzed pictures taken in a nature context showed two or three dominant colors in them. These colors were mostly white (visible in 65,3 % of pictures), black (37,3 %) and blue (26,7 %).[4] One person was the central foreground element in 63,7 % of pictures. In roughly half of outdoor: nature content type postings, a product, most often clothes, was centrally featured. Slightly more than a quarter of postings of this content type were declared as advertisements.

10.5 Outdoor: Beach

The share of outdoor: beach postings issued by influencer and brand accounts was almost equally big. Influencers' own accounts and brands were the most frequently occurring picture tags. Half of captions under such postings were one to three sentences long. Most frequently, one emoji and five hashtags were used in them and often, simple notions were made or something narrated. The pictured individuals' bodies (exactly one was pictured in 74,5 % of cases) were most times visible fully, or, if not, cropped at the knees. Frontal body position while standing or sitting, with one arm up and one down, was most frequent. Typically, exactly one face was visible (41,3 % of cases), pictured from the front or with the left side visible, with a neutral expression and without a head tilt. More than half of outdoor: beach pictures showed an individual looking straight into the camera. Despite the beach surroundings, the biggest share of individuals wore modest clothing in the photos. Brand logos were visible in only 7,2 % of cases. Medium distance, frontal perspective and brightness as well as saturation at level 4 were typical. In 87,3 % of pictures, two or three dominant colors were visible. Most often, these were blue, and white or black. In less than a fifth of cases,

[4] Green was noted as a dominant colors in only 13,3 % of cases. Nature setting was not only defined trees and plants as surroundings, but also deserts, for example.

outdoor: beach postings were declared as advertisements. In 45,5 % of cases, the postings were either issued by business accounts or of clearly commercial background. While 56,4 % of postings featured no particular product, clothes and jewelry were mostly advertised.

10.6 Studio: Plain

Influencers issued pictures of the content type studio: plain more often than business accounts. Brands and the respective photographer were the most frequent tags. 64,3 % of captions were one to three sentences long, frequently featuring one or two emojis, three or five hashtags, brand references, and simple notions. Pictured bodies were fully visible in 42,9 % of cases (78,6 % showed exactly one person). If not, the picture was usually cropped at the individual's knees, decolletee, or hip. The photographed bodies were typically pictured standing and with a frontal body orientation, holding one arm up and one down. In 38,1 % of pictures, individuals wore revealing outfits or such showing arms and legs. The, in 76,2 % of cases exactly one, faces mostly showed a neutral expression, being pictured frontally and without a head tilt, looking into the camera. Medium distance, frontal perspective, and saturation as well as brightness levels of 4 were typical. 46,7 % of the postings showed two or three dominant colors, mostly white, blue, pink and green. Individuals were in the picture foreground in 76,2 % of cases. In case products were centrally featured (54,8 % of pictures), these were clothes in 56,5 % of cases, most times without showing brand logos. Plain studio content type pictures were declared as advertisements in 58,3 % of cases. A commercial purpose was recognizable in only 53,4 % of cases.

10.7 Use of content types by influencer and business accounts

The adjoint table shows that for business accounts most frequently posted pictures of the content type indoor: plain while influencers most frequently chose outdoor: building surrounding pictures. Outdoor: building surrounding ranked second in terms of frequency for business accounts and outdoor: street scene for influencers. Third were outdoor: street scene for businesses and indoor: plain for influencers.

use of content types		
	business accounts	influencer accounts
outdoor: building surroundings	18,89 %	22,28 %
indoor: room	2,78 %	3,33 %
outdoor: street scene	14,44 %	15,79 %
outdoor: nature	10,56 %	9,82 %
outdoor: beach	7,22 %	7,37 %
studio: plain	5,00 %	5,79 %
indoor: plain	22,22 %	14,39 %
outdoor: festival	2,22 %	3,33 %
restaurant	2,78 %	2,11 %
studio: room	3,33 %	1,58 %
other settings	10,56 %	14,21 %

IV The Match-Up of Communication Theory and Instagram Practice

The chapters above have served to identify and describe picture characteristics frequently visible in Instagram postings and has summed up frequent combinations of such as content types. Not only elaborating typical picture characteristics is a main goal of the present research work, but also investigating whether the observed characteristic impacts are in compliance with what communication science suggests. The objective of the following paragraphs is to find answers to research question 2:

> *RQ2: To what extent is existing communication theory applicable to the practice of Instagram marketing with respect to content types?*

The introductory, theoretical part of this paper has elaborated an insight into the state of art of communication science and aimed at gathering notions that can be consulted for investigating the match-up between existing communication scientific findings and the data collected within this study. While cited notions oftentimes describe effects of certain factors on something else than engagement, here, it is the objective to test the potential of these factors to (also) trigger engagement.

11 Applying communication scientific notions on Instagram marketing

The following paragraphs roughly follow the structure of part II, while solidifying and systemizing the cited notions and concepts. In order to provide a structure as clear as possible, the results regarding hypothesis testing will be presented right after the introduction of the variable itself.

11.1 The Instagram algorithm and engagement with content types

Chapter 1 has given an insight into the modes of operation the Instagram algorithm follows, controlling the visibility of postings by influencers and businesses. Visibility or exposure is the main variable mediating effects the outcome of interest, which is engagement. The fact that information on the Instagram algorithm's exact modes of operation are scarce and that there is no exact information on the varying exposure of postings available is a grave limitation to the present investigation. However, both influencers and marketing professionals have to exert their practice without such deeper knowledge on visibility. Hence, the following paragraphs constitute a valuable contribution.

It is of interest if prior high engagement with postings positively influences, mediated by higher visibility, the engagement with later postings. An increasing engagement curve is suggested:

H1a: The higher the engagement with earlier postings, the higher the engagement with later postings.

This assumption is supported by the notion that visibility is partly determined by prior engagement with similar content. (Lua 2018) The analyzed postings of an account were numbered, starting at the „oldest" posting being examined. This number of postings has a weak positive relation to likes per follower ($r = ,084$; $\alpha = 0,021$), but no significant correlations with the assertiveness indices. While the found correlation attests growing numbers of likes for the analyzed accounts over time, a clear assessment of variable H1b can not be given.

With its algorithm, Instagram intends to display content to the user he or she is interested in. The length of the time span a user looks at a posting is considered as an indicator of such interest. (Constine 2018) Hence, it is assumed that postings in portrait format, which gain longer screen time when scrolling through one's feed, and gallery postings, which take more time to swipe through, can achieve higher visibility, and hence, engagement:

H1b: Portrait posting format and engagement are positively related.

H1c: Gallery posting format and engagement are positively related.

The upright rectangular portrait format was the most chosen one, followed by square and horizontal pictures. Mean comparison shows the highest values for horizontal pictures; however, the

significance of these values is questionable since one 1,9 % of the analyzed pictures were formatted horizontally. Portrait format pictures outperformed square pictures by far, ranking higher in terms of likes per follower (0,029154 > 0,020762), relative posting assertiveness (0,1056 > 0,0590) and relative account assertiveness (0,1044 > 0,0682). Hence, H1b can be seen as confirmed. The size of a gallery posting had no significant correlations with the measured relative outcome variables. Hence, H1c can not be confirmed. Timeliness of a posting has been stated as a determinant of visibility. (Instagram 2016) Time has also been cited as a contextual feature triggering engagement in general. (Jaakonmäki/Müller/vom Brocke 2017) While it poses a limitation to the present investigation that the exact time a posting was issued cannot be detected, following Jaakonmäki, Müller, and vom Brocke, (2017) effects of the weekday of posting can be assumed:

Correlations

		size_of_gallery_posting	likes_per_follower	relative_posting_assertiveness	relative_account_assertiveness
size_of_gallery_posting	Pearson Correlation	1	-,033	-,036	-,040
	Sig. (2-tailed)		,365	,321	,270
	N	750	750	750	750

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

H1d: The weekday a posting was issued is related to the engagement with it.

ANOVA attested no significant relations between engagement and the weekday of posting. However, the highest means of the measured outcome variables were found for Wednesdays and Mondays. Nevertheless, H1d could not be confirmed.

11.2 The posting caption as a determinant of engagement

In the course of elaborating a theoretical base for the present investigation, several notions pointed to a potential relevance of a posting's caption for the engagement with a posting. Text content has been stated to be a determinant of engagement (Jaakonmäki/Müller/vom Brocke 2017) Posting captions are relevant with respect to their engaging potential, (through question or other statements) allowing for verbal reference to the audience and therefore serving as an indicator of sociability (see 2.3.2) In a caption, it is possible to point to the newness of a featured item. Newness is relevant as it is an antecedent of word of mouth processes. (Oetting 2009; Holms/Lett 1977; Feng/Yang 2015) Further, the caption provides a way to offer encouragement or show satisfaction with a product, which also are antecedents of WOM. (Arenas-Gaitán/Rondan-Cataluña/Ramírez-Correa 2018; Feng/Yang 2015) The same accounts for the active recruitment of others. Subsuming all possible effects captions may have on the engagement with postings of certain content types, H2 states:

H2: The caption of a posting is related to the engagement with it.

Caption length was negatively correlated to likes per follower (r = -,105; α = ,000), but positively related to both relative posting (r= ,113; α = ,002) and account assertiveness (r = ,091; α = 0,013), suggesting that longer captions do not lead to a higher quantity of engagement, but higher quality of it. The various caption components (discussed priorly) did not show any major relations to engagement. Nevertheless, the significant correlations of caption length to engagement support H2.

11.3 Influencers versus businesses on Instagram

The practice of influencer marketing has emerged from the notion that consumers find advertising disruptive and intrusive, (Cauberghe/de Veirman/Hudders 2017) resulting in rising reactance towards messages with a commercial intent. (Kim et al. 2001; Burkart/Kratky/Stalzer 2004) For companies, Instagram offers the possibility to connect with their potential customer base in an entertaining, informative, but also persuasive way that is minimally invasive. (Adegbola/Gearhart/ Skarda-Mitchell 2018, p. 232; Bóveda-Lambie/Hair 2012) Nevertheless, postings issued by company accounts obviously have a commercial intent. It has been shown that content concealing its commercial nature achieves higher involvement than such from biased sources. (Kim et al. 2001; Burkart/Kratky/Stalzer 2004) Influencer postings, on the other hand, may benefit from an unclear relationship to the sponsoring brand. (Evans/Jun/Phua/Lim 2017) Hence, it is hypothesized that influencer postings and accounts generate higher engagement as compared to company accounts:

H3a: The engagement with influencer accounts exceeds the performance of company Instagram accounts.

Mean

account_type	likes_per_follower	relative_posting_assertiveness	relative_account_assertiveness
business account	,024968	,0163	,0163
influencer account	,030032	,1260	,1260
Total	,028817	,0997	,0997

Mean comparison shows that influencer accounts outperform business accounts with respect to all measured outcome variables, confirming H3a. The superiority of influencers compared to businesses on Instagram allows drawing parallels to opinion leader theory: In the „Peoples' Choice" study, a higher impact of opinion leaders as compared to mass media was found. (Lazarsfeld/Berelson/ Gaudet 1968) Information received through consumers – or what is similar to them – has a stronger impact than traditional advertising. (Clark/Goldsmith 2008) In a time flooded with commercial messages, are brands the new mass media and influencers what is perceived as peers? The relation

between follower number and mean engagement outcome already elaborated above gives an answer to this question: With a bigger audience size, influencers exponentially gain quantitative engagement, while losing in terms of engagement quality. Higher effects and credibility can rather attributed to accounts with a smaller audience. Nevertheless, various factors have a potential to boost companies' performance on Instagram: Providing content that is valuable, informative, entertaining, remunerative and relational to the user are antecedents of engagement. (Malthouse/ Haenlein/Skiera/Wege/Zhang 2013; Conduit/Dolan/Fahy/Goodman 2016) These factors, summed up as audience orientation of Instagram business content, are hypothesized to have a positive effect on engagement:

H3b: The higher the audience orientation, the higher the engagement.

Audience orientation was defined as the existence of questions, direct audience references, or narrations within the caption. ANOVA did not attest any significant impact of these three variables on the engagement with business accounts. Hence, H3a can not be confirmed.

11.4 Advertisement declarations

The negative effects of commercial source disclosure on acceptance by the audience, information elaboration, credibility, (which has been shown to be central success determinant in the context of product advocates, see Ohanian 1990; 1991) perceived relevance, (Kim et al. 2001; Burkart/Kratky/ Stalzer 2004) and willingness to interact with said content often been cited. Such negative effect s were also found for advertisement disclosure language. (Evans/Jun/Phua/Lim 2017; Friestad/Wright 1994) Subtlety of commercial character of content has been proposed as a preventor of audience reactance. (Adegbola/Gearhart/Skarda-Mitchell 2018; Bóveda-Lambie/Hair 2012) The high persuasive power of influencers can partly be traced to their interweaving commercial messages into content (Cauberghe/de Veirman/Hudders 2017) On Instagram, commercial sources can be disclosed either through the respective advertisement tag, or respective words or hashtags in the caption. Hence, the hypotheses 4 a-c suggest negative effects of all of these types of advertisement disclosers.

H4a: Use of the advertisement tag provided by Instagram results in less engagement.

H4b: Use of advertisement discloser hashtags results in less engagement.

H4c: Use of advertisement discloser language in the caption results in less engagement.

However, ANOVA did not attest any significant impacts of the three types of advertisement disclosures on engagement. On the contrary, the mean values of engagement indices were higher for pictures disclosing a commercial background: H4 a - c could not be confirmed.

Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
advertisement_tag	likes_per_follower	,001	1	,001	,764	,382	,001
	relative_posting_assertiveness	,029	1	,029	1,268	,260	,002
	relative_account_assertiveness	,032	1	,032	2,543	,111	,003
ad_hashtag	likes_per_follower	,001	1	,001	1,491	,222	,002
	relative_posting_assertiveness	,017	1	,017	,726	,395	,001
	relative_account_assertiveness	,016	1	,016	1,246	,265	,002
ad_in_caption	likes_per_follower	5,232E-5	1	5,232E-5	,074	,786	,000
	relative_posting_assertiveness	,010	1	,010	,424	,515	,001
	relative_account_assertiveness	,008	1	,008	,649	,421	,001

Mean

advertisement_declaration	likes_per_follower	relative_posting_assertiveness	relative_account_assertiveness
no advertisement declaration	,028038	,0836	,0865
advertisement declaration existent	,030874	,1420	,1344
Total	,028817	,0997	,0997

Contrasting with the aforementioned findings suggesting a negative impact of advertisement declarations, positive effects of the presence of multiple brand-related elements (company product and logo) on audience engagement have been found. Logos have even been proposed as the ultimate drivers of engagement. (Adegbola/Gearhart/Skarda-Mitchell 2018) The inclusion of a logo has also been noted as a way for businesses on instagram to enhance their engagement rates. (Instagram Business 2019) Hence, H4d suggests:

H4d: The presence of logos increases the engagement with a posting.

Pictures showing a brand logo proved to achieve higher means of likes per follower, but lower means in terms of posting assertiveness. However, ANOVA did not attest significance of the impact of brand logo presence. Hence, H4d can not be confirmed.

