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When Less Is More: There Must Be a Comprehensible Reason for Using Incompleteness in Advertisements to Improve Brand Attitude

By Antonia Heberle and Heribert Gierl

In print advertisements, product images and words are usually complete. However, some marketers rely on the effectiveness of incompleteness. In such advertisements, a part of the product image and/or some letters of words are missing. We investigated numerous advertisements with incomplete product images or words and found three mental processes through which consumers respond to incompleteness. *First*, when consumers are exposed to incompleteness, they are normally able to mentally envision the entire product image or read the text correctly. This process is accompanied by feelings of pleasant surprise. *Second*, incompleteness induces perceptions of ad originality. *Third*, consumers scrutinise the reason why the marketer used incompleteness; incomplete ads differ in whether consumers understand the reason why the marketer used incompleteness. If people have difficulties understanding this reason, a negative effect on brand attitude is the consequence. In our studies, we tested two types of incompleteness for which consumers comprehended the reason why incompleteness was used (1. incompleteness that emphasises the ad message to increase consumer agreement to this message and 2. incompleteness that induces feelings of humour). For these types, we found that incompleteness improved attitudes towards familiar brands.

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1. Introduction

In advertisements, product images are usually fully depicted, and words are usually written without the omission of letters. However, some advertisements contain incomplete product images and words. We presume that advertising practices use incompleteness because the creators of advertisements are aware of the human need to mentally complete incomplete stimuli and thus want to activate and benefit from this need.

1.1. Background and research issue

Some streams in psychology that will be mentioned subsequently postulate that contact with incomplete stimuli activates the perceivers' need to mentally complete these stimuli. For instance, Gestalt theory contains the presumption that people tend to mentally construe well-interpretable images by adding or omitting information (Wertheimer 1923). In particular, mentally adding pieces of information can result in a "good Gestalt." People can rely on stored experiences about how images appear in reality to mentally construe a familiar image that is complete. For instance, people would not experience difficulties recognising the face of a bear, football, or dog in the pictures shown in the upper row of *Fig. 1*. The technique of the incompleteness of images and verbal information is adopted in advertising. To provide examples, we can refer to the WWF organisation, which uses the incomplete image of a panda bear in its logo. In a multitude of print advertisements, images or texts are incomplete. Some examples are presented in the lower row of *Fig. 1*.

Fig. 1: Examples of incompleteness

This selection of print advertisements containing incompleteness illustrates the problem we are dealing with. In our pilot study (which will be reported in Section 3), we found that people are able to mentally complete incomplete images or texts. IKEA promotes shelves, while the shelves themselves are absent; the perceivers reported "seeing" the shelf through mental image completion. Guinness beer uses a word play with incomplete letters; the perceivers correctly added the missing letters in "g....ess who." VW promotes its Touareg with an incomplete image of the car in combination with the ad message "Just like you, he'd rather not stand out;" the perceivers stated that it was easy to imagine the entire image of the Touareg model.

However, perceivers also reported that such ads differ with respect to the ease with which the reasons why the marketer used incompleteness are understood. We found that the reason why the image of the shelf itself is absent was regarded as highly comprehensible ("The advertiser wants to be creative"), and the reason why a beer is promoted by the means of word play is highly comprehensible as well ("The advertiser wants to challenge my abilities"). In contrast, the results of our pilot study indicated that the perceivers had difficulties understanding the reason why the VW brand promoted the car with an incomplete car image.

Thus, our current objective is to investigate the antecedents of the comprehensibility of the reason for incompleteness as follows:

RQ1: If the product image or the text in an advertisement is incomplete, then to what reasons do consumers attribute incompleteness? What makes incompleteness highly comprehensible?

Moreover, we examine the effect of the comprehensibility (high vs. low) of the reason for incompleteness on attitudes towards the promoted brand as follows:

RQ2: If the reason for the incompleteness is highly vs. less comprehensible, then do these consumer perceptions influence the evaluations of the promoted brand? What are the effects?

1.2. Prior research in academic literature

Incompleteness in advertising has many different meanings.

One stream of research investigates the kind of information consumers want to receive by advertising. For instance, Hsu and Mo (2007, p. 70) stated that ads promoting fashion could inform consumers about the "brand, price, retail locations, presentation of products, materials, country-of-origin, endorsers, promotion, product

style, and brand history" and that, due to limited space, ads could not contain all of these pieces of information. Thus, omitting particular information (e.g., retail locations) makes advertisements "incomplete." We do not aim to answer the question of which features are more or less important from the consumers' point of view.

Other researchers investigate "incomplete" packaging and products. For instance, Sevilla and Kahn (2014) considered two kinds of bottles of shampoo (one with a hole in one of its sides that was intended to be a handle and one without such a handle) and two kinds of cheese (one with holes, such as Emmentaler, and one without holes). They found consumer preferences for completely shaped items.