11.5 Account characteristics and engagement

Creator-related characteristics are an important antecedent of engagement. (Jaakonmäki/Müller/vom Brocke 2017) However, is not the static, but the dynamic physical properties of influencers which are of interest in the present investigation. While body language and facial expression will be discussed in a later chapter, this segment focuses on the properties of influencers' Instagram accounts and their impact on engagement.

11.5.1 Audience size and engagement

The effects of an account's audience size on the engagement with it have been discussed controversially. On the one hand, in their conceptualization as opinion leaders, influencers are being

described as focal points of interpersonal communication streams with an above-average number of social contacts. (Müller 1970) Further, audience size serves to reflects an Instagrammer's popularity, opinion leadership and likability. (Cauberghe/de Veirman/Hudders 2017) However, the industry practice of working with micro-influencers (with smaller audience sizes) (Akbarpour 2018) and the notion that a big audience size negatively impacts uniqueness as perceived by the audience (Cauberghe/de Veirman/Hudders 2017) point to possible negative effects of big audiences on engagement. Weaker effects of promotions by influencers with high numbers of followers have been found. (Bearden/Hunter/Tian 2001) Hence, H5a investigates the effect of audience size on engagement, suggesting lower relative engagement for accounts with bigger audience sizes.

H5a: The bigger an account's audience, the lower the overall relative engagement with it.

H5b: The bigger an account's audience, the lower the overall relative engagement with its postings.

Correlation analysis shows that with a bigger audience size, also the number of likes per follower rises, suggesting that the likes per follower curve grows exponentially, not linearly.

Correlations

		followers	likes_per_follower	relative_posting_assertiveness	relative_account_assertiveness
followers	Pearson Correlation	1	,227**	-,210**	-,282**
	Sig. (2-tailed)		,000	,000	,000

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

However, follower number and the assertiveness indices are correlated negatively, showing that with a bigger audience size, the quality of engagement sinks. Since engagement quality is crucial for the effectiveness of advertisings, lower follower numbers are likely to achieve better results. Hence, H5a and b can be seen as confirmed.

11.5.2 Accounts' communication behavior and engagement

11.5.2.1 Sociability

The literature on opinion leaders describes them not only as focal points of communication streams, but also individuals with above-average communicative behavior and sociability. Personal relationships are an important gratification dimension attainable through media use. (Blumler/ Brown/McQuail 1972; McQuail 1983) Both participation and relationship quality have been shown to be antecedents of word of mouth processes. (Oetting 2009; File/Judd/Prince 1992) Account sociability was already discussed in the context of hypothesis 3a (The higher the audience

orientation, the higher the engagement). High audience orientation, as noticeable in a caption posing questions to the audience, referring to it in another way, or containing narrations, was shown not to impact the engagement with business accounts. If influencer accounts are included, however, a different picture emerges: Audience reference has significant, but minor impacts on relative posting and account assertiveness. Questions are minimally related to likes per follower. Narrations slightly impact the relative posting and account assertiveness. However, the observed effects are minor and should be re-tested within the course of future investigations. Other cues retrievable from Instagram pictures that indicate sociability are be the presence of other individuals in pictures, the tagging of other users, and visible interactions:

H5c: The more individuals there are shown in a picture, the more engagement with it.

H5d: The more individuals are tagged in a picture, the more engagement with it.

H5e: Pictured interactions have a positive effect on engagement.

The number of individuals shown in a picture showed a positive correlation ($r = ,225$; $\alpha = ,000$) with likes per follower, confirming H5c. Above, significant impacts of the number of individuals in a picture and the measured engagement outcome has already been mentioned: While most Instagram pictures show only one individual, showing more persons has proven to be beneficial to engagement.

Positive correlations were found between the relative posting ($r = ,315$; $\alpha = ,000$) and account ($r = ,374$; $\alpha = ,000$) assertiveness and the number of tags in a picture, supporting H5d and attesting more engagement to pictures with more tags in them.

Interactions were only visible in 1,7 % of pictures. Hence, no conclusive answer to H5e could be provided with the existing data set.

Cauberghe, de Veirman and Hudders (2017) were among the first to note potential impacts of the followers – followee ratio of an account. Since a higher followee number is seen as a sociability cue, it is hypothesized:

H5f: High followee numbers have a positive impact on engagement.

As already stated above, follower and followee numbers were shown to have a positive correlation ($r = ,139$; $\alpha = ,000$). However, a negative correlation was found between likes per follower and followee number ($r = -,152$; $\alpha = ,000$), contradicting H5f. Hence, despite the positive relation with

the follower number, H5f can not be confirmed since a negative impact on the engagement measure likes per follower was found. The correlation coefficients for followee number and the assertiveness index bore a negative indicator, yet they were not significant.

11.5.2.2 Frequency

Opinion leaders have been described as individuals with an active communication behavior. (Müller 1970) More specifically, participating with high frequency and being an active member of the online community have also been noted as an (online) opinion leader characteristic (De Paula-Pessôa/Hor-Meyll/Leal 2014) Positive effects of frequent posting are assumed:

H5g: The more frequently an account posts, the better the engagement with it.

In the above, the positive impact of high posting frequency on engagement has already been elaborated: Since the posting frequency measure decreases with a higher number of days within which 15 postings have been issued, the negative correlations with engagement measures illustrate a positive relationship between frequency and engagement. Hence, H5g is confirmed.

Correlations

		likes_per_follower	relative_posting_assertiveness	relative_account_assertiveness	account_posting_frequency
account_posting_frequency	Pearson Correlation	-,103**	-,362**	-,487**	1
	Sig. (2-tailed)	,005	,000	,000	
	N	750	750	750	750

*. Correlation is significant at the 0.05 level (2-tailed).
**. Correlation is significant at the 0.01 level (2-tailed).

11.5.2.3 Expertise

A central opinion leader characteristic is their tendency to give advice and try to convince others. (Lazarsfeld/Berelson/Gaudet 1968) Advice-giving is an antecedent of word of mouth processes. (Oetting 2009; Dichter 1966) Influencers tend to be seen as experts: Making substantial contributions is central an (online) opinion leader characteristic. (De Paula-Pessôa/Hor-Meyll/Leal 2014)(De Paula-Pessôa/Hor-Meyll/Leal 2014) Because expert content was shown to be 88 % more effective in creating brand lift than a brand's own content, (Nielsen 2014) influencers' perception as experts is a central point of interest for the companies working with them. The importance of perceived expertise has also been shown to be a determinant of product advocate credibility and hence success (Ohanian 1990; 1991) High interest in specific fields (Müller 1970) and the specialization on specific topics (Klapper 1973) have been noted as opinion leader characteristics pointing to a clarification of the expert concept. Additionally, relevant experience over a long period

of time has been noted as a characteristic of experts, (Newman 2014) with relevance of an account's overall number of postings. (Jaakonmäki/Müller/vom Brocke 2017) Hence, a positive effect of an account's overall number of postings is assumed:

H5h: The higher the number of an account's overall postings, the higher the engagement with it.

However, significant negative correlations between the total number of postings issued by an account and the assertiveness indices have been found, contradicting H5h. (r = -,291 for posting assertiveness, r= -,391 for account assertiveness; α = ,000) However, there was a positive relation found between the total number of postings and the follower number (r = ,193; α = ,000), pointing to beneficial effects of long practice.

11.5.3 Perception of person and engagement

How a media persona is being perceived by its audience is highly relevant in terms of para-social interaction and relationships as well as identification with media figures. High levels of para-social interaction occur due to relatability and likability of a media persona. (Bilandzic/Matthes/Schramm 2015) From a marketing perspective, it is highly relevant if an individual is perceived as credible and trustworthy. (Ohanian 1990; 1991) Hence, the effects of cues potentially resulting in such a beneficial audience perception will be tested for:

H5i: Cues triggering a beneficial audience perception result in higher engagement with a posting.

Cues leading to a positive perception by the audience were defined as expressions of happiness, direct looks into the camera, and a body and face orientation directed towards the viewer (frontal). The variable expression of happiness did not correlate significantly with the measured outcome variables. Looks into the camera were found to be positively related with likes per follower (r = , 095; α = ,000), but negatively with relative account assertiveness (r= -,077; α = ,000). No significant relations were found between frontal body and face orientation and engagement. Due to a lack of conclusive correlations implicating beneficial effects of the defined triggers of a positive audience perception, H5i can not be seen as confirmed.

11.6 Picture and editing style as engagement determinants

The use of high-quality photos is recommended in order to support business goals. (Instagram Business 2019) Generally speaking, however, photography in social media marketing is related with higher engagement, no matter if the images were produced be amateurs or professionals. (Adegbola/Gearhart/Skarda-Mitchell 2018)

11.6.1 Colors

Picture and editing style of a posting are particularly important with respect to the constructs of activation and involvement: Activation is viewed both as a component and antecedent of engagement itself and as the basis of involvement, which is another antecedent of engagement (Trommsdorff 2008; Brodie/Glynn/Hollebeek 2014; Gröppel-Klein/Kröber-Riel 2013) Hence, cues triggering high activation are of central relevance at this point. Berlyne (1975) notes brightness and saturation as intensive stimuli triggering engagement. Beneficial effects of high lightness have also been noted elsewhere. However, in the context of Instagram postings, such images with muted colors and just one instead of multiple dominant colors have been shown to result in more likes. (Lowry 2013) Hence, the hypotheses H 7a-c suggest beneficial effects of high lightness, but muted and few dominant colors.

H7a: The brighter an image, the higher the engagement with it.

H7b: The more muted the colors in a picture, the higher the engagement with it.

H7c: The fewer dominant colors in a picture, the higher the engagement with it.

A negative correlation between brightness and likes per follower ($r = -,151$; $\alpha = ,000$) falsified H7a: Picture brightness and engagement do not correlate linearly. At the same time, the comparison of means of the measured outcome variables and brightness attribution had shown the highest mean engagement (in terms of mean number of comments and relative posting assertiveness) for pictures with brightness grade 4. While H7a can not be confirmed, these findings suggest that a well, but not overly lighted pictures results in the most beneficial outcome. No significant correlations were found between the relative engagement indices and saturation. The number of dominant colors

visible in a picture showed a positive relation to likes per follower, (r = ,136; α = ,000) confirming H7c.

11.7.2 Crop and perspective

A potential beneficial effect of pictures in portrait format has been discussed above. Further, the way a picture is cropped and from what perspective it was taken will be considered. Spatial distance is a determinant of the perception of media figures (Bilandzic/Matthes/Schramm 2015) This points to the relevance of the way an individual's body is pictured: Potential effects of whether a person is shown from up close (portrait) or from higher spatial distance (whole body) will be investigated.

H7d: The way an individual's body is shown versus cropped in a picture impacts the engagement with it.

ANOVA did not bring forward any significant effects of the picture crop on the measured outcome variables: Body visibility had already been shown not to have any major impacts on engagement in the descriptive chapter above. Hence, H7d could not be confirmed.
Further, literature points to a potential relevance of the perspective a picture is taken from:

H7e: The perspective from which an image was taken impacts the engagement with it.

ANOVA showed a small impact of the perspective on the number of likes per follower, confirming H7e. The highest mean in likes per follower was attested to pictures from slightly above.

11.8 Escapism versus envy: Content types displaying extraordinary situations

The chapters 2.3.2.2 (social comparison and identification with media figures) and 2.3.2.3 (envy versus escapism) addressed the question whether postings displaying situations that are unattainable to audience members result in higher or lower engagement: On the one hand, distraction, diversion and escapism have been stated as an audience gratification attainable through media. (Blumler/ Brown/McQuail 1972; McQuail 1983) On the other hand, such situations transporting escapist content or unattainable situations (from the audience perspective) have been related to envy, (Chae 2018) possibly resulting in avoiding behavior by the audience and hence, less engagement: Upward

comparisons, with media personas, can be dysfunctional for audience members in the sense that the individuals' self-esteem is negatively impacted by an unreachable standard. (Bilandzic/Matthes/ Schramm 2015) However, as compared to celebrities, influencers are viewed as more accessible, credible, intimate and relatable. (Cauberghe/de Veirman/Hudders 2017; Abidin 2016) However, influencers are a way for audience members to channel wishes and self-image: Often, media personas that are para-socially interacted with convey personal traits recipients would like to have themselves, symbolizing an ideal self-image. (Bilandzic/Matthes/Schramm 2015) Due to the fact that Instagram audience members voluntarily expose themselves to viewing such unattainable content, a positive relation between the display of situations with escapist potential and engagement is assumed:

H8: The display of escapist situations results in higher engagement.

The picturing of a beach scene poses the classic example of an escapist picture. ANOVA showed that the allegiance to this content type did not significantly impact engagement, leaving H8 unconfirmed.

11.9 Situation display and engagement

The priorly posed question whether the display of extraordinary situations leads to more or less engagement points to the next aspect: Does the display of certain situations result in specific engagement behavior? Specific situational characteristics (Gröppel-Klein/Kröber-Riel 2013) and context-related features have been listed as a determinant of engagement, with the location being such a feature. (Jaakonmäki/Müller/vom Brocke 2017) For example, nature as a context has been noted to be a positive affective stimulus, triggering high engagement. (Berlyne 1974) Hence, a relationship between the displayed situation (in general) and engagement is hypothesized:

H9: The situational context of a posting is related to the engagement with it.

ANOVA showed significant impacts of the situational context on the measured outcome variables, confirming H9.

11.10 Objects and engagement

Objects have high relevance as non-verbal communication cues. This relevance applies for objects belonging to the appearance and in the personal use of a communicator as well as such he or she uses in interaction processes. Further, the stimuli surrounding a communicator are of relevance. (Weinberg 1986) Hence, effects of such objects that have been identified to occur frequently in Instagram postings will be tested for:

H10a: The objects pictured in an Instagram posting impact the engagement with it.

The manifestation of the variable „used object“ showed only a minimal impact on likes per follower. Hence, H10a can not be seen as confirmed.

11.10.1 The arrangement of objects

Symmetrical stimuli have been described to be processed more easily by individuals (Jones/Little 2003; Wilkinson/Wilson 2002) and result in higher brain activity. (Knutsen/Sasaki/Tootell/Tyler/ Vanduffel 2005) In contrast, marketing dramaturgist Christian Mikunda notes that in order to appear balanced, a picture can bear more elements on the right side of the visual. (Mikunda 2018) Hence, the effects of symmetrical versus asymmetrical arrangement of objects in an Instagram posting will be tested for:

H10b: The symmetry of objects in an Instagram posting impacts the engagement with it.

As already mentioned above, the symmetry of objects in Instagram pictures was hardly documentable. No significant impacts of objects symmetry on engagement were found, leaving H10b unconfirmed.

11.10.2 Impacts of the featured product

The inclusion of products has been recommended to companies active on Instagram in order to support business goals. (Instagram Business 2019) While the literature on advertisement disclosures points to negative effects of obviously commercial sources, (Kim et al. 2001; Burkart/Kratky/ Stalzer 2004; Evan/Jun/Phua/Lim 2017) the findings do not remain consistent when it comes to branded elements within the picture: The combined presence of brand-related products and logos

have been shown to have a positive impact on engagement. (Adegbola/Gearhart/Skarda-Mitchell 2018) Product involvement is a primary driver of word of mouth. (Mita/Sundaram/Webster 1998) The personal relevance of a subject is also an important determinant of how intensively information is being processed. (Petty/Cacioppo 1984; 1986) Hence, because of differing personal relevance of such objects to audience members, a differing impact of different items prominently featured in Instagram postings is assumed: Product involvement is a determinant of engagement. (Gröppel-Klein/Kröber-Riel 2013)

H10c: The item prominently featured in an Instagram posting impacts the engagement with it.

Indeed, ANOVA showed significant relations between the variable „featured product“ and the measured outcome variables, confirming H10c.

Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
featured_product	likes_per_follower	,038	16	,002	3,548	,000	,072
	relative_posting_assertiveness	1,253	16	,078	3,434	,000	,070
	relative_account_assertiveness	,934	16	,058	4,742	,000	,094

a. R Squared = ,072 (Adjusted R Squared = ,052)
b. R Squared = ,070 (Adjusted R Squared = ,049)
c. R Squared = ,094 (Adjusted R Squared = ,074)

11.11 Engaging body language

Non-verbal messages have been proven to be triggers of favorable consumer responses (Ebster/ Pauser/Wagner 2018; Graham/Hecker/Stewart 1987; Leigh/Summers 2002; Wood 2006) and charismatic nonverbal communication as „the ability to modulate nonverbal behavior to enhance client engagement“. (Heide 2013, p. 305) Hence, the effects of typical body postures, as identified in the process of defining a catalogue of content types frequently used for Instagram postings, will be tested for. For example, an upright body posture has been mentioned as a trigger of perceived confidence, (Cooper 2009) potentially resulting in beneficial reactions.

H11a: The body posture of pictured individuals impacts the engagement with a posting.

However, ANOVA showed that impacts of general pose and even body orientation on engagement were not significant, leaving H11a unconfirmed. With respect to body language, more specifically, effects of arm gesture symmetry have been proven, with beneficial effects of symmetrical gestures in low-gesture cultures and beneficial effects of asymmetrical gestures in high-gesture cultures. (Merhabian 1969; Ebster/Pauser/Wagner 2018; Cui 2017) Hence, effects of arm gesture symmetry will be checked for:

H11b: The arm gesture symmetry of pictured individuals impacts the engagement with a posting.

ANOVA showed only minor relations between arm gestures and likes per followers, allowing for no conclusive clarification of H11b.

11.12 Faces, emotions, and engagement

Dynamic facial cues are perception and hence interaction determinants. (Brewer 1988; Fiske/ Neuberg 1990; Flake/Freeman/Hehman 2015) The effects of faces, especially as transmitters of emotional impressions, are of central relevance for the present investigation.

11.12.1 Faces and facial expression

The mere presence of faces has been shown to increase the engagement with Instagram postings. (Bakhshi/Gilbert/Shamma 2014) Literature points to especially high effects if the left side of the face is shown. (Lindell 2018) Further, eye contact (in the present contact understood as looking into the camera) has been shown to have beneficial effects. (Weinberg 1986; Coombs/Holladay 1994) Hence, the following hypotheses ask for potential effects of these factors:

H12a: The presence of faces positively impacts the engagement with postings.

H12b: Left side face orientation positively impacts the engagement with postings.

H12c: A look into the camera positively impacts the engagement with postings.

A positive relation could be confirmed between the number of present faces and likes per follower ($r = ,172$; $\alpha = ,000$), confirming H12a and resembling the findings on overall presence of individuals.

There were no correlations found between the left-sidedness of face orientation and engagement outcome; however, mean comparison of face orientation variants and engagement variable means had shown that left-side orientations ranked highest in terms of mean generated engagement (see 8.6.2). Because ANOVA showed that face orientation had no significant impact on the engagement measures, H12b can, nevertheless, not be seen as confirmed.

ANOVA showed a small, but significant relations between looks into the camera and engagement measures. A comparison in means of outcome variables substantiates effects of whether a pictured individual looks into the camera or not, confirming H12c.

11.12.2 The impact of emotions

The relevance of emotional processes for the investigation of engagement has been noted from various perspectives. Brodie, Glynn and Hollebeek (2014) are among those pointing to the emotional nature of engagement. The involving potential of emotion both as an antecedent of engagement (Brodie/Glynn/Hollebeek 2014; Gröppel-Klein/Kröber-Riel 2013) and a trigger of word of mouth (Derbaix/Vanhamme 2003; Westbrook 1987; Oetting 2009) is a central variable to consider at this point. Keeping in mind that Instagram content is oftentimes processed in a peripheral way of cognition, (Cauberghe/de Veirman/Hudders 2017) recipients' mood becomes relevant as a determinant of how intensively information is being processed. (Petty/Cacioppo 1984; 1986) In the context of emotional processes, literature on mirror neurons has been cited. The notion that individuals tend to „mirror" the emotions of others (i.a. Keysers 2011; Arbib 2012; Pascual-Leone/Théoret 2002; Blakeslee 2006) substantiates the assumption that emotions as shown in Instagram pictures emotionally affect viewers, with positive emotions shown resulting in positive reactions. Images with strong emotional impact have been stated to result in especially positive reactions (Suler 2008; Lindell 2018) Hence, a stronger effect of a light display of positive emotion (e.g. a gentle smile) as compared to a display of more intensive emotion (e.g. an open-mouthed laugh) is expected.

H12d: The more intensive a positive emotion as shown in an Instagram posting, the higher the engagement.

Correlations between the degree to which happiness was expressed in a picture and relative engagement indices were not significant.

Correlations

		followers	likes	comments	relative_posting_assertiveness	likes_per_follower	expression_of_happiness
expression_of_happiness	Pearson Correlation	,139**	,204**	,120**	,055	,049	1
	Sig. (2-tailed)	,000	,000	,001	,130	,181	
	N	750	750	750	750	750	750

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Significant relations were only found between expression of happiness and followers, likes, and comments; the latter two correlations are influenced by the first. Because facial expression happiness could not be related to engagement relative to audience size, H12d remains unconfirmed.

V Concluding remarks

12 Discussion of results

12.1 Summary: Posting characteristics leading to high engagement

The table below shows the manifestations of each measured variable which ranked highest in terms of means of the measured outcome variables.

	engagement									
	followers		likes (mean)		comments (mean)		relative posting assertiveness		likes per follower	
posting frequency	0,68	3666787	0,68	125205,15	1	1040,27	0,79	0,5143	0,68	0,09322
settings	studio: room	1793587,47	studio: room	53513,87	restaurant	858,00	restaurant	0,1789	studio: room	0,043367
weekday of posting	Wednesday	22842,54	Wednesday	22842,54	Thursday	274,40	Monday	0,1185	Wednesday	0,031815
picture format	horizontal	1119098,29	horizontal	38947,29	portrait	221,76	portrait	0,1056	horizontal	0,064468
perspective	frontal	717000,79	frontal	11130,57	frontal	231,47	slightly above	0,1274	slightly above	0,035632
caption length in sentences	< 1	1077468,52	< 1	38268,72	0	279,58	4 + +	0,1610	0	0,044483
brightness	1	1556138,33	3	30829,23	4	238,48	4	0,1169	3	0,042333
saturation	1	3884996,20	1	139815,44	1	841,40	4	0,1047	1	0,076894
dominant colors	multiple colors	1062722,27	multiple colors	41456,55	pink	424,00	yellow/orange	0,1462	multiple colors	0,043981
number of present individuals	5	1957994,00	10	105000,00	5	292,00	10	0,3252	10	0,029477
distance	far	814580,17	relativley far	21982,05	far	229,42	medium	0,1091	far away	0,047398
visibility of body	3	812588,48	3	26577,19	4	313,42	5	0,1071	5	0,030665
body posture	kneeling / squatting	1732985,09	kneeling / squatting	77678,18	kneeling / squatting	360,82	walking	0,1071	kneeling / squatting	0,036057
body orientation	turned left	950555,40	slightly turned left	33770,08	slightly turned left	346,00	slightly turned left	0,1556	turned right	0,033635
arm gestures	other	2123605,92	other	77104,68	holding something	616,65	holding something	0,1796	other	0,050457
gesture symmetry	symmetrical	685850,46	asymmetrical	21104,09	asymmetrical	256,15	asymmetrical	0,1121	asymmetrical	0,029852
clothing style	naked	2466834,8	naked	92260,80	revealing outfit	470,07	modest outfit	0,1203	naked	0,063823
number of present faces	three faces visible	1031017,6	four or more faces	33256,00	one face	255,39	four or more faces	0,1431	four or more faces	0,075580
face orientation	slightly left	1109479,33	profile left	43735,55	slightly left	325,71	slightly left	0,1883	slightly left	0,036211
head tilt	slightly right	1348566,08	slightly right	43154,21	slightly right	565,63	no tilt	0,6605	tilted up	0,038088
facial expression	laugh	921980,43	laugh	38715,79	light smile	297,66	serious	0,3185	serious	0,068268
look into camera	looking into camera	935916,76	looking into camera	28288,32	looking into camera	271,99	not looking into camera	0,1051	looking into camera	0,032650
advertisement declaration	declared as advertisement	881946,49	declared as advertisement	25743,89	declared as advertisement	300,87	declared as advertisement	0,1420	declared as advertisement	0,030874
recognizability of commercial purpose	commercial purpose clearly recognizable	939632,07	commercial purpose clearly recognizable	26676,81	commercial purpose clearly recognizable	350,76	not clear	0,1472	no commercial purpose recognizable	0,032368
featured product	not visible; declared in caption	3666787,00	not visible; declared in caption	138000,00	cosmetics / make up / perfume	803,30	cosmetics / make up / perfume	0,2224	not visible; declared in caption	0,101452

brand logo	no logo visible	676265,55	no logo visible	19799,31	no logo visible	211,70	no logo visible	0,1004	logo visible	0,030345

In summary, the results suggest that a bigger audience size does have a positive impact on engagement, even when cancelling out the follower number. That the effect of follower number on likes is high, but not 1 confirms that the follower count is not the only influencing factor determining the number of likes and engagement. Low mean number of likes per follower illustrate impacts of the limited visibility of Instagram postings restricted by the Instagram algorithm, but also that not every seeing a post or following an account may engage with the content. All in all, Wednesday, Tuesday and the weekend days appeared to be the best day to issue postings and achieve engagement with them. While the beneficial outcome of horizontally formatted pictures may stem from their strikingness due to abnormality (only 1,7 % of the analyzed postings were in horizontal format), portrait format was clearly superior to square format. Pictures taken from slightly above resulted in the highest average of likes per follower, such taken from a frontal perspective ranked second and shots from slightly below third, suggesting that in general, shots taken from a relatively frontal perspective but with a tendency towards above may be most beneficial. Further, gallery postings appeared to be beneficial for the engagement outcome. Caption length did not have a positive impact on the measured outcome metrics. Concerning the caption's content, it appeared that when cancelling out follower numbers, users tags, questions and narrations in the caption may have beneficial effects. Direct reference to the audience appears to be especially useful in order to generate comments. Paradoxically, hashtags, a tool for enlarging visibility, were shown to decrease engagement. On the other hand, emoji use was not shown to have major impacts. Correlations between brightness and saturation grade and engagement were little conclusive. All in all, the results suggest that high brightness is not beneficial to the outcome whereas muted colors are. Most often, only one individual was shown in a picture. However, more than one present person resulted in higher engagement. To what degree a body was shown was not attested to have any major impacts. Left-side body orientation was proven to have beneficial effects, where as arm gesture symmetry was not. Accounts may benefit from individuals holding products. Individual's clothing style had a significant impact on the engagement with postings, with the degree to which an outfit was revealing skin increasing the outcome measures. As already shown with regard to present individuals, the presence of faces had an equally positive effect. Again, left-side orientation lead to the most beneficial engagement outcomes. The effects of facial expressions were not clear. In general, beneficial effects of a straight look into the camera have been shown. Telling from the analysis of the respective data, advertisement labels did not have a negative impact on engagement, suggesting that Instagram may be perceived and also accepted as a platform containing a big stake

of commercial content. However, lower engagement with business compared to influencer accounts proved that Instagrammers are nevertheless more willing to interact with what is closer to be a peer.

12.3 Main differences between influencer and business accounts

The adjoint table shows the most frequently occurring variable manifestations for both influencer and business accounts. In case the most frequently used variant differs between the account types, the manifestation performing better in terms of engagement relative to audience size is marked bold. The comparison shows that theoretically, businesses work with the better functioning variants, using higher posting frequency, no geotags, plain backgrounds instead of buildings, and individuals with both arms held down. Nevertheless, influencer accounts generally outperform business accounts: All means of engagement measures cancelling out the follower number ranked higher for influencer accounts compared to business accounts, attesting a general preference of Instagram users to engage with influencer content.

	most frequent use	
	influencer accounts	business accounts
posting frequency	1,07	**1,88**
settings	building surroundings	building surroundings
weekday of posting	Tuesday	**Saturday**
videos per account	0	0
galleries per account	1	0
picture format	portrait	portrait
geotags	existing	**not existing**
number of tags in picture	0	0
advertisement declaration	not existent	not existent
caption length	**one full sentence**	two to three sentences
number of used emojis	1	**0**
number of hashtags	**0**	5
visibility of body	full body	full body
picture crop	full body	full body
distance	medium	medium
perspective	frontal	frontal
brightness	4	4
saturation	4	4
number of dominant colors	3	3
background	building	**plain**
foreground	person	person
number of individuals in picture	1	1
interactions with others	none	none
general pose	standing	standing
body orientation	frontal	frontal
arm gestures	one up one down	**both down**
symmetry of gestures	symmetrical	symmetrical
number of present faces	one face visible	one face visible
notes on face	none	none
face orientation	frontal	frontal
head tilt	no head tilt	no head tilt
facial expression	neutral expression	neutral expression
look into camera	no look into camera	no look into camera
featured product	**none**	clothes
clothing style	modest	modest
brand logo	no logo visible	no logo visible
used object	none	none
commercial purpose recognizable	none	(business account)

Mean

account_type	likes_per_follower	relative_posting_assertiveness	relative_account_assertiveness
business account	,024968	,0163	,0163
influencer account	,030032	,1260	,1260
Total	,028817	,0997	,0997

12.2 Communication science's applicability on Instagram marketing practice

Three main observations determined the data collection, analysis, and the match-up with with existing scientific literature. First of all, the respective literature did not provide many specific visual cues already related to the described abstract phenomena. While, for example, the concept of opinion leadership is well elaborated on an abstract level, there were no concrete and manifest marks for identifying such individuals named, leading to the next problem: The present investigation aimed at examining the match-up between science and practice, but for that matter, scientific statements had to be operationalized within the same investigation, possibly leading to a distorted interpretation of the underlying literature. Within these operationalizations on a concrete level lies a main contribution of the present research work to the state of science: In the course of the elaboration of a code book for analyzing Instagram postings, sets of typical picture characteristics have been compiled. While their measured impacts on the engagement outcome remained little in most cases, the frequency of their occurrence provides an insight into the common practice. The conducted mean comparisons further deliver conclusive implications about which variable manifestations may benefit the engagement with postings and accounts.

Second, analyzing the variance depending on manifestation of nominal variables describing the pictures did seldom point to any major impacts. While the reasons for such little striking findings may lie within the sampling and data collection, this may also demonstrate that compared to influencer characteristics, picture components have less impact on Instagram marketing outcome. Therefore, future investigations may take the code book elaborated here as a basis and further include a set of variables describing the person an Instagram account is centered on.