Kraus and Gierl (2019) examined the "completeness" of the presence of brand retrieval cues of well-known brands such as Milka, Marlboro, Telekom, and Amazon. They considered ads that differed regarding the presence of such cues. For instance, they compared a Milka ad containing the slogan, logo, and a key visual to both a Milka ad with the slogan and a key visual and a Milka ad that only depicted the slogan. This study showed that brand evaluations were higher when the number of brand retrieval cues was lower.

In this research, we focus on complete/incomplete product images and complete/incomplete words in advertising, which likely activate the need to mentally complete these images and texts. Empirical research on *evaluative* responses in conditions in which people mentally complete incomplete product images or texts is rather scarce thus far.

Peracchio and Meyers-Levy (1994) and Sengupta and Gorn (2002) tested the effect of incompleteness/completeness of product images on brand attitude in an advertising context. However, they did not consider the distinction between comprehensible and less comprehensible reasons for incompleteness (which we aim to investigate). Peracchio and Meyers-Levy (1994) used print advertisements promoting beer and jeans as test stimuli. The image of the promoted product image was either cropped or uncropped in the ad. The authors reported that cropping the product images was either *advantageous* or resulted in the *same* evaluations as not cropping the images; the effect depended on the high/low consumer motivation of processing the ad material and the informational/emotional formulation of the ad claim. Because there was no consistent pattern of results across the promoted brands, we do not consider these factors in our research. Sengupta and Gorn (2002) used advertisements promoting a camera. In the complete product-image condition, a male breast with the camera hanging around the person's neck was depicted. In the incomplete-image condition, the image of the camera was removed, and only the outline of the camera and the camera strap were shown in the form of a sunburn on the breast. The authors found a *positive* effect of incompleteness on brand attitude. [1]

Although we have no evidence for this presumption, we surmise that these authors compared the condition of comprehensible incompleteness to the condition of completeness. While Peracchio and Meyers-Levy (1994) did not provide the image of the test stimuli in detail, Sengupta and Gorn (2002) showed the tested advertisements. We surmise that perceivers inferred creativity as the reason for incompleteness.

1.3. Relevance for advertising practice

We use the term incompleteness to denote incomplete product images (e.g., cropped product images) and incomplete texts (e.g., words with missing letters). In this context, we aim to investigate which types of incompleteness are comprehensible and which effects on brand attitudes exist if the reason for incompleteness is highly or less comprehensible. This research is relevant for advertising practice for the following reasons.

Marketers often use less comprehensible incompleteness. In our pilot study (which we will present in Section 3), we collected 140 advertisements with incompleteness. We asked test participants to classify these ads according to the comprehensibility of the reason why incompleteness was used. Eighty ads were classified by test participants as highly comprehensible, and 60 were classified as less comprehensible.

Consumers often question the reason for the incompleteness. In the empirical section of our manuscript, we will describe four experiments in which we manipulated ads (Sections 5 to 8). In these studies, we created versions of advertisements with the following characteristics: (1) completeness, (2) less comprehensible reason for incompleteness, and (3) highly comprehensible reason for incompleteness. In our studies, the questionnaires started with the request to indicate all thoughts and feelings in response to these ads (thought-listing task). When we analysed the thoughts for the "less comprehensible reason for incompleteness" condition, we found large portions of test participants who questioned the reasons for the incompleteness. [2]

1.4. Structure of the manuscript

Our starting point for the analysis of consumer responses to the incompleteness of product images and words in advertisements is the presumption that this technique might produce ambivalent effects. There might be a negative effect because processing incomplete information is more difficult than processing complete information, and coping with difficulties is disliked. However, there might also be positive effects. *First*, as Peracchio and Meyers-Levy (1994) presumed, experiencing success when mentally completing an image might produce a positive effect on brand evaluation. *Second*, incompleteness might also elicit perceptions of ad originality, which have a positive impact on evaluations as well. We contribute to this research by focusing on an additional aspect, namely, the comprehensibility of the reason why

the marketer used incompleteness (high vs. low comprehensibility of this reason might cause an additional positive vs. negative effect). To the best of our knowledge, there is no research on the comprehensibility of the reason for incompleteness on evaluative responses thus far.

In Section 2, we will present our theoretical framework. In Section 3, we will describe the findings from our pilot study, which aimed to divide comprehensible from incomprehensible reasons for incompleteness and to identify different types of comprehensible reasons for incompleteness. Then, we will provide an overview of our studies in Section 4. We will test the effect of the comprehensibility of the reason for using incompleteness in a series of four studies in Sections 5 to 8. After a summary in Section 9, we will provide implications for theory and advertising practice in Section 10. Finally, Section 11 contains suggestions for future research.

Thus, we aim to assist advertisers in deciding which types of incompleteness they should use if they want to benefit from consumers' desire to complete incompleteness. However, we will not compare different types regarding their effectiveness; this means that we do not additionally aim to identify types of comprehensible incompleteness that have a strong positive impact on brand attitudes vs. types of comprehensible incompleteness that have a weak positive impact on brand attitudes. Moreover, we aim to enhance knowledge about the applicability of the theoretical approaches underlying the ambiguity effect, which will be explained in Section 2.1., because we examine conditions under which the activation of the desire to mentally complete incompleteness affects brand attitudes.