Third and finally, the biggest stake of hypotheses was left unconfirmed, suggesting that there is indeed a gap between what communication science suggests and what holds true in the practice of Instagram marketing. Based on the observations made in the course of the present investigation, several possible reasons for this emerge, building a bridge to what has been said in the first point above.

In conclusion, it can be said that the present research work has made it clear that there is a gap between communication science and Instagram marketing practice, which becomes visible in the observation that while the statements in scientific literature often remain on an abstract level, Instagram practice is centered around concrete manifestations. The lacking applicability of what science suggests and concrete characteristics, as found in pictures, can hardly be connected. A scientific discipline revolving around and involving ever-present issues like social media needs to focus more one specification. If the subject of a social science is present in individuals' lives daily,

the scientific outcome can not remain on an abstract level. While the present paper has already provided a big contribution, future research projects may expand the directly applicable literature.

13 Limitations

Several limitations set the validity of the described findings into perspective. The limitations mainly concern the variables and code book as well as the sample. The set of variables whose manifestations have been included in the data set were developed partly based on a literature review and partly based on analyzing a first part of the examination material. While this method allowed the refinement of a well-applicable code book, several possibly important variables could not be included: For an exact assessment of the engagement with a posting depending on its content type, the exact time of posting and information on whether the posting was sponsored or not would have been necessary, especially since a strong impact of posting timeliness has been stated. (Jaakonmäki/ Müller/vom Brocke 2017) Also, not all indicators for engagement could be measured: There was no possibility given to observe shares, saves, and direct messages based on a posting. No creator-related characteristics have been included as influencing variables. Future investigations may compare the influence such creator characteristics have compared to the picture content. While there was no specific information on the posting individuals collected, there was also no information on the viewers of the content available. Hence, for example personal preferences of the audience can not be tested. Future qualitative research may focus on identifying picture characteristics popular among audience members through qualitative interrogations.

The assertiveness indices developed to measure the assertiveness of postings and accounts attributed higher importance to comments as compared to likes; more in-depth engagement was assumed when a picture was commented on more. However, future investigations may focus on developing and testing these indices. A main advantage of these is that they apply a factor for comment weighing which is specific for the analyzed sample. However, the index likes per follower has proven to be more easily applicable. An unweighted operationalization approach has been followed by Adegebola, Gearhart and Skarda-Mitchell in their 2018 investigation. Their engagement score summed up the number of likes and comments, each divided by the number of the account's followers. (Adegbola/Gearthart/Skarda-Mitchell 2018) With the index likes per follower, a similar approach was followed. Due to the underlying assumption that comments point

to higher quality engagement, the unweighted number of comments has not been included in this index.

In order to cancel out personal influences from the side of the researcher, the tool likeometer was used in order to sample accounts for analysis. Nevertheless, it is not completely clear which accounts appear on likeometer and which not. Hence, the representative nature of the sample can be doubted. Further, the representative nature is limited due to the number of sampled accounts and analyzed postings. The conducted analysis constitutes a mixture of qualitative and quantitative data collection. However, it is hardly possible to create a data set representative for the vast numbers of Instagram postings issued every day. Because only one researcher collected the data, effects of subjective view are possible. For example, the brightness and saturation grades on the scales from 0 to 5 might be assessed differently other researchers. Nevertheless, the present investigation has generated contributions useful to both marketing professionals and influencers:

VI An investigation on prevalent content types and the applicability of science on Instagram practice

What initiated the present investigation was the assumption that influencers – as former laypeople when it comes to marketing – may, independently from communication science, have developed a specific conduct resulting in beneficial engagement with their postings. Hence, a number of influencer and, in order to be able to draw comparisons, business accounts' postings were comprehensively documented and analyzed for their content. The outcome of this investigation is an elaborated set of variables for describing Instagram postings and conclusions drawn from the collected data, clarifying both which picture elements may benefit engagement and whether communication scientific notions constitute a helpful tool for such intends. Consequently, the chapters above provide numerous implications for the conduct of Instagram marketing both by professionals on the company side and by influencers, allowing insights into what exact picture components may result in a beneficial outcome. Furthermore, the demonstration of a deficient match-up between communication science and Instagram marketing practice points to the fact that industry professionals' own investigation efforts (e.g. to decipher the Instagram algorithm) are

expedient and important. The elaboration of the code book developed for picture analysis provides a contribution to such efforts and the analysis of frequency and impact of single picture characteristics enables a substantiated assessment of what pictures may perform best for both marketing professionals on the business and on the influencer side. Future research may take the elaborated code book criteria and engagement indices as a basis for both qualitative or quantitative approaches. The present research project followed a partly quantitatively documenting, partly explorative approach. While the initial investigative path was followed, flexibility in the search for findings stayed necessary. Most importantly, like it has been claimed above in the context of the, often too abstract, communication science itself, also the term set in the focus of the present investigation needs to be broken down to level as concrete and specific as possible: Indeed, there were content types in Instagram marketing found in the course of this investigation. However, additional picture characteristics did not occur with them exclusively. A consultation of the findings elaborated above makes it possible for both influencers and marketing professionals to enrich their Instagram marketing content in a way creating the optimal content type based on their resources and aimed at their goals.

VII Sources

Abelson, R.P./ Rosenberg, M.J. (1960): An Analysis of Cognitive Balancing. In: Hovland, C./ Rosenberg, M.J. (1960) (Eds.): Attitude Organization and Change. New Haven. Pp. 112 - 163.

Abidin, C. (2016): Visibility labour: Engaging with influencers' fashion brands and #OOTD advertorial campaigns on Instagram. In: Media International Australia 161, No. 1. Pp. 86–100.

Adamo-Villani, N./ Cui, J./ Duggan, K./ Friedman, H./ Popescu, V./ Wagner Cook, S. (2017): Animation Stimuli System for Research on Instructor Gestures in Education. In: IEEE Computer Graphics and Applications 37 (4). Pp. 72 - 83.

Adegbola, O./ Gearhart, S./ Skarda-Mitchell, J. (2018): Using Instagram to Engage with (Potential) Consumers: A Study of Forbes Most Valuable Brands' Use of Instagram. In: The Journal of Social Media in Society Vol. 7/2018. Pp. 232 - 251.

Akbarpour, S. (2018): Understanding The Difference Between Influence Marketing And Influencer Marketing. In: Forbes. Via URL: https://www.forbes.com/sites/forbesagencycouncil/2018/09/10/understanding-the-difference-between-influence-marketing-and-influencer-marketing/#7e702a6d418c [29.03.2019]

Albright, L./ Kenny, D. (1987): Accuracy in interpersonal perception: A social relations analysis. In: Psychological Bulletin, 102. Pp. 390 - 402.

Angriawan, A./ Summey, J. H. / Thakur, R. (2016): Technological opinion leadership: The role of personal innovativeness, gadget love, and technological innovativeness. In: Journal of Business Research, 69(8). Pp. 2764 - 2773.

Aragoncillo, L./ Orús, C. (2018): Impulse buying behaviour: An online-offline comparative and the impact of social media. In: Spanish Journal of Marketing-ESIC, 22(1). Pp. 42 - 62.

Arbib, M. (2012): How the Brain Got Language: The Mirror System Hypothesis. Oxford University Press, Oxford.

Arenas-Gaitán, J./ Rondan-Cataluña, F.J./ Ramírez-Correa, P.E. (2018): Antecedents of WOM: SNS-user segmentation. In: Journal of Research in Interactive Marketing, Vol. 12 Issue: 1. Pp.105-124.

Baird, C./ Parasnis, G. (2011): From social media to social customer relationship management. In: Strategy & Leadership, 39. Pp. 30 - 37.

Bakhshi, S./ Gilbert, E./ Kennedy, L./ Shamma, D. A. (2015): Why We Filter Our Photos and How It Impacts Engagement. In: Proceedings of the Ninth International Conference on Web and Social Media, AAAI, Oxford. Pp. 12 - 21.

Bakhshi, S./ Gilbert, E./ Shamma, D. A. (2014): Faces engage us: Photos with faces attract more likes and comments on Instagram. In: CHI '14 Proceedings of the SIGCHI Conference on Human Factors in Computing Systems. Pp. 965 - 974. Via URL: https://dl.acm.org/citation.cfm?doid=2556288.2557403 [15.03.2019]

Baron, P./ Corbin, L. (2012): Student engagement: Rhetoric and reality. In: Higher Education Research & Development, 31. Pp. 759 - 772.

Batson, C./ Decety, J./ Lamm, C. (2007): The neural substrate of human empathy: effects of perspective-taking and cognitive appraisal. In: Journal of Cognitive Neuroscience 19 (1). Pp. 42 - 58.

Bayón, T./ Wangenheim, F. (2007): The Chain from Customer Satisfaction via Word-of-Mouth Referrals to New Customer Acquisition. In: Journal of the Academy of Marketing Science, 35 (2). Pp. 233 - 49.

Bearden, W.O./ Hunter, G.L./ Tian, K. (2001): Consumers' need for uniqueness: Scale development and validation. In: Journal of Consumer Research 28. Pp. 50 - 66.

Beatty, S. E./ Morgan, R. M./ Vivek, S. D. (2012): Customer engagement: Exploring customer relationships beyond purchase. In: Journal of Marketing Theory and Practice, 20(2). Pp. 122 - 146.

Belch, M. A./ Krentler, K. A./ Willis-Flurry, L. A. (2005): Teen internet mavens: Influence in family decision making. In: Journal of Business Research, 58(5). Pp. 569 - 575.

Berlyne, D. E. (1974): Konflikt, Erregung, Neugier. Zur Psychologie der kognitiven Motivation. Klett Verlag, Stuttgart.

Berry, D. (1991): Accuracy in social perception: Contributions of facial and vocal information. In: Journal of Personality and Social Psychology, 61. Pp. 298 - 307.

Bertrandias, L./ Goldsmith, R.E (2006): Some psychological motivations for fashion opinion leadership and fashion opinion seeking. In: Journal of Fashion Marketing and Management, Vol. 10 No. 1. Pp. 25 - 40.

Bilandzic, H./ Matthes, J./ Schramm, H. (2015): Medienrezeptionsforschung. UVK Verlagsgesellschaft, Konstanz/ München.

Blackwell, R. D./ Engel, J. F./ Miniard, P. W. (1990): Consumer behavior (6th ed.). Dryden Press, Chicago.

Blackwell, R.D./ Engel, J.F./ Kegerreis, R.J. (1969): How information is used to adopt an innovation. In: Journal of Advertising Research, 9(4). Pp. 3 - 8.

Blakeslee, S. (2006): Cells That Read Minds. In: New York Times. Via URL: https://www.nytimes.com/2006/01/10/science/cells-that-read-minds.html [22.04.2019]
Blakeslee, S. (2006): Cells That Read Minds. In: New York Times. Via URL: https://www.nytimes.com/2006/01/10/science/cells-that-read-minds.html [22.04.2019]
Blumler, J./ Brown, J./ McQuail, D. (1972): The Television Audience: A Revised Perspective. In: McQuail, D. (1972) (edt.): Sociology of Mass Communication. Penguin Books, Harmondsworth. Pp. 135 - 165.
Botvinick M./ Bylsma L./ Fabian S./ Jha, A./ Prkachin K./ Solomon P. (2005): Viewing facial expressions of pain engages cortical areas involved in the direct experience of pain. In: NeuroImage. 25 (1). Pp. 312 - 319.
Bóveda-Lambie, A. M./ Hair, N. (2012): Advertising vs invertising: The influence of social media B2C efforts on consumer attitudes and brand relationships. In: Close, A.G. (edt): Online consumer behavior: Theory and research in social media, advertising and e-tail. Routledge, New York. Pp. 209 - 236.
Brewer, M. (1988): A dual process model of impression formation. In: Srull, T./ Wyer, R. (edt.): Advances in social cognition. Lawrence Erlbaum, Hillsdale, NJ. Pp. 1 - 36.
Brodie, R. J./ Hollebeek, L.D./ Ilic, A./ Juric, B./ (2011): Customer Engagement: Conceptual Domain, Fundamental Propositions & Implications for Research in Service Marketing. In: Journal of Service Research, 14(3). Pp. 252 - 71.
Brodie, R.J./ Glynn, M.S./ Hollebeek, L.D. (2014): Consumer Brand Engagement in Social Media: Conceptualization, Scale Development and Validation. In: Journal of Interactive Marketing 28 (2014). Pp. 149 - 165
Brown, D./ Hayes, N. (2008): Influencer Marketing: Who Really Influences Your Customers?Routledge, Amsterdam.
Brown, J. / Reingen, P. (1987): Social ties and word of mouth referral behavior. In: Journal of Consumer Research, 14(3). Pp. 350 - 362.
Bruce, V./ Young, A. (1998): In the eye of the beholder: The science of face perception. Oxford University Press, New York.
Burkart, R. (2002): Kommunikationswissenschaft. Grundlagen und Problemfelder. Umrisse einer interdisziplinären Sozialwissenschaft. UTB, Stuttgart. 4. Auflage.
Burkart, R./ Kratky, M./ Stalzer, L. (2004): Advertorials im Wandel: Innenansichten aus der österreichischen PR-Forschung und -Praxis. In: Baerns, B. (2004)(Eds.): Leitbilder von gestern? Zur Trennung von Werbung und Programm. VS Verlag für Sozialwissenschaften, Wiesbaden. P. 153.
Burkell, J./ Wathen, C. N. (2002): Believe it or not: Factors influencing credibility on the Web. In: Journal of the American Society for Information Science and Technology, 53(2). Pp. 134 - 144.
Buunk, A. P. / Gibbons, F. X. (2007): Social comparison: The end of a theory and the emergence of a field. In: Organizational Behavior and Human Decision Processes, 102. Pp. 3 - 21.
Cacioppo, J. /Petty, R. (1984): Source factors and the elaboration likelihood model of persuasion. Advances in Consumer Research 11/1984. Pp. 668 - 672.
Cacioppo, J./ Petty, R. (1986): The Elaboration Likelihood Model Of Persuasion. In: Berkowitz, L. (edt.): Advances in experimental social psychology. Academic Press, New York Pp. 123 - 205.
Cacioppo, J.T./ Petty, R.E. (1986): Communication and persuasion: Central and peripheral routes to attitude change. Springer-Verlag, New York.
Cameron, G.T. (1994): Does Publicity Outperform Advertising? An Experimental Test of the Third-Party Endorsement. In: Journal of public relations research 6(3)/1994. P. 186.
Cameron, G.T./ Ju-Pak, K.H./ Kim, B.H. (1996): Advertorials in magazines – current use and compliance with industry guidelines. In: J&MC Quarterly 73(3)/1996. P. 726.
Carbone, L. (2018): This is How the Instagram Algorithm Works in 2018. In: Later. Via URL: https://later.com/blog/how-instagram-algorithm-works/ [08.11.2018]
Carpenter Childers, C./ Hoy, M.G./ Lemon, L. (2018): #Sponsored #Ad: Agency Perspective on Influencer Marketing Campaigns. In: Journal of Current Issues & Research in Advertising. Via URL: https://doi.org/10.1080/10641734.2018.1521113 [27.03.2019]
Casalo, L.V./ Flavián, C./ Ibánez-Sánchez, S. (2018): Influencers on Instagram: Antecedents and consequences of opinion leadership. In: Journal of Business Research (2018). Via URL: https://www.sciencedirect.com/science/article/pii/S0148296318303187 [11.02.2019]
Cauberghe, V./ De Veirman, M./ Hudders, L. (2017): Marketing through Instagram influencers: The impact of number of followers and product divergence on brand attitude. In: International Journal of Advertising, 36(5). Pp. 798 - 828.
Cauberghe, V./ De Veirman, M./ Hudders, L. (2017): Marketing through Instagram influencers: the impact of number of followers and product divergence on brand attitude. In: International Journal of Advertising. The Review of Marketing Communications. Vol. 36 Nr. 5. Pp. 798 - 828.
Chae, J. (2018): Explaining Females' Envy Toward Social Media Influencers. In: Media Psychology 2018, Vol. 21. Pp. 246 - 262.

Chaiken, S./ Maheswaran, D. (1994): Heuristic processing can bias systematic processing: Effects of source credibility, argument ambiguity, and task importance on attitude judgment. In: Journal of Personality and Social Psychology 66, No. 3. Pp. 460 - 73.
Chartrand, T. L./ Fitzsimons, G. M./ Fitzsimons, G. J. (2008): Automatic effects of brand exposure on motivated behavior: How apple makes you “think different”. In: Journal of Consumer Research 35(1). Pp. 21 - 35.
Chattopadhyay, A./ Goldenberg, J./ Moldovan,S. (2006): What Drives Word of Mouth? The Roles of Product Originality and Usefulness. In: Marketing Science Institute Reports, 6 (2). Pp. 81 - 100.
Cheng, Y./ Decety, J./ Lee P./ Lin C./ Yang C. (2008): The perception of pain in others suppresses somatosensory oscillations: a magnetoencephalography study. In: NeuroImage. 40 (4). Pp. 1833 - 1840.
Chi, E.H./ Hong, P./ Pirolli, P./ Suh, B. (2010): Want to Be Retweeted? Large Scale Analytics on Factors Impacting Retweet in Twitter Network. In: Proceedings of the Second International Conference on Social Computing. IEEE, Minneapolis. Pp. 177 - 184.
Chu, S.C./ Kim, Y. (2011): Determinants of consumer engagement in electronic word-of-mouth (eWOM) in social networking sites. In: International Journal of Advertising, 30:1. Pp. 47 - 75.
Clark, R.A./ Goldsmith, R.E. (2008): An analysis of factors affecting fashion opinion leadership and fashion opinion seeking. In: Journal of Fashion Marketing and Management 12, No. 3. Pp. 308 - 322.
Clode, D./ Nicholls, M. E. R./ Wood, A. G./ Wood, S. J. (1999): Laterality of expression in portraiture: Putting your best cheek forward. In: Proceedings of the Royal Society B: Biological Sciences, 266. Pp. 1517 - 1522.
Cohen, J. (2009): Parasocial interaction and identification. In: Nabi, R.L./ Oliver, M.B. (edt.): The SAGE Handbook of Media Process and Effects. Sage, Thousand Oaks. Pp. 223 - 236.
Conduit, J./ Dolan, R./ Fahy, J./ Goodman, S. (2016): Social media engagement behaviour: a uses and gratifications perspective. In: Journal of Strategic Marketing, 24:3-4. Pp. 261 - 277.
Constine, J. (2018): How Instagram’s algorithm works. In: Technocrunch. Via URL: https://techcrunch.com/2018/06/01/how-instagram-feed-works/?guccounter=1 [11.02.2019]
Coombs, T./ Holladay, S. (1994): Speaking of Visions and Visions Being Spoken: An Exploration of the Effects of Content and Delivery on Perceptions of Leader Charisma. In: Management Communication Quarterly 8 (2). Pp. 165 - 89.
Cooper, B. (2019): The Science of Posture: Sitting up straight will make you happier, more confident and less risk-averse. In: Buffer. State of social 2019. Via URL: https://buffer.com/resources/improve-posture-good-posture-science-happiness [30.04.2019]
Cunnington, R./ Mattingley, J./ Molenberghs, P. (2009): Is the mirror neuron system involved in imitation? A short review and meta-analysis. In: Neuroscience and Biobehavioral Reviews 33 (7). Pp. 975 - 80.
Dal Zotto, C./ Matteo, S. (2015): Native Advertising, or How to Stretch Editorial to Sponsored Content within a Transmedia Branding Era. In: Chan-Olmsted, S.M./ Forster, K./ Ots, M./ Siegert, G. (edt.): Handbook of Media Branding. Springer International Publishing, Switzerland. Pp. 169 - 85.
De Paula Pessôa, L. A. G./ Hor-Meyll, L. F./ Leal, G. P. A./ (2014): Influence of virtual communities in purchasing decisions: The participants' perspective. In: Journal of Business Research, 67(5). Pp. 882 - 890.
De Waal, F./ Preston, S. (2002): Empathy: Its ultimate and proximate bases. In: Behavioral and Brain Sciences 25. Pp. 1 - 72.
Decety, J. (2002): Naturaliser l’empathie [Empathy naturalized]. In: L’Encéphale, 28. Pp. 9-20.
Di Pellegrino, G./ Lloyd, D./ Morrison, I./ Roberts, N. (2004): Vicarious responses to pain in anterior cingulate cortex: Is empathy a multisensory issue? In: Cognitive, Affective, & Behavioral Neuroscience. 4 (2). Pp. 270 - 278.
Dichter, E. (1966): How Word-of-Mouth Advertising Works. In: Harvard Business Review 44 (6). Pp. 147–66.
Djafarova, E./ Rushworth, C. (2017): Exploring the credibility of online celebrities' Instagram profiles in influencing the purchase decisions of young female users. In: Computers in Human Behavior, 68. Pp. 1 - 7.
Eastman, J. K./ Flynn, L. R./ Goldsmith, R. E. (1996): Opinion leaders and opinion seekers: Two new measurement scales. In: Journal of the Academy of Marketing Science, 24(2). Pp. 137 - 147.
Eastman, J.K./ Flynn, L.R./ Goldsmith, R.E. (1996): Opinion leaders and opinion seekers: two new measurement scales. In: Journal of the Academy of Marketing Science, Vol. 24 No. 2. Pp. 137 - 47.
Ebster, C./ Pauser, S./ Wagner, U. (2018): An investigation of salespeople’s nonverbal behaviors and their effect on charismatic appearance and favorable consumer responses. In: Journal of Personal Selling & Sales Management, 38:3. Pp. 344 - 369.
Eikel, C. (2018): German influencer fights back against the German competition watchdog on the rules of influencer advertising. In: Media Writes by the Media Group of Bird & Bird. Via URL: https://www.mediawrites.law/german-influencer-fights-back-against-the-german-competition-watchdog-on-the-rules-of-influencer-advertising/ [17.04.2019]
Eurich, C. (1981): Feedback. In: Koszyk, K./Pruys, H. (edt.)(1981): Handbuch der Massenkommunikation. Dtv, Munich. Pp. 5 - 57.

Evans, N. J./Jun, H./ Lim, J./Phua, J. (2017): Disclosing Instagram influencer advertising: The effects of disclosure language on advertising recognition, attitudes, and Behavioral Intent. In: Journal of Interactive Advertising, 17(2). Pp. 1 - 12.
Evans, N.J./ Wojdynski, B. W. (2016): Going Native: Effects of Disclosure Position and Language on the Recognition and Evaluation of Online Native Advertising. In: Journal of Advertising, 45 (2). Pp. 157 - 68.
Federal Trade Commission (2015): Native Advertising: A Guide for Businesses. Via URL: https://www.ftc.gov/tips-advice/business-center/ guidance/native-advertising-guide-businesses [16.04.2019]
Feng, J./ Yang, J. (2015): The Antecedents of Online Word-of-Mouth. In: Journal of Marketing Management, Vol. 3 No. 1. Pp. 1 - 20.
Festinger, L. (1954): A theory of social comparison processes. In: Human Relations 7(2). Pp. 117 - 140.
Festinger, L. (1957): A Theory of Cognitive Dissoncance. Standford University Press, Stanford.
File, K.M./ Judd, B.B./ Prince, R.A. (1992): Interactive Marketing: The Influence of Participation on Positive Word-of-Mouth and Referrals. In: Journal of Services Marketing, 6 (4). Pp. 5 - 14.
Filieri, R. (2016): What makes an online consumer review trustworthy? In: Annals of Tourism Research 58(2016. Pp. 46 - 64.
Fiske, S./ Neuberg, S. (1990): A continuum of impression formation, from category based to individuating processes: Influences of information and motivation on attention and interpretation. In: Advances in Experimental Social Psychology, 23. Pp. 1 - 74.
Flake, J./ Freeman, J./ Hehman, E. (2015): Static and Dynamic Facial Cues Differentially Affect the Consistency of Social Evaluations. In: Personality and Social Psychology Bulletin, Vol. 41(8). Pp. 1123 - 1134.
Flanagin, A.J./ Metzger, M.J. (2013): Credibility and trust of information in online environments: The use of cognitive heuristics. In: Journal of Pragmatics 59. Pp. 210 - 20.
Forsey, C. (2018): How Does the Instagram Algorithm Work? In: HubSpot. Via URL: https://blog.hubspot.com/ marketing/how-does-the-instagram-algorithm-work [11.02.2019]
Foulkes, D./ Katz, E. (1962): On the Use of the Mass Media As „Escape“: Clarification of a Concept. In: POQ Vol. 26/1962, Pp. 377 - 388.
Freberg, L./ Freberg, K./ Graham, K./ McGaughey, K. (2010): Who are the social media influencers? A study of public perceptions of personality. In: Public Relations Review 37(2011). Pp. 90 - 92.
Freedberg, D./ Gallese, V. (2007): Motion, emotion and empathy in esthetic experience. In: Trends in Cognitive Sciences 11. Pp. 197 - 203.
Frey, S./ Hirsbrunner, H.-P./ Pool, J./ Daw, W. (1981): Das Berner System zur Untersuchung nonverbaler Interaktion: I. Die Erhebung des Rohdatenprotokolls. In: Winkler, P. (edt.): Methoden der Analyse von Face-to-Face-Situationen. Stuttgart. Pp. 203 - 236.
Friestad, M. / Wright, P. (1994): The Persuasion Knowledge Model: How People Cope with Persuasion Attempts. In: Journal of Consumer Research, 21 (1). Pp. 1 - 31.
Gallese, V. (2001): The "Shared Manifold" hypothesis: from mirror neurons to empathy. In: Journal of Consciousness Studies 8. Pp. 33 - 50.
Gierl, H. (2002): Effekt des Werbeumfeldes auf die Wirkung eines Werbemittels. In: Der Markt 2002/4. Pp. 127 - 137.
Gilly, M.C./ Graham, J.L./ Wolfinbarger, M.F./ Yale, L.J. (1998): A dyadic study of interpersonal information search. In: Journal of the Academy of Marketing Science, 26(2). Pp. 83 - 100.
Globalwebindex (2015): Profiling Instagram's future on its fifth birthday. Via URL: https://blog.globalwebindex.com/ trends/profiling-instagram-s-future-on-its-fifth-birthday/ [14.01.2019]
Goldsmith, R.E. (2000): Characteristics of the heavy user of fashionable clothing. In: Journal of Marketing Theory and Practice, Vol. 8 No. 4. Pp. 1 - 9.
Gotter, A. (2018): How the Instagram Algorithm Works (And Where Your Strategy Needs to Shift). In: Shopify. Blog. Via URL: https://www.shopify.com/blog/instagram-algorithm [11.02.2019]
Graham, J./ Hecker, S./ Stewart, D. (1987): It’s More Than What You Say: Assessing the Influence of Nonverbal Communication in Marketing. In: Psychology and Marketing 4 (4). Pp. 303 - 322.
Gremler, D.D./ Gwinner, K.P./Hennig-Thurau, T./Walsh, G. (2004): Electronic word-of-mouth via consumer-opinion platforms: What motivates consumers to articulate themselves on the internet? In: Journal of Interactive Marketing 18, No. 1. Pp. 38 - 52.
Gröppel-Klein, A./ Krober-Riel, W. (2013): Konsumentenverhalten. Vahlen, München.
Hallberg, U./ Schaufeli, W. (2006): Same same but different? can work engagement be discriminated from job involvement and organizational commitment? In: European Psychologist, 11. Pp. 119 - 127.
Han, K./ Jang, J. Y./ Lee, D. (2015): No reciprocity in “liking” photos: Analyzing like activities in Instagram. In: HT ‘15 Proceedings of the 26th ACM Conference on Hypertext & Social Media. Pp. 273 - 282.
Heide, F. (2013): ’Easy to Sense But Hard to Define’: Charismatic Nonverbal Communication and the Psychotherapist. In: Journal of Psychotherapy Integration 23 (3). Pp. 305 - 319.
Heider, F. (1946): Attitude and Cognitive Organization. In: Journal of Psychology Vol. 21/1964. Pp. 107 - 112.