2. Theoretical background

In this section, we derive hypotheses about different effects of incompleteness of product images and words in advertisements on brand attitudes.

2.1. Feelings of pleasant surprise due to resolving incompleteness

Need to mentally complete incomplete stimuli

The need or desire to mentally complete incomplete stimuli is described in early fundamental studies on image completion (Bartlett 1916; Street 1931) and Gestalt theory (e.g., Wertheimer 1923) and can be derived from the desire for aesthetic congruity (Kreitler and Kreitler 1972). Moreover, it can be predicted from the more general "need for closure" (Webster and Kruglanski 1994).

In an early study on image completion, Bartlett (1916) created incomplete images and examined whether people mentally completed them. He used very simple pictures (e.g., a square with the omission of the line on one side) and asked test participants to indicate what they saw. Street (1931) investigated the need to complete incomplete images with the help of more sophisticated pictures. For instance, test participants viewed an incomplete image showing a pair of dancers or a rider on a horse. Examples of the incomplete images created by Bartlett (1916) and Street (1931) are shown in *Fig. 2*. These researchers reported that persons are prone to imagine the whole figure and to name it. More recently, similar test stimuli have been developed by Snodgrass and Feenan (1990) for the purpose of investigating responses to incomplete images.

Gestalt theory was developed in the 1930s. It focuses on perceptions of multiple elements that are seen at the same moment. By mentally combining, completing, or omitting elements, people perceive multiple elements as one unit (i.e., as a whole). Koffka (1935, p. 176) postulated that it is crucial whether elements are perceived individually or as one unit; i.e., "The whole is something else than the sum of its parts." Wertheimer (1923) initiated the stream of research that aims to identify characteristics of elements that help perceivers to infer a unit. Examples of these characteristics are as follows: the similarity of the elements (i.e., elements with the same colour, size, or shape are perceived as one unit), the distance between the elements (i.e., close elements are likely to be grouped), the "Gestalt" of the elements (e.g., elements that are arranged in a certain shape such as in a square, circle, or triangle are mentally grouped), the direction of the elements (e.g., elements pointing to or moving in the same direction are likely to be perceived as one unit), and the lines and curves that the elements build (i.e., elements arranged on a line are likely to be grouped). Moreover, Wertheimer (1923, p. 325) postulated that people mentally complete shapes that are built by visual elements. By mentally filling in the missing parts of an incomplete image, people mentally create the image of a "whole." For instance, imagine seeing a mountain, which is partly covered by clouds. By mentally completing the missing parts of the mountain's image, people obtain an image of the entire mountain in their mind.

A further reason why people automatically complete incomplete stimuli is the desire for aesthetic congruity.

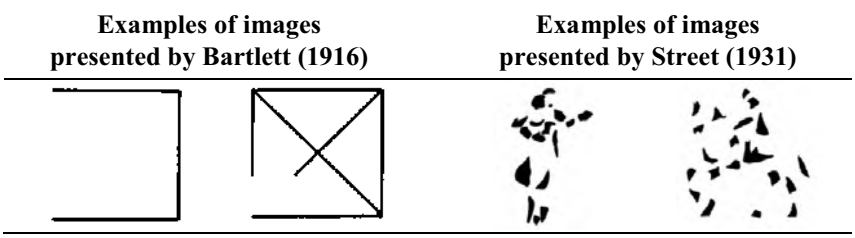


Fig. 2: Incomplete stimuli used in fundamental research on image completion

Kreitler and Kreitler (1972) considered the case of stimuli that contradict one's experience of stimuli that exist in real life. The authors explained the resulting process by referring to a triangle without an apex (a figure that does not exist in real life and thus is denoted as non-aesthetic). By mentally completing a triangle without an apex, a trapezoid or a triangle can result. The authors stated that people try to reduce the experience of an unpleasant state resulting from non-aesthetic incompleteness through the mental completion of such images.

According to Kruglanski (1990, p. 337), people have a "need for closure", which is defined in terms of a desire for "an answer on a given topic, any answer, as compared to confusion or ambiguity." Webster and Kruglanski (1994, p. 1049) argued that people have a "desire for predictability, preference for order and structure, discomfort with ambiguity, decisiveness, and close-mindedness." As incompleteness is a kind of ambiguity, Peracchio and Meyers-Levy (1994, p. 191) argued that the desire to complete incompleteness is a manifestation of the more general "need for closure."

In summation, there is prior research that provides arguments and evidence for the existence of a need to mentally complete incomplete stimuli.

Affective response resulting from completing incompleteness

Peracchio and Meyers-Levy (1994) introduced the term "ambiguity effect" in the literature to denote *favourable affective* responses that go along with the successful completion of incomplete stimuli. By mentally completing the missing parts of an incomplete stimulus, people feel a "pleasure of resolution" (Peracchio and Meyers-Levy 1994, p. 191). This positive effect of ambiguity has also been addressed by many other researchers (e.g., Hagtvedt 2011; Jeong 2008; Patrick and Hagtvedt 2011; Sharma and Varki 2018; Smith et al. 2008; Stathakopoulos et al. 2008).