Hennings, N./ Langner, S./ Wiedman, K. P. (2010): Spreading the word of fashion: Identifying social influencers in fashion marketing. In: Journal of Global Fashion Marketing, 1(3). Pp. 142 - 153.
Hoffman, D. L./ Fodor, M. (2010): Can You Measure the ROI of Your Social Media Marketing? In: MIT Sloan Management Review 52(1). Pp. 41 - 49.
Hollebeek, L. (2012): The Customer Engagement/Value Interface: An Exploratory Investigation.“ In: Australasian Marketing Journal, 21(1). Pp. 17 - 24.
Holmes, J. H./ Lett, J.D. (1977): Product Sampling and Word of Mouth. In: Journal Of Advertising Research 17 (5). Pp. 35 - 40.
Horton, D./ Wohl, R. (1956): Mass communication and para-social interaction: Oberservation on intimacy at a distance. In: Psychiatry, 19. Pp. 215 - 229.
Huffaker, D. (2010): Dimensions of leadership and social influence in online communities. In: Human Communication Research, 36(4). Pp. 593 - 617.
Huffaker, D. (2010): Dimensions of leadership and social influence in online communities. In: Human Communication Research, 36(4). Pp. 593–617.
Instagram (2013): Introducing Instagram Direct. In: Instagram. Press. Via URL: https://instagram-press.com/blog/2013/12/12/introducing-instagram-direct/ [11.02.2019]
Instagram (2013): Introducing Photos of You. In: Instagram. Press. Via URL: https://instagram-press.com/blog/2013/05/02/introducing-photos-of-you/ [11.02.2019]
Instagram (2013): Introducing Video on Instagram. In: Instagram. Press. Via URL: https://instagram-press.com/blog/2013/06/20/introducing-video-on-instagram/ [11.02.2019]
Instagram (2015): Introducing Boomerang from Instagram. In: Instagram. Press. Via URL: https://instagram-press.com/blog/2015/10/22/introducing-boomerang-from-instagram/ [11.02.2019]
Instagram (2015): Thinking Outside the Square: Support for Landscape and Portrait Formats on Instagram. In: Instagram. Press. Via URL: https://instagram-press.com/blog/2015/08/27/thinking-outside-the-square-support-for-landscape-and-portrait-formats-on-instagram/ [11.02.2019]
Instagram (2016): Introducing Instagram Stories. In: Instagram. Press. Via URL: https://instagram-press.com/blog/2016/08/02/introducing-instagram-stories/ [11.02.2019]
Instagram (2016b): Introducing Saved Posts. In: Instagram. Press. Via URL: https://instagram-press.com/blog/2016/12/21/introducing-saved-posts/ [11.02.2019]
Instagram (2016c): See the Moments You Care About First. In: Instagram. Press. Via URL: https://instagram-press.com/blog/2016/03/15/see-the-moments-you-care-about-first/ [11.02.2019]
Instagram (2017): Share Up to 10 Photos and Videos in One Post. In: Instagram. Press. Via URL: https://instagram-press.com/blog/2017/02/22/share-up-to-10-photos-and-videos-in-one-post/ [11.02.2019]
Instagram (2017b): Bringing More Transparency to Commercial Relationships on Instagram. In: Instagram. Press. Via URL: https://instagram-press.com/blog/2017/06/14/bringing-more-transparency-to-commercial-relationships-on-instagram/ [12.02.2019]
Instagram (2018): A quick walk through our history as a company. 2018. In: Instagram. Press. Via URL: https://instagram-press.com/our-story/ [11.02.2019]
Instagram (2018b): Bringing Shopping to Instagram Stories. In: Instagram. Press. Via URL: https://instagram-press.com/blog/2018/06/12/shopping-in-instagram-stories/ [11.02.2019]
Instagram (2018c): Creating a more accessible Instagram. In: Instagram. Press. Via URL: https://instagram-press.com/blog/2018/11/28/creating-a-more-accessible-instagram/ [11.02.2019]
Instagram (2018d): New Ways to Interact on Instagram. In: Instagram. Press. Via URL: https://instagram-press.com/blog/2018/12/18/new-ways-to-interact-on-instagram/ [11.02.2019]
Instagram (2018e): Introducing Mute: A New Way to Personalize Your Feed. In: Instagram. Press. Via URL: https://instagram-press.com/blog/2018/05/22/introducing-mute/ [11.02.2019]
Instagram (2018f): Reducing Inauthentic Activity on Instagram. In: Instagram. Press. Via URL: https://instagram-press.com/blog/2018/11/19/reducing-inauthentic-activity-on-instagram/ [12.02.2019]
Instagram (2018g): Welcome to IGTV. In: Instagram. Press. Via URL: https://instagram-press.com/blog/2018/06/20/welcome-to-igtv/ [12.02.2019]
Instagram (2019): Our Story. Via URL: https://instagram-press.com/our-story/ [06.11.2018]
Instagram (2019a): About Us. Via URL: https://www.instagram.com/about/us/ [06.11.2018]
Instagram (2019b): Business. Via URL: https://business.instagram.com [06.11.2018]
Instagram Blog (2016): See the Moments You Care About First. In: Instagram Blog. Via URL: https://www.tumblr.com/dashboard/blog/instagram/141107034797 [09.11.2018]
Instagram Business (2017): 2 Millionen monatliche Werbetreibende auf Instagram. Via URL: https://business.instagram.com/blog/welcoming-two-million-advertisers/ [10.01.2019]
Instagram Business (2019): Getting started. Via URL: https://business.instagram.com/getting-started/#why-instagram [25.04.2019]
Instagram Business (2019a): Advertising. Via URL: https://business.instagram.com/advertising/ [25.04.2019]
Instagram Help Center (2019): Feed. Via URL: https://help.instagram.com/1986234648360433 [04.01.2019]

Interactive Advertising Bureau (2013): The Native Advertising Playbook. Via URL: http://www.iab.net/media/file/IAB- Native-Advertising-Playbook2.pdf [16.04.2019]
Irving, J./ Pingree, R.J./ Scholl, R.M./ Turcotte, J./ York, C. (2015): News recommendations from social media opinion leaders: Effects on media trust and information seeking. In: Journal of Computer-Mediated Communication, 20(5). Pp. 520 - 535.
Jaakonmäki, R./ Müller, O./ vom Brocke, J. (2017): The impact of content, context, and creator on user engagement in social media marketing. In: Proceedings of the 50th Hawaii International Conference on Systems Sciences Vol. 50. Pp. 1152–1160.
Jabbi, M./ Keysers, C./ Swart, M. (2007): Empathy for positive and negative emotions in the gustatory cortex. In: NeuroImage. 34 (4). Pp. 1744 - 1753.
Jones, B./ Little, A. (2003): Evidence Against Perceptual Bias Views for Symmetry Preferences in Human Faces. In: Proceedings: Biological Sciences 270 (1526). Pp. 1759 - 1763.
Kamins, M./ Mazursky, D./ Noy, A./ Steinhart, Y. (2014): Effects of product type and contextual cues on eliciting naive theories of popularity and exclusivity. In: Journal of Consumer Psychology 24, no. 4. Pp. 472–83.
Katz, E. (1957): The Two-Step Flow of Communication: An Up-to-Date Report on a Hypothesis. In: POQ Vol. 21/1957. Pp 61-78.
Katz, E./ Lazarsfeld, P.E. (1955): Personal Influence: The Part Played by People in the Flow of Mass Communications. The Free Press, Glencoe, IL.
Katz, E./Lazarsfeld, P.F. (1955) Personal influence: The part played by people in the flow of mass communications. The Free Press, New York.
Keysers, C. (2011): The Empathic Brain. Social Brain Press.
Kim, B. H. et al. (2001): On the deceptive effectiveness of labeled and unlabeled advertorial formats. In: Mass Communication and Society 4(3)/2001. P. 265.
Klapper, J.T. (1973): Massenkommunikation – Einstellungskonstant und Einstellungsänderung. In: Aufermann et al. (Hrsg.) 1973, S. 49 - 82.
Knutsen, T./ Sasaki, Y./ Tootell, R./ Tyler, C./ Vanduffel, W. (2005): Symmetry Activates Extrastriate Visual Cortex in Human and Nonhuman Primates. In: Proceedings of the National Academy of Science of the United States of America 102 (8). Pp. 3159 - 3163.
Kuckartz, U. (2016): Qualitative Inhaltsanalyse. Methoden, Praxis, Computerunterstützung. Weinheim, Basel: Beltz Juventa. 3rd edition. Pp. 97 - 121.
Lazarsfeld, P./ Berelson, B./ Gaudet, H. (1968): The People's Choice: How Voter makes up his Mind in a Presidential Campaign. Columbia University Press, New York. 3rd edition.
Lazarsfeld, P./ Berelson, B./Gaudet, H. (1944): The People’s Choice. How the Voter Makes Up his Mind in a Presidential Campaign. Duell, Sloan and Pearce, New York.
Leigh, T./ Summers, J. (2002): An Initial Evaluation of Industrial Buyers Impressions of Salespersons' Nonverbal Cues. In: Journal of Personal Selling and Sales Management 22 (1). Pp. 41 - 53.
Lewis, H. (2012): Body Language. A Guide for Professionals. Sage Publications.
Lindell, A. (2018): Left cheek poses garner more likes: the effect of pose orientation on Instagram engagement. In: Laterality: Asymmetries of Body, Brain and Cognition. Via URL: https://doi.org/10.1080/1357650X.2018.1556278 [15.03.2019]
Liu, V./ Shrum, L.J. (2002): What Is Interactivity and Is It Always Such a Good Thing? Implications of Definition, Person, and Situation for the Influence of Interactivity on Advertising Effectiveness. In: Journal of Advertising, Vol. 31/4. Pp. 53 - 64.
Locowise (2017): Instagram follower growth is now lagging behind facebook page likes
Locowise (2017): Instagram follower growth is now lagging behind facebook page likesgrowth. Via URL: https://locowise.com/blog/instagram-follower-growth-is-now-lagging-behind-facebook-page-likes-growth [14.01.2019]
Lowry, B. (2013): 6 Image Qualities Which May Drive More Likes on Instagram. In: Curalate. Via URL: https://www.curalate.com/blog/6-image-qualities-that-drive-more-instagram-likes/ [20.03.2019]
Lua, A. (2018): How the Instagram Algorithm Works in 2018: Everything You Need to Know. In: Buffer. Via URL: https://buffer.com/library/instagram-feed-algorithm [11.02.2019]
Luciano, F./ Rizzolatti, G. (1999): Resonance Behaviors and Mirror Neurons. In: Italiennes de Biologie 137. Pp. 85–100.
Lyfe Marketing (2018): The best social media platforms for social media marketing in 2018. Via URL: https://www.lyfemarketing.com/blog/wp-content/uploads/2018/02/The-Best-Social-Media-Platforms-for-Social-Media-Marketing-in-2018.pdf [08.01.2019]
Malthouse, E./ Haenlein, M./ Skiera, B./ Wege, E./ Zhang, M. (2013): Managing customer relationships in the social media era: Introducing the social CRM house. In: Journal of Interactive Marketing, 27. Pp. 270 - 280.
Mangold, W. G./ Faulds, D. J. (2009): Social Media: The New Hybrid Element of the Promotion Mix. In: Business Horizons, 52(4). Pp. 357 - 365.

Maslach, C./ Santee, R. T./ Stapp, J. (1985): Individuation: Conceptual analysis and assessment. In: Journal of Personality and Social Psychology, 49(3). Pp. 729 - 738.
Mayerhofer, M./ Milchram, M./ Reisinger, H. (2002): Der Einsatz prominenter Produktbefürworter in der Werbung – eine empirische Studie.
McCracken, G. (1989): Who Is The Celebrity Endorser? Cultural Foundations of the Endorsement Process. In: Joumal of Consumer Research, 16 (3), Pp. 310 - 321.
McGinnies, E./ Ward, C. (1980): Better liked than right: Trustworthiness and expertise as factors in credibility. In: Personality and Social Psychology Bulletin, 6(3). Pp. 467 - 472.
McKinsey&Company (2016): The state of fashion 2017. Via URL: https://www.mckinsey.com/industries/retail/our-insights/the-state-of-fashion [15.01.2019]
McQuail, D. (1983): Mass Communication Theory. An Introduction. SAGE Publications, London.
Mehrabian, A. (1969): Significance of Posture and Position in the Communication of Attitude and Status Relationships. In: Psychological Bulletin 71 (5). Pp. 359 - 372.
Mikunda, C. (2018): Hypnoästhetik: Die ultimative Verführung in Marketing, Handel und Architektur. Econ, Berlin.
Mitra, K./ Sundaram, D.S./ Webster, C. (1998): Word-of-Mouth Communications: A Motivational Analysis. In: Advances in Consumer Research, 25 (1). Pp. 527 - 31.
Moskowitz, D. (1990): Convergence of self-reports and independent observers: Dominance and friendliness. In: Journal of Personality and Social Psychology, 58. Pp. 1096 - 1106.
Mowen, J. C./ Park, S./ Zablah, A. (2007): Toward a theory of motivation and personality with application to word-of-mouth communications. Journal of Business Research, 60(6). Pp. 590 - 596.
Mull, I. R./ Lee, S. E. (2014): "PIN" pointing the motivational dimensions behind Pinterest. In: Computers in Human Behavior, 33. Pp. 192 - 200.
Müller, P. (1970): Die soziale Gruppe im Prozeß der Massenkommunikation. Enke, Stuttgart.
Murray, S. (2008): Digital images, photo-sharing, and our shifting notions of everyday aesthetics. In: Journal of Visual Culture, Vol. 7(2). Pp. 147-163.
Newman, D. (2014): Experts may have influence, but what makes an expert? In: Forbes. Via URL: https://www.forbes.com/sites/danielnewman/2014/04/22/experts-may-have-influence-but-what-makes-an-expert/ [18.04.2019]
Nielsen (2014): Consumers crave real content when making purchase decisions. Facing more digital content than ever before, consumers rely on trusted content to cut through the noise. Via URL: https://www.businesswire.com/news/home/20140325005396/en/Nielsen-Consumers-Crave-Real-Content-Making-Purchase#.U0bLZBanC9f [18.04.2019]
Nirschl, M./ Steinberg, L. (2018): Einstieg in das Influencer Marketing. Grundlagen, Strategien und Erfolgsfaktoren. Springer Gabler, Wiesbaden.
Nouri, M. (2018): The Power of Influence: Traditional Celebrity vs Social Media Influencer. In: Santa Clara University, Scholar Commons. Via URL: http://scholarcommons.scu.edu/engl_176/32/?utm_source=scholarcommons.scu.edu%2Fengl_176%2F32&utm_medium=PDF&utm_campaign=PDFCoverPages [12.04.2019]
Oetting, M. (2009): Ripple Effect: How Empowered Involvement Drives Word of Mouth. Gabler Verlag, Wiesbaden.
Ohanian, R. (1990): Construction and Validation of a Scale to Measure Celebrity Endorsers' Perceived Expertise, Trustworthiness, and Attractiveness. In: Journal of Advertising, 19 (3). Pp. 39 - 52.
Ohanian, R. (1991): The Impact of Celebrity Spokesperson' Perceived Image on Consumers' Intention to Purchase. In: Journal of Advertising Research, 31 (1). Pp. 46 - 54.
Paine, K. D. (2011): Measure What Matters: Online Tools for Understanding Customers, Social Media, Engagement, and Key Relationship. John Wiley & Sons, Westford (MA/US).
Park, C. S. (2013): Does Twitter motivate involvement in politics? Tweeting, opinion leadership, and political engagement. In: Computers in Human Behavior, 29. Pp. 1641–1648.
Pascual-Leone, A./ Théoret, H. (2002): Language Acquisition: Do as You Hear. In: Current Biology. 12 (21). Pp. 736 - 737.
Petty, R. (1986): Communication and persuasion: central and peripheral routes to attitude change. Springer, New York.
Rafaeli, S. (1988): Interactivity – From New Media to Communication. In: Hawkins, R.P./ Pingree, S./ Wiemann, J.M. (edt.)(1988): Advancing Communication Science: Merging Mass and Interpersonal Process. Newsbury Park. Pp. 110 - 135.
Rencksdorf, K. (1977): Neue Perspektiven in der Massenkommunikationsforschung. Beiträge zur Begründung eines alternativen Forschungsansatzes. Berlin.
Rizzolatti, G./ Sinigaglia, C. (2007): Mirrors in the Brain. How Our Minds Share Actions and Emotions. Oxford University Press, Oxford.
Rusli, E. (2012): Facebook Buys Instagram for $1 Billion. In: New York Times. Via URL: https://dealbook.nytimes.com/2012/04/09/facebook-buys-instagram-for-1-billion/ [06.11.2018]

Saks, A. (2006): Antecedents and consequences of employee engagement. In: Journal of Managerial Psychology, 21. Pp. 600 - 619.
Schenk, M. (2007): Medienwirkungsforschung. Mohr Siebeck, Tübingen. 3. Auflage.
Schroeder, J. E. (2013): Snapshot aesthetics and the strategic imagination. Via URL: http://ivc.lib.rochester.edu/snapshot-aesthetics-and-the-strategic- imagination/ [19.03.2019]
Schulz, W. (1976): Die Konstruktion von Realität in den Nachrichtenmedien. Analyse der aktuellen Berichterstattung. Freiburg/München.
Song, A. / Weinger, E. (2016): Capture Your Style : Transform Your Instagram Photos, Showcase Your Life, and Build the Ultimate Platform. New York: Abrams Image.
Süddeutsche Zeitung (2019): Influencerin verliert im Prozess um Schleichwerbung. Via URL: https://www.sueddeutsche.de/panorama/instagram-werbung-schleichwerbung-tag-markierung-pamela-reif-markennennung-1.4377537 [17.04.2019]
Teichert, W. (1975): Bedürfnisstruktur und Mediennutzung. Fragesetllung und Problematik des "Uses and gratifications Approach". In: RuF 3-4/1975, S.269 - 283.
Thorne, L. (2008): Word-of-mouth Advertising, Online and Off: How to Spark Buzz, Excitement, and Free Publicity for Your Business or Organization with Little or No Money. Atlantic Publishing Company, Ocala (FL).
Trackmaven (2014): The Fortune 500 Instagram Report. Via URL: http://pages.trackmaven.com/rs/trackmaven/images/TM_Fort une500_Instagram_Report.pdf [20.03.2029]
Trommsdorff, V. (2008): Konsumentenverhalten. Kohlhammer, Stuttgart. 7th edition.
Tsang, A. S./ Zhou, N. (2005): Newsgroup participants as opinion leaders and seekers in online and offline communication environments. In: Journal of Business Research, 58(9). Pp. 1186 - 1193.
Weinberg, P. (1986): Nonverbale Marktkommunikation. Heidelberg.
Wilkinson, F./ Wilson, H. (2002): Symmetry Perception: A Novel Approach for Biological Shapes. In: Vision Research 42 (5). Pp. 589 - 597.
Wood, J. (2006): NLP Revisited: Nonverbal Communications and Signals of Trustworthiness.” Journal of Personal Selling and Sales Management 26 (2). Pp. 197 - 204.
Zajonc, R. (1968): Attitudinal Effects of Mere Exposure. In: Journal of Personality and Social Psychology 9, 2. Pp. 1 - 27.