In general, incomplete stimuli are incongruent with consumer expectations because consumers expect to view complete stimuli. The primary response to stimulus-schema incongruity is the feeling of *surprise*. According to Berlyne (1971), an incongruent stimulus is surprising. Surprise enhances the motivation to process and resolve incongruity. Thus, surprise is an important factor in striving to resolve incongruity (Schützwohl and Borgstedt 2005; Yoon 2013). According to Izard (1977, p. 86), surprise is "brought about by a sudden unexpected event." Meyer and Niepel (1994, p. 353) argued that "surprise is elicited by unexpected events, that is, events that deviate from schema." The effect of incongruity on surprise has already been tested successfully (e.g., Alden et al. 2000a; Alden et al. 2000b; Meyer 1988; Meyer et al. 1991).

When consumers are exposed to incompleteness in advertisements, they are unlikely to face severe difficulties with mentally completing product images or texts. This is because, for advertisers, the use of unresolvable incompleteness does not make sense, and thus, they use incompleteness that can be resolved. Unresolvable incompleteness would puzzle consumers. [3] Thus, consumers perform a successful task when they mentally complete incomplete stimuli. In this condition, they are expected to experience *pleasant surprise* because they recognise that their cognitive abilities are sufficient to perform this task. Mandler's (1982) schema-incongruity theory can be used to predict this positive affective response. Complete ad stimuli are congruent with schema. Incomplete ad stimuli that can be mentally completed are moderately incongruent with schema. Mandler postulated that people try to resolve incongruence. If the resolution is successful (as is expected for moderate incongruence, e.g., incompleteness in advertisements), then positive affect is elicited. Meyers-Levy and Tybout (1989, p. 40) argued that "the very process of resolving the incongruity is thought to be rewarding and thus may contribute to the resulting positive affect." Peracchio and Meyers-Levy (1994, p. 191) explained this effect in such a way that "ambiguity leads to more extensive ad processing as well as a search for closure, which, if successful, could elicit positive affect." Furthermore, "this resulting positive affect should be relatively extreme, thereby translating into more favourable product evaluations." Thus, in line with Peracchio and Meyers-Levy (1994), we presume that the positive affect resulting from the successful mental completion of incompleteness in advertisements is transferred to the brand, which leads to a more favourable brand attitude. As a theoretical argument, the affect-as-information theory (Schwarz 1990) could be used to predict this spill-over effect. Thus, we presume that feelings of pleasant surprise result from the fact of recognising that one's abilities are sufficient to mentally complete incomplete stimuli. We test the following hypotheses:

H1a: Compared to completeness, incompleteness results in stronger feelings of pleasant surprise because one is able to mentally complete the incomplete stimulus.

H1b: Feelings of pleasant surprise positively affect brand attitude.

2.2. Perceptions of ad originality due to incompleteness

Another aspect of incomplete stimuli is their relative rareness and the resulting perceptions of originality compared to complete stimuli in advertising.

People develop perceptions of originality if something is presented in a new way, i.e., if a familiar stimulus is defamiliarized. Perceptions of originality exist if people are enabled to view a familiar issue from an unexpected perspective. Similarly, Smith et al. (2007, p. 821) defined original ads as "ads that contain elements that are rare, surprising, or move away from the obvious and commonplace." According to Pieters et al. (2002, p. 768), original ads "deviate from most other advertisements and

challenge the consumer to understand what the ad is about." Moreover, Pieters et al. (2002, p. 767) stated that "original ads deviate in some way from the norm for the product, brand, medium, or advertising at large, and are experienced to be unique, different from other ads, and original." Smith and Yang (2004, p. 36) posited that originality goes along with divergence, meaning that the ad contains elements that are "novel, different, or unusual in some way." According to Lehnert et al. (2014, p. 275), "originality refers to elements of rarity and uncommonness." Thus, originality goes along with rareness and novelty. Because incompleteness in advertisements shows something in a new, unusual, or different way, perceptions of ad originality should be elicited. Moreover, ad originality is presumed to prompt more intense processing of the ad message, resulting in more favourable brand attitudes (Smith and Yang 2004; Smith et al. 2007; Smith et al. 2008). Thus, we expect the following:

H2a: Compared to completeness, incompleteness results in higher perceptions of ad originality.

H2b: Perceptions of ad originality positively affect brand attitude.

2.3. Comprehensibility of the reason for incompleteness

What is comprehensibility in general? Comprehension is "conceptualised as the grasping or extracting of prespecifiable meanings from the message" and "as the generation of meanings by a particular individual through the activation of mental concepts related to the message and the processing context" (Mick 1992, p. 411–412). Based on this definition, Mohanty and Ratneshwar (2015, p. 233) defined comprehension as "the degree to which an individual feels he or she has understood and grasped the meaning" of the target stimulus. According to Ratneshwar and Chaiken (1991), the comprehensibility of information is a critical factor in the attitude formation process. There is research on the effects of the comprehensibility of particular ad elements. For instance, van Enschot and Hoeken (2015) investigated the effects of the comprehensibility of rhetoric figures in advertising. They argued that "if people lack the motivation or ability, they may feel frustrated because they cannot figure out what the ad is intended to communicate" (p. 26). Hafer et al. (1996) investigated the effects of the complexity of the language used to formulate verbal arguments in advertisements and reported similar results.