VIII Appendix

A. Register of research questions and hypotheses

B. Overview of existing notions and implications and their match-up with present findings

1 The situation: Instagram as a marketing platform and engagement as its currency

1.1 Structure and functionalities of the Instagram app

1.2 The Instagram algorithm: Engagement as a condition for visibility

Relationship to the posting user as a determinant of visibility. (Instagram 2016)

Timeliness of the posting as a determinant of visibility. (Instagram 2016)

User interactions (including commenting, tagging users in postings) as a determinant of visibility (Constine 2018)

Length of time span users look at a photo impacts visibility (Constine 2018)

Visibility is determined by the engagement an account can achieve (Carbone 2018)

Visibility is determined by the engagement a posting can achieve (Forsey 2018)

Visibility is determined by prior engagement with similar content (Lua 2018)

1.3 Drivers of engagement

1.3.1 Creator, context and content-related features of a posting

Creator-related features as a determinant of engagement (Jaakonmäki/Müller/vom Brocke 2017)

Context-related features as a determinant of engagement (Jaakonmäki/Müller/vom Brocke 2017)

Time as a contextual feature triggering engagement (Jaakonmäki/Müller/vom Brocke 2017)

Location as a contextual feature triggering engagement (Jaakonmäki/Müller/vom Brocke 2017)

Weekday of posting as an engagement determinant (Jaakonmäki/Müller/vom Brocke 2017)

Relevance of overall number of postings (Jaakonmäki/Müller/vom Brocke 2017)

Content-related features as a determinant of engagement (Jaakonmäki/Müller/vom Brocke 2017)

Text content as a determinant of engagement (Jaakonmäki/Müller/vom Brocke 2017)

Visual content as a determinant of engagement (Jaakonmäki/Müller/vom Brocke 2017)

1.3.2 CBE - consumer brand engagement concept

1.3.2.1 Cognitive processing and elaboration as an aspect of engagement

Cognitive nature of engagement (Brodie/Glynn/Hollebeek 2014)

Peripheral processing of Instagram postings (Cauberghe/de Veirman/Hudders 2017)

Mood as a determinant of how intensively information is being processed (Petty/Cacioppo 1984; 1986)

Personal relevance as a determinant of how intensively information is being processed (Petty/Cacioppo 1984; 1986)

1.3.2.2 Triggers of emotion and affect as antecedents of engagement

Emotional nature of engagement (Brodie/Glynn/Hollebeek 2014)

Involving potential of emotion as an antecedent of engagement (Brodie/Glynn/Hollebeek 2014; Gröppel-Klein/ Kröber-Riel 2013)

Mirror neurons; mirroring of others' emotions (i.a. Keysers 2011; Arbib 2012; Pascual-Leone/Théoret 2002; Blakeslee 2006)

1.3.2.3 Activation as a component of the engagement construct

Activation as a component and antecedent of engagement (Brodie/Glynn/Hollebeek 2014; Gröppel-Klein/Kröber-Riel 2013)

Nature as a positive affective stimulus triggering engagement (Berlyne 1974)

Eroticism as a positive affective stimulus triggering engagement (Berlyne 1974)

Variety as a collative stimulus triggering engagement (Berlyne 1975)

Newness as a collative stimulus triggering engagement (Berlyne 1975)

Surprise as a collative stimulus triggering engagement (Berlyne 1975)

Brightness as an intensive stimulus triggering engagement (Berlyne 1975)

Saturation as an intensive stimulus triggering engagement (Berlyne 1975)

1.3.2.4 Involvement as an antecedent of engagement

Activation as the basis of involvement, which is an antcedent of engagement (Trommsdorff 2008; Brodie/Glynn/ Hollebeek 2014; Gröppel-Klein/Kröber-Riel 2013)

Involvement as an antecedent of engagement (Brodie/Glynn/Hollebeek 2014; Gröppel-Klein/Kröber-Riel 2013)

Product involvement as a determinant of engagement (Gröppel-Klein/Kröber-Riel 2013)

Specific situational characteristics as a determinant of engagement (Gröppel-Klein/Kröber-Riel 2013)

Media characteristics as a determinant of engagement (Gröppel-Klein/Kröber-Riel 2013)

2 The audience: Instagram users as the drivers of marketing measures

2.1 The path towards an active audience conceptualization

Media use is driven by human needs (Rencksdorf 1977; Teichert 1975; Burkart 2002)

2.2 The Instagram audience

2.3.1 Uses and gratifications of the Instagram audience

Distraction and diversion as gratifications attainable through mass media (Blumler/Brown/McQuail 1972; McQuail 1983)

Personal relationships as gratifications attainable through media use (Blumler/Brown/McQuail 1972; McQuail 1983)

Personal identitiy as a gratification attainable through media use (Blumler/Brown/McQuail 1972; McQuail 1983)

Environment information control as a gratification attainable through media use (Blumler/Brown/McQuail 1972; McQuail 1983)

2.3.2 The influencer and audience relationship from an audience standpoint: Users' interactions with influencers as media figures

Spatial distance as a determinant of the perception of media figures (Bilandzic/Matthes/Schramm 2015)

Non-verbal reference as a determinant of the perception of media figures (Bilandzic/Matthes/Schramm 2015)

Verbal reference as a determinant of the perception of media figures (Bilandzic/Matthes/Schramm 2015)

High levels of para-social interaction due to relatability of media persona (Bilandzic/Matthes/Schramm 2015)

High levels of para-social interaction due to likability of media persona (Bilandzic/Matthes/Schramm 2015)

Credibility of a product advocate as a central success determinant (Ohanian 1990; 1991)

Trustworthiness as a determinant of product advocate credibility and hence success (Ohanian 1990; 1991)

Expertise as a determinant of product advocate credibility and hence success (Ohanian 1990; 1991)

High persuasive power of influencers due to interweaving commercial messages into content (Cauberghe/de Veirman/ Hudders 2017)

Escapist content as a media gratification (Blumler/Brown/McQuail 1972; McQuail 1983)

Escapist content as an antecedent of envy (Chae 2018)

2.3.3 Instagram users and the stream of commercial content: Reactance towards advertisement

Higher credibility of editorial content as opposed to commercials (Burkart/Kratky/Stalzer 2004; Cameron 1994; Cameron/Ju-Pak/Kim 1996)

Recipient reactance towards commercial messages (Kim et al. 2001; Burkart/Kratky/Stalzer 2004)

Negative effect of advertisement disclosures (Evans/Jun/Phua/Lim 2017)

Positive effect of presence of multiple brand-related elements (company product and logo) on audience engagement (Adegbola/Gearhart/Skarda-Mitchell 2018)

Combined presence of products and logos significantly increases engagement (Murray 2008; Adegbola/Gearhart/ Skarda-Mitchell 2018)

Logos as drivers as engagement (Adegbola/Gearhart/Skarda-Mitchell 2018)

Negative effect of such advertising disclosure language on attitudinal and behavioral outcomes (Evans/Jun/Phua/Lim 2017; Friestad/Wright 1994)

3 The communicators: Influencers and business accounts on Instagram

3.1 Companies on Instagram

3.1.1 Company Instagram accounts

Content valuable to the users as a necessity for engagement (Malthouse/Haenlein/Skiera/Wege/Zhang 2013)

Informative content as a value factor and antecedent of engagement (Conduit/Dolan/Fahy/Goodman 2016)

Entertaining content as a value factor and antecedent of engagement (Conduit/Dolan/Fahy/Goodman 2016)

Remunerative content as a value factor and antecedent of engagement (Conduit/Dolan/Fahy/Goodman 2016)

Relational content as a value factor and antecedent of engagement (Conduit/Dolan/Fahy/Goodman 2016)

Inclusion of logo in order to support business goals (Instagram Business 2019)

Inclusion of products in order to support business goals (Instagram Business 2019)

Use of high-quality photos in order to support business goals (Instagram Business 2019)

Subtlety of commercial character of content as a preventor of audience reactance (Adegbola/Gearhart/Skarda-Mitchell 2018; Bóveda-Lambie/Hair 2012)

3.1.2 Influencer marketing through companies

3.2 Influencers – a 21st century marketing phenomenon

3.2.1 Conceptualization and characteristics of influencers: Opinion leader theory

Higher impact of opinion leaders as compared to mass media (Lazarsfeld/Berelson/Gaudet 1968)

Opinion leaders as focal points of interpersonal communication sterams (Lazarsfeld/Berelson/Gaudet 1968)

Opinion leaders as individuals with a tendency of trying to convince others (Lazarsfeld/Berelson/Gaudet 1968)

Opinion leaders as individuals with a tendency of serving as advisors (Lazarsfeld/Berelson/Gaudet 1968)

Above-average sociability as an opinion leader characteristic (Müller 1970)

Above-average number of social contacts as an opinion leader characteristic (Müller 1970)

Active communication behavior as an opinion leader characteristic (Müller 1970)

High interest in specific fields as an opinion leader characteristic (Müller 1970)

Specialization of opinion leaders on specific topics. (Klapper 1973)

Being considered an expert as an (online) opinion leader characteristic (De Paula-Pessôa/Hor-Meyll/Leal 2014)

Being an active member of the online community as an (online) opinion leader characteristic (De Paula-Pessôa/Hor-Meyll/Leal 2014)

Participating with high frequency as an (online) opinion leader characteristic (De Paula-Pessôa/Hor-Meyll/Leal 2014)

Making substantial contributions as an (online) opinion leader characteristic (De Paula-Pessôa/Hor-Meyll/Leal 2014)

Audience size as an indicator of online opinion leadership (Cauberghe/de Veirman/Hudders 2017)

Positive effect of audience size on influencer likability (Cauberghe/de Veirman/Hudders 2017)

Positive effect of audience size on perceived influencer popularity (Cauberghe/de Veirman/Hudders 2017)

Possible negative effect of a big audience size on uniqueness as perceived by the audience, resulting in a negative impact on brand attitude (Cauberghe/de Veirman/Hudders 2017)

Possible consequences the ratio between how many other users an account follows (followees) (Cauberghe/de Veirman/Hudders 2017)

Accounts with by far more followers than followees may be perceived as more „followable“ (Cauberghe/de Veirman/ Hudders 2017)

Expert content was shown to be 88 % more effective in creating brand lift than a brand’s own content. (Nielsen 2014)

Relevant experience over a long period of time as an indicator of expertise (Newman 2014)

Need of both uniqueness and conformity by individuals (Bearden/Hunter/Tian 2001)

Weaker effects of promotions by influencers with high numbers of followers (Bearden/Hunter/Tian 2001)

Perceived originality and uniqueness positively influence perceived opinion leadership (Casalo/Flavián/Ibánez-Sánchez 2018)

3.2.2 How influencers exert their influence: Opinion leadership and eWOM

Audience size as an indicator of online opinion leadership (Cauberghe/de Veirman/Hudders 2017)

Audience size as an indicator of popularity rather than online opinion leadership (Cauberghe/de Veirman/Hudders 2017)

Information received through consumers has a stronger impact than traditional advertising (Clark/Goldsmith 2008)

Newness of a product as an antecedent of WOM (Feng/Yang 2015)

Originality of a product as an antecedent of WOM (Chattopadhyay/Goldenberg/Moldovan 2006)

Participation as an antecedent of WOM (Oetting 2009; File/Judd/Prince 1992)

Relationship quality as an antecedent of WOM (Oetting 2009)

Perceived encouragement as an antecedent of WOM (Arenas-Gaitán/Rondan-Cataluña/Ramírez-Correa 2018)

Involvement as an antecedent of WOM (Oetting 2009)

Satisfaction as an antecedent of WOM (Oetting 2009)

Emotions as an antecedent of WOM (Oetting 2009)

Product involvement as a primary driver of WOM (Mita/Sundaram/Webster 1998)

Advice-giving as an antecedent of WOM (Oetting 2009; Dichter 1966)

Customer satisfaction as an antecedent of WOM (Feng/Yang 2015)

Emotions as antecedents of WOM (Derbaix/Vanhamme 2003; Westbrook 1987; Oetting 2009)

Network externalities / active recruitment of others as an antecedent of WOM (Oetting 2009)

4 Imagery components: Manifest elements of posted pictures as engagement triggers

4.1 Basic picture composition elements

In order to appear balanced, a picture can bear more elements on the right side of the visual (Mikunda 2018)

Symmetrical stimuli can be processed more easily by individuals (Jones/Little 2003; Wilkinson/Wilson 2002) and result in higher brain activity. (Knutsen/Sasaki/Tootell/Tyler/Vanduffel 2005)

Images with high lightness result in more likes (Lowry 2013)

Images with one instead of multiple dominant colors result in more likes (Lowry 2013)

Images with muted colors result in more likes (Lowry 2013)

Activating potential of bright colors (Berlyne 1974)

4.2 Photography and editing style

Photography in social media marketing is related with higher engagement irrespective of whether they are amateur or professionally produced images (Adegbola/Gearhart/Skarda-Mitchell 2018, p. 240)

4.3 Body language and non-verbal communication

Non-verbal messages as triggers of favorable consumer responses. (Ebster/Pauser/Wagner 2018; Graham/Hecker/Stewart 1987; Leigh/Summers 2002; Wood 2006)

Charismatic nonverbal communication as „the ability to modulate nonverbal behavior to enhance client engagement". (Heide 2013, p. 305; Ebster/Pauser/Wagner 2018)

4.3.1 Body language

Upright body posture as a trigger of perceived confidence and competence. (Cooper 2019)

Positive effect of arm gesture symmetry (Merhabian 1969; Ebster/Pauser/Wagner 2018; Cui 2017)

4.3.2 Face and facial expression

Presence of faces increases engagement with Instagram posts (Bakhshi/Gilbert/Shamma 2014)

Higher engaging potential of the left side of the face (Lindell 2018)

Dynamic facial cues as perception and hence interaction determinants (Brewer 1988; Fiske/Neuberg 1990; Flake/Freeman/Hehman 2015)

Positive reaction to images with a strong emotional impact (Suler 2008; Lindell 2018)

Beneficial effects of eye contact (Weinberg 1986; Coombs/Holladay 1994)

4.4 Nonverbal communication through objects

Relevance of objects for non-verbal communication (Weinberg 1986)

Relevance of objects belonging to the appearance of a communicator for non-verbal communication (Weinberg 1986)

Relevance of objects in the personal use of the communicator for non-verbal communication (Weinberg 1986)

Relevance of objects used in the interaction process for non-verbal communication (Weinberg 1986)

Relevance stimuli surrounding the communicator for non-verbal communication (Weinberg 1986)

Relevance of the presence of other individuals for non-verbal communication (Weinberg 1986)

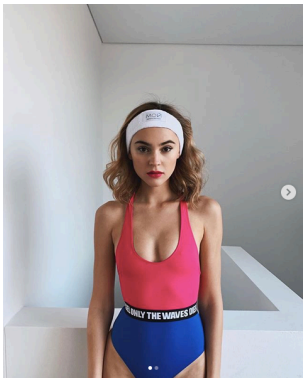
C. Code book

Variable	Manifestations	Explanation	Examples
Account type	Influencer account		
	Business account		
Audience size category	10 000 - 49 999 followers		
	50 000 - 99 999 followers		
	100 000 - 499 999 followers		
	500 000 - 999 999 followers		
	1 000 000 or more followers		
Post number of account	1 - 15	Numeration of the analyzed postings by an account starting with the posting issued first.	
Account name		User name of the respective Instagram account	
URL		URL the respective Instagram posting is retrievable from	
Followers		Number of followers an account had a the time of analysis	
Followees		Number of followees an account had a the time of analysis	
Total number of postings		Number of postings an account had already issued in total at the time of analysis	
Situation		Brief description of the picture content	
Posting date	MM/DD	Date of the day a posting was issued	
Time span		Number of days between an accounts first and last analyzed posting	
Account posting frequency		Result of 15 (postings) divided by the number of days they have been posted within	
Weekday		Weekday a posting has been issued on	
Videos per account		Number of videos an account had posted within the analyzed time	
Galleries per account		Number of galleries an account had posted within the analyzed time	
Size of gallery posting		Number of pictures a gallery posting consisted of	
Likes		Number of likes on a picture	
Comments		Number of comments on a picture	
Picture format	Portrait	Upright rectangular format	
	Square	Square format	
	Horizontal	Horizontal rectangular format	

Geotags	1	Geotag existing	
	0	No geotag existing	
Tag location		Location name declared in geotag	
Number of tags in picture		Count of how many other accounts were tagged in a posting	
Own account tagged	1	Own account tagged in picture	
	0	Own account not tagged in picture	
Other person tagged	1	Other personal account tagged in picture	
	0	No other personal account tagged in picture	
Brand tagged	1	Brand account tagged in picture	
	0	No brand account tagged in picture	
Photographer tagged	1	Photographer tagged in picture	
	0	No photographer tagged in picture	
MUA tagged	1	Make up artist tagged in picture	
	0	No make up artist tagged in picture	
Third pages tagged	1	Third pages tagged in picture	Some influencers tagged Instagram pages in their pictures which repost postings from other users.
	0	No third pages tagged in picture	
Other tagged	1	Other kind of tag in picture, e.g. PR agency	
	0	No other kind of tag in picture	
Advertisement declaration	1	Advertisement declaration existing for posting	
	0	No advertisement declaration existing for posting	
Advertisement tag	1	Advertisement tag existing for posting	
	0	No advertisement tag existing for posting	
Advertisement hashtag	1	Advertisement hashtag existing for posting	
	0	No advertisement hashtag existing for posting	
Advertisement declaration in caption	1	Posting declared as advertisement in caption	
	0	Posting not declared as advertisement in caption	
Advertisement declaration in caption: Order	0	Posting not declared as advertisement in caption	
	1	Posting not declared as advertisement in the beginning of the caption	

	2	Posting not declared as advertisement in the middle of the caption	
	3	Posting not declared as advertisement at the end of the caption	
Caption length	0	No caption	
	1	No full sentence in caption	
	2	One full sentence in caption	
	3	Two to three sentences in caption	
	4	Four or more sentences and few hashtags in caption	
	5	Four or more sentences and multiple hashtags in caption	
Emojis		Number of emojis in caption	
Hashtags		Number of hashtags in caption	
Simple notion	1	Simple notion in caption	„Beach day“ „Your girl“
	0	No simple notion in caption	
Question	1	Question in caption	„How are you guys today?“ „Have you already tried …“
	0	No question in caption	
Audience reference	1	Audience reference in caption	„I wanted to tell you that …“ „Without you I could never …“
	0	No audience reference in caption	
Narration	1	Narration in caption	„Today I already went to …“ „… and I am so happy because …“
	0	No narration in caption	
User tag	1	User tag in caption	Account of personal tagged in caption
	0	No user tag in caption	
Brand tag	1	Brand tag in caption	Account of brand tagged in caption
	0	No brand tag in caption	
Giveaway	1	Giveaway or promotional offer announced in caption	„I have teamed up with brand X for a giveaway …“ „With the code X you get 20 % off …“
	0	No giveaway or promotional offer announced in caption	
Picture crop	full body		
	0	no individual(s) in picture	
	until knees		
	until hip		
	until decolletee		
	until mid stomach area		
	shoulders to knees		
	hand only		
	feet cropped		

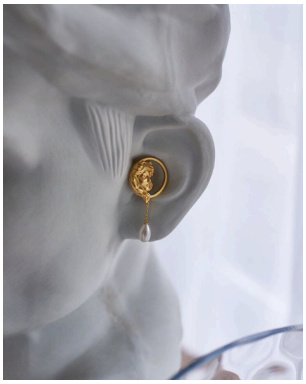
	hand and legs		
	from shoulders		
	legs only		
	face partly		
	feet only		
	torso only		
	chin to knees		
	decolletee until knees		
	face only		
	from decolletee		
	from hip		
	from mid stomach area		
	hand and torso		
Visibility of body	0	No individual(s) visible	
	1	Only small part of individual(s) visible	E.g. only part half of face visible
	2	Individual(s) visible to some parts	E.g. only visible until decolletee
	3	Individual(s)'s bodies about half visible	E.g. visible until hip
	4	Individual(s)'s bodies almost fully visible	E.g. only lower legs cropped out of pictures
	5	Individual(s)'s bodies fully visible	
Distance	0	No individual(s) visible	
	Far away	Individual pictured from far away; no details discernible	
	Relatively far	Individual pictured from relatively far, discernibility of some details	
	Medium	Individual filling the picture, details discernible	
	Relatively close	Individual filling most parts of the picture, pictured in a cropped way, details well discernible	
	Close	Individual (almost) completely filling the picture, details very well discernible	
Perspective	Other		E.g. graphic, not photograph
	Birdview	Birdview perspective	
	Above	Picture taken from above	
	Slightly above	Picture taken from slightly above	
	Frontal	Picture taken from a frontal perspective	
	Slightly below	Picture taken from slightly below	
	Below	Picture taken from below	
Brightness	1	Very dark picture	
	2	Dark picture	
	3	Relatively bleak picture	

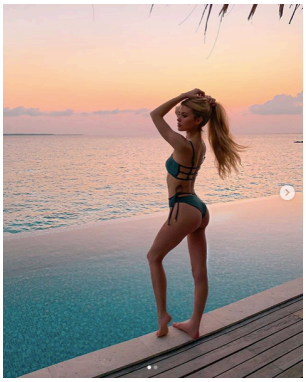
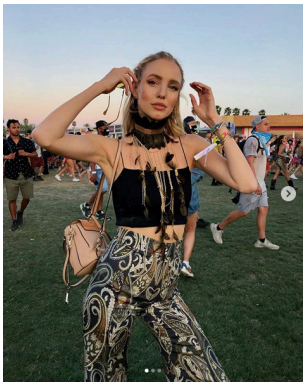
	4	Picture with seemingly natural lighting	
	5	Very light picture	
Saturation	0	Black and white picture	
	1	Very low saturation of colors	
	2	Low saturation of colors	
	3	Medium saturation of colors	
	4	Seemingly natural saturation of colors	
	5	Very high saturation of colors	
		 Picture attributed to both brightness and saturation grades 4 by majamarko7	 Picture attributed to both brightness and saturation grades 5 by stefaniegiesinger
Number of dominant colors		Number of dominant colors identified in picture	
Main colors		Notes on main colors in picture	
Green	1	Green occurring as a dominant color	
	0	Not occurring as a dominant color	
Red	1	Red occurring as a dominant color	
	0	Not occurring as a dominant color	
Pink	1	Pink occurring as a dominant color	
	0	Not occurring as a dominant color	
Yellow or orange	1	Yellow or orange occurring as a dominant color	
	0	Not occurring as a dominant color	
Light brown	1	Light brown occurring as a dominant color	
	0	Not occurring as a dominant color	
Brown	1	Brown occurring as a dominant color	
	0	Not occurring as a dominant color	
Skin	1	Skin tones occurring as a dominant color	
	0	Not occurring as a dominant color	
Blue	1	Blue occurring as a dominant color	
	0	Not occurring as a dominant color	

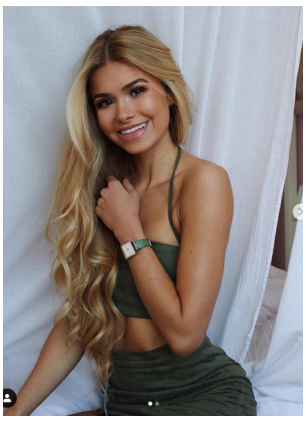
Multiple colors	1	A condensed mix of multiple colors occurring as a dominant color	
	0	Not occurring as a dominant color	
Grey	1	Grey occurring as a dominant color	
	0	Not occurring as a dominant color	
White	1	White occurring as a dominant color	
	0	Not occurring as a dominant color	
Black	1	Black occurring as a dominant color	
	0	Not occurring as a dominant color	
Background		Description of picture background	
Middleground		Description of picture middleground	
Foreground		Description of picture foreground	
Number of individuals		Number of individuals visible in the picture	
Animals		Number of animals visible in a picture	
Male person		Number of male persons visible in a picture	
Interactions	0	No interactions visible in picture	
	1	Interactions visible in picture	E.g. hugging, holding hands
General pose	0	No individual(s) in picture	
	Standing		
	Walking		
	Sitting		
	Kneeling / squatting		
	Lying		
	Other	Other poses	E.g. jumping
Body orientation	0	No individual(s) in picture	
	Oriented left		
	Slightly left		
	Frontal		
	Slightly right		
	Right		
Arm gestures	One hand up, one down		
	Both arms/hands down		
	No individual in picture		
	One hand near hip, one down		
	Both arms/hands up		
	Not recognizable		
	In front of torso		
	Both hands near hip		

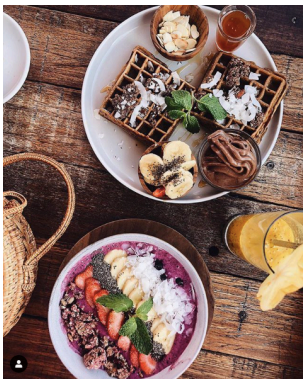
	Holding something		
	One in front of torso, one down		
	One near hip, one up up		
	Other		E.g. playing volleyball
	0	No individual in picture	
Arm gesture symmetry	0	Arm gesture symmetry not visible	
	-1	Asymmetrical arm gestures	
	1	Symmetrical arm gestures	
Number of present faces		Number of faces visible in the picture	
Notes on face			E.g. eyes covered with sunglasses, very heavy make up, face partially covered by hair
Face orientaiton	Profile left		
	Left side visible		
	Slightly left		
	Frontal		
	Slightly right		
	Right side visible		
	Profile right		
	Turned away/other		
Face orientation general	Left-side orientation		
	Frontal		
	Right-side orientation		
	Turned away/other		
Head tilt	0	No head tilt	
	Tilted up		
	Tilted down		
	Tilted left		
	Tilted right		
Facial expression	0	No faces visible	
	Serious		
	Neutral		
	Light smile		
	Smile	Happy expression, closed mouth	
	Laugh	Happy expression, open mouth	
	Other/exceptional		E.g. sticking tongue out
Expression of happiness	0	No face visible	
	1	Serious face	
	2	Neutral face	
	3	Light smile	
	4	Smile	
	5	Laugh	

Look into camrea	0	No individual(s) in picture or individual(s) not looking into camera	
	1	Individual pictured looking into camera	
Symmetry of objects	0	Symmetry of objects not observable	
	1	Objects symmetrical	
	Rather right		
	Rather left		
Clothing style	0	No individual(s) in picture	
	1	Modest oufit	
	2	Only legs or arms revealed	
	3	Revealing outfit	E.g. deep decolletee
	4	Lingerie or bikini	
	5	Naked	
Brand logo	0	No brand logo visible in picture	
	1	Brand logo visibel in picture	
Used objects	0	No object used	
	Type of object used by individual in picture		
Commercial purpose recognizable	Business account	Picture posted by a business account; obvious commercial purpose	
	Not clear	Not clear if the posting has been sponsored	
	Obvious commercial purpose	Clearly identifiable commercial purpose	
	Reference to own blog	Influencer referring to other platform	
	0	No commercial purpose recognizable	
Featured product	Type of product featured in picture		
Setting	outdoor: building surroundings	Building in background, but no visible street scene like in picture below.	 by jani_isa

	indoor: room	Room with personal belongings visible in background	 by triumph_lingerie
	outdoor: street scene		 by jani_isa
	outdoor: nature	No buildings dominating picture; background e.g. vegetation, but also desert	 by annalovesmay
	exceptional	Exceptional and creative settings not occurring in the same way again	 by mytheresa.com

	outdoor: beach	Ocean and/or beach visible in background	 by pamela_rf
	studio: plain	Picture taken in front of plain, patternless wall	 by mytheresa.com
	indoor: plain	Picture taken in front of a simple background, no photo studio appeal	 by paulvalentine
	outdoor: festival	During the time of analysis, the Coachella festival, which is highly frequented by influencers took place	 by leoniehanne

	restaurant	Picture taken in or near restaurant	 by phiaka
	studio: room	Studio appeal, but no completely plain background	 by pamela_rf
	graphic	Graphic, possibly computer-generated picture	 by julietta_mademoiselle
	portrait	Close-up of face	 by matiamubysofia

	outdoor: city view	View over city visible	 by xeniaadonts
	food picture	Food prominently shown in picture	 by fashiioncarpet