Which kind of incomprehensibility do we examine? We consider the comprehensibility of the reason why incompleteness was used. Consumers might question the reason why the marketer used incompleteness.

What are the effects of comprehensibility in general? Researchers have reported findings that high comprehensibility is a pleasant experience associated with favourable feelings. If people are unable to come up with an explanation, they feel frustrated (van Enschot and Hoeken 2015, with numerous references to related literature).

What are the effects of (in)comprehensibility of incompleteness? We surmise that highly (vs. less) comprehensible reasons for incompleteness have an additional effect, simply due to comprehending vs. not comprehending the *reason for* incompleteness. If consumers find a satisfactory answer, a positive ambiguity effect is likely to result. If they do not comprehend the reason for the use of incompleteness, a counterbalancing effect might co-occur. In Section 2.1, we used Mandler's (1982) schema-incongruity theory to predict an effect when people successfully complete a moderate incompleteness mentally. The same arguments could be used to predict a positive effect of comprehensible incompleteness (compared to completeness) and a negative effect of incomprehensible incompleteness (compared to completeness). Comprehensible incompleteness is congruent with the consumer's schema (i.e., her/his expectations). This mental state is expected to elicit weak positive feelings. Incomprehensible incompleteness is incongruent with her/his schema. Thus, if perceivers do not find an explanation for incompleteness, negative feelings are likely to occur. Numerous authors have stated that not understanding incongruence is associated with feelings of irritation (Jurca and Madlberger 2015), puzzlement and frustration (e.g., Fleck and Maille 2010; Meyers-Levy and Tybout 1989; Meyers-Levy, Louie, and Curren 1994; Peracchio and Tybout 1996; Srivastava and Sharma 2012; Yoon 2013).

Thus, we believe that the sign of the effect of incompleteness on brand attitude is contingent on whether the perceiver can understand the reason why the marketer used incompleteness. Therefore, we expect the following:

H3a: Highly comprehensible reasons for incompleteness result in a more favourable brand attitude than completeness (when the effects via feelings of pleasant surprise due to recognising that one is able to mentally resolve incompleteness and perceptions of ad originality are controlled).

H3b: Less comprehensible reasons for incompleteness result in less favourable brand attitudes than completeness (when the effects via feelings of pleasant surprise due to recognising that one is able to mentally resolve incompleteness and perceptions of ad originality are controlled).

In *Fig. 3*, we summarise our hypotheses.

3. Pilot study to identify incomprehensible and comprehensible reasons for incompleteness

We have not found adequate theories regarding the issue of which factors determine the comprehensibility of the reasons for incompleteness in advertisements. Thus, we

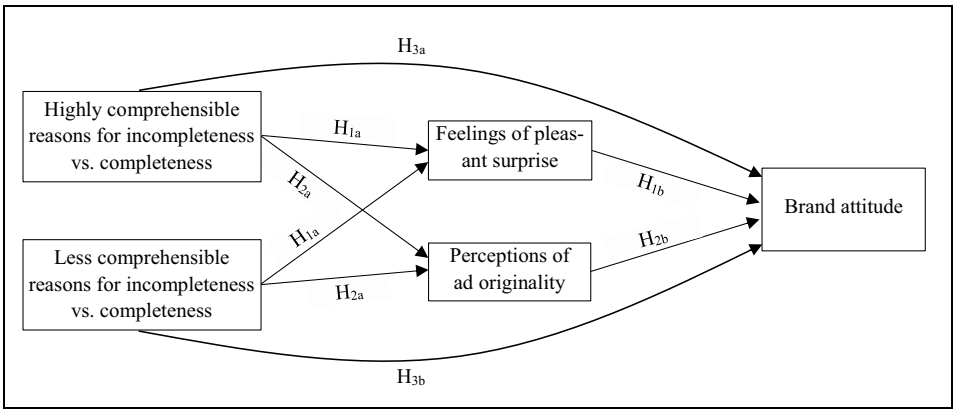


Fig. 3: Conceptual model of this research

conducted a pilot study to gain insight into different types of comprehensible and incomprehensible reasons for incompleteness.

The pilot study was explorative in nature. We surmised that for many advertisements where incomplete product images or words are used, perceivers have difficulties *understanding* the reason why incompleteness is used (although they face no difficulties *in completing* incompleteness). Moreover, we expected that, for other advertisements, perceivers can infer reasons for incompleteness. We wanted to identify such reasons.

3.1. Procedure

First, we asked 57 students who took part in our lectures at the undergraduate and graduate level to search for advertisements stored on the Internet that contain incomplete product images or texts. From these activities and after the elimination of rather similar ads (e.g., ads promoting a car and showing only its front end), we received 140 substantially different print advertisements. *Second,* we asked a sample of ten students to judge, i.e., provide a yes/no answer, for each of these ads regarding whether they were able to comprehend the reason why the marketer used incompleteness. Eighty advertisements with comprehensible reasons for incompleteness remained (all the participants judged the reason for incompleteness as comprehensible). *Third*, we asked another sample of ten students to classify the subsample of ads with comprehensible reasons for incompleteness according to the suspected reason for incompleteness; we did not provide a priori categories. By doing so, we identified some types of comprehensible reasons for incompleteness. *Fourth*, a different sample of ten students was asked to assign the ads with comprehensible reasons for incompleteness (selected in the second step of this pilot study) to one of the identified types (identified in the third step of the pilot study). All ads were assigned correctly to the corresponding types. Thus, we believe that our typology has sufficient validity to test the effect of the comprehensibility of reasons for incompleteness.

3.2. Typology

Ads associated with incomprehensible reasons for incompleteness:

In *Fig. 4 (row I)*, we provide some examples of ads that show an incomplete product image for which the test persons indicated that they did not understand the reason why incompleteness was used. In an ad promoting the "New A Class" of Mercedes, only a part of the car is depicted. If a "new" car is promoted, consumers wonder why the car is not fully shown (although one can imagine what the entire car looks like). Another example is an advertisement by McDonald's, which depicts the well-known Big Mac in a blurry way. Everybody is able to recognise and mentally imagine it, but there is no obvious reason for the blurred picture. The image used to promote a bicycle brand (Veloretti, which was denoted as an unknown brand) was also considered as a case of the use of incompleteness without a comprehensible reason. The participants were able to mentally complete the image, but they did not find a satisfactory explanation for the incompleteness.

Incompleteness to increase consumer agreement to the ad message:

Usually, the presence of images and words conveys information. However, sometimes, the absence of pictures or letters can also provide information. The test participants assigned ads to this type if the pars-pro-toto technique was used for emphasising the ad message to increase consumer agreement with this message, e.g., highlighting a special product benefit (see examples in *Fig. 4, row II*). In an ad promoting Nike Air Max shoes, the sole is shown while the upper part of the shoe is presented like a sketch. Perceivers concluded that the ad aims to highlight the shoes' lightness. An ad for Levi's jeans visualises the perfect fit in the area of the users' abdomen. In an ad promoting the concept of the future Mercedes EQA model (an electric car), the incompleteness indicates innovativeness through a technological breakthrough (the break-through is visualised by using an incomplete image of the car). [4] Our findings from the pilot study indicated that the participants easily compre-

hended the reasons for incompleteness for these ads; i.e., "marketers want perceivers to focus on a special characteristic."

There are also ads that provide information by omitting letters (see examples in *Fig. 4, row III)*. The German Red Cross uses an ad containing the appeal "Spende lut eim R ten Kreuz;" perceivers easily can complete the text as "Spende Blut beim Roten Kreuz" ("Donate Blood at the Red Cross"). The text following this appeal makes the reason for incompleteness comprehensible: "Erst wenn's fehlt, fällt's auf" (meaning that something is only recognised when it is missing). Another social campaign ad includes the text "DNT TXT N D*RIV*E." The information "DNT TXT N" is messenger-style in appearance (it is incomplete, and apps automatically generate the full text). However, the letters R and V in "DRIVE" are written in a different colour; thus, one could read "DIE". From this kind of text, recipients should infer the risk of death if they use text services while driving a car. A health-campaign ad shows the word "Breast cancer" with two fingers of a hand covering the "r" and the "s" in the word "Breast;" thus, one could also read the text as "Beat cancer." Our results from the pilot study indicated that, for this type of incompleteness, the reason for incompleteness is easily understood, i.e., to emphasise a message in order to increase consumer agreement with this message.

Incompleteness to induce feelings of humour:

There are advertisements that aim to induce feelings of humour through incompleteness. If the perceiver is faced with an unexpected omission for which s/he can understand the reason from another sphere of life, then incompleteness aims to be funny and, thus, is comprehensible (*Fig. 4, row IV*). Incompleteness is a kind of incongruity. To induce a humorous response, people have to be exposed to incongruity, which has to be resolved, i.e., makes sense, in a different sphere (Alden et al. 2000a and 2000b; McGhee 1972; Shultz 1972; Suls 1972; Suls 1983; Zhang and Zinkhan 1991. [5] In an ad promoting the Mercedes brand, only the car's backside is depicted. When reading the text "Kiss my S," perceivers pronounce the letter S like "ass", view the S (for Stuttgart) on the license plate, and recognise a car as a Mercedes S Class. Thus, they notice the ambivalence of the message contained in the text and can thus comprehend the incompleteness of the text when thinking about different spheres of life. In a Heineken ad, two bottles of beer are depicted. The image is incomplete and transports ambivalent meanings. Perceivers can comprehend the incompleteness; the brewery intends to show two bottles of beer that look like the abdomen and the legs of a person. A rather similar ad promotes Magnum ice cream.

Incompleteness to highlight a design element:

Some companies use incompleteness of the product image in advertisements to depict a specific design element of the product (see *Fig. 4, row V*). Our pilot study indicated that this kind of incompleteness is comprehensible as well. For example, BMW ads often only show the brand's typical kidney-shaped grille instead of depicting an entire car. In ads promoting the Audi car brand, often only the silhouette of the car or the car's front end against a black background is shown to highlight the typical headlights. In an ad promoting Adidas Superstar shoes, only the shoe cap, which is the typical design element of these shoes, is presented (the so-called rubber shell toe).

Incompleteness for the purpose of creativity:

The pilot study indicated that, for some other advertisements with incompleteness, perceivers comprehend incompleteness as a means of the marketer's intention to express extraordinary creativity (see *Fig. 4, row VI*). For instance, another ad promoting Adidas Superstar shoes does not contain the image of the entire shoe. This image is seemingly strongly defamiliarized for the purpose of creativity. In the ad versions promoting Lucky Strike cigarettes, unusual and unexpected images such as a puzzle or confetti are used to defamiliarize the product image and thereby to create incompleteness that is comprehensible for consumers; i.e., they are means to demonstrate extraordinary creativity.

Incompleteness to challenge the perceivers' abilities to recognise the product image:

Ambiguous images also exist if the target stimulus is, at one moment, present and, at another moment, absent (see *Fig. 4, row VII*). An example of this type of incompleteness is "two images in one image." This phenomenon exists in so-called figure-ground images (for examples of the use of this technique in fine art paintings, see Fisher 1968). For instance, in an ad promoting Coca-Cola, one can see a series of candles and smoke as well as the typical shape of the Coca-Cola bottle. An even more sophisticated technique is applied when the promoted product's silhouette is integrated in another image. For instance, in an ad promoting Absolut vodka, perceivers either see the uncovered back of a woman or the silhouette of the bottle. In another ad for this brand, an image is depicted that shows the sky above skyscrapers, which depict the typical shape of the bottle. In a Heineken ad, a nutcracker shows the silhouette of the beer's bottle. According to our pilot study results, perceivers understand the reason why this type of incompleteness is used; i.e., the advertiser wants to challenge the perceivers' abilities in a playful way when looking for the image of the promoted product (although there are no severe difficulties in detecting it).

To summarise, we first divided a large set of advertisements containing incomplete product images or words into two parts. Based on the judgements of test participants in the pilot study, we classified these ads into two categories (1. less comprehensible reasons for incompleteness and 2. highly comprehensible reason for in-

I. Examples of ads with incomprehensible reasons for incompleteness

II. Examples of ads with comprehensible reasons for incompleteness of visual information – they increase consumer agreement to the ad message

III. Examples of ads with comprehensible reasons for incompleteness of verbal information – they increase consumer agreement to the ad message

IV. Examples of ads with comprehensible reasons for incompleteness – they induce feelings of humour

Fig. 4: Examples of ads with incomprehensible and comprehensible reasons for incompleteness

V. Examples of ads with comprehensible reasons for incompleteness – the marketer intends to highlight a design element

VI. Examples of ads with comprehensible reasons for incompleteness – the marketer intends to strongly defamiliarize the product image for the purpose of creativity

VII. Examples of ads with comprehensible reasons for incompleteness – the marketer intends to use ambiguous images to challenge the perceivers' abilities to recognize the product image

Fig. 4: Examples of ads with incomprehensible and comprehensible reasons for incompleteness (cont.)

completeness). The latter category was further classified into subcategories according to the suspected reason for incompleteness. Admittedly, each typology is incomplete and arbitrary to a certain extent. However, the aim of the pilot study was to identify some frequently used types of incompleteness in advertising to test our hypotheses.

4. Overview of the experimental studies

In the first experimental study (Study 1), we aimed to provide evidence for the presumption that incompleteness is not always associated with positive stimulus evaluations. We wanted to show that the positive effect of incompleteness as postulated by Peracchio and Meyers-Levy (1994) and Sengupta and Gorn (2002) is *not* a generally valid effect, i.e., that incompleteness compared to completeness can also have a negative effect. If we find, contrary to our expectations, that there is a positive ambiguity effect even when the reason for incompleteness is less comprehensible, then subsequent analyses of the incomprehensibility factor would be needless. Thus, for Study 1, we chose ads with incomplete product images that were included in our pilot study and for which the pilot study participants stated that the reason for incompleteness was less comprehensible. We added corre-

Study	Conditions	Hypotheses
1	• LCI: Less comprehensible reason for incompleteness • C: Completeness	H1a, H1b, H2a, H2b, H3b
2	• HCI: Highly comprehensible reason for incompleteness due to recognising the marketer's attempt to increase consumer agreement to the ad message • LCI: Less comprehensible reason for incompleteness • C: Completeness for visual information	H1a, H1b, H2a, H2b, H3a, H3b
3	• HCI: Highly comprehensible reason for incompleteness due to recognising the marketer's attempt to increase consumer agreement to the ad message • LCI: Less comprehensible reason for incompleteness • C: Completeness for verbal information	H1a, H1b, H2a, H2b, H3a, H3b
4	• HCI: Highly comprehensible reason for incompleteness due to recognising the marketer's attempt to induce humorous response • LCI: Less comprehensible reason for incompleteness • C: Completeness	H1a, H1b, H2a, H2b, H3a, H3b

Tab. 1: Overview of the studies conducted to test the hypotheses

sponding ads with complete images. As we compare the condition of completeness to the condition of a less comprehensible reason for incompleteness in Study 1, we cannot therefore test the *effect* of the comprehensibility (high vs. low) of the reason for incompleteness in this experiment. However, if we find a negative effect of incompleteness, the findings would justify the subsequent examination of the comprehensibility factor.

In Studies 2, 3, and 4, we manipulated the comprehensibility (high, low) of the reason for incompleteness and added the condition of completeness. We could not test all the types of comprehensible reasons for incompleteness that we revealed in our pilot study (see Section 3) in this paper. Thus, we focused on selected types of comprehensible reasons for incompleteness: incompleteness aiming to increase consumer agreement to the ad message by omission of visual elements (Study 2) or by omission of letters (Study 3) and incompleteness aiming to induce feelings of humour (Study 4). In these experimental studies, we compared three conditions: completeness, highly comprehensible reason for incompleteness, and less comprehensible reason for incompleteness (*Tab. 1*).

5. Study 1: Comparing incomprehensible reasons for incompleteness to completeness

5.1. Experimental design

We used a 2 (product image: complete product image, incomplete product image associated with low comprehensibility of the use of the incompleteness) × 4 (brand: Marlboro, Mercedes Benz, IKEA, Schwan-Stabilo) between-subjects design. The brand factor served only as a replication factor; i.e., we did not expect remarkable differences across the brands.

5.2. Test stimuli

We chose four advertisements with incomplete product images, of which three were used in practice: Marlboro, Mercedes Benz, and IKEA (see *Fig. 5, bottom row*). We created corresponding ads with complete images for these brands (see *Fig. 5, top row*). We knew from our pilot study that the use of incompleteness was incomprehensible for the incomplete ad versions promoting these brands. Additionally, we created a further pair of ad versions for the Schwan-Stabilo brand. A pretest showed that the reason for incompleteness was also incomprehensible for the incomplete-product-image ad created for this brand.

5.3. Test participants and procedure

In total, 505 consumers participated in Study 1 (M_{age} = 25.2 years, 58.0 % females, 84.2 % students). Across the experimental conditions (complete vs. incomplete image), the test participants neither differed with respect to interest in the product category ($F_{1;503}$ = .028, *n.s.*) nor differed in regard to knowledge about the product category ($F_{1;503}$ = .596, *n.s.*).

Data were collected on the campus of a university in Germany at the end of 2017 and in the spring of 2018. The participants took part in face-to-face interviews. The participants could watch one ad version as long as they wanted, and then they had to fill in a questionnaire. The test participants strongly agreed with the statement "The brand is very well-known" ($M_{Marlboro}$ = 5.99; $M_{Mercedes}$ = 5.93; M_{IKEA} = 6.12; and $M_{Schwan\text{-}Stabilo}$ = 6.02) on a seven-point scale ("1 = totally disagree", "7 = totally agree") to

Fig. 5: Test stimuli used in Study 1

Construct	Statements	Reliability; source
Brand attitude	This brand is very appealing. This brand is very good. This brand is very pleasant. This brand is very favourable. This brand is very likeable.	α = .916 Spears and Singh (2004)
Perceptions of ad originality	This ad is very original. This ad is very unique. This ad is very out of the ordinary. This ad is very different from other ads.	α = .946 Pieters et al. (2002); Smith et al. (2007)
Feelings of pleasant surprise	Please focus only on the promoted product. While mentally concentrating on the product, what did you feel when envisioning the product in reality: … I felt surprise. … I felt astonishment. … I felt curiosity. … I felt interest. … I felt amazement. … I felt excitement.	α = .907 Self-created statements
Ease with which one can mentally complete the incomplete product image (only in the incompleteness condition)	I was able to mentally complete the product image/logo. I could easily imagine the whole product/logo. I could imagine the entire product/logo very quickly. I had no difficulties imagining the entire product/logo.	α = .809 Bone and Ellen (1992)
Perceptions of ad completeness	All things in the ad are complete.	-

Tab. 2: Measures used in Study 1

a high extent. This outcome indicates the high familiarity of the test participants with the test objects.

5.4. Measures

After the exposure to the ad, the participants were asked to write down all the thoughts and feelings that come into their mind while watching the ad. Then, the test persons were asked to indicate agreement or disagreement with certain statements on a seven-point scale that was anchored with "1 = totally disagree" and "7 = totally agree" (*Tab. 2*).

Finally, the persons indicated their age, gender, and occupational status in addition to further control variables such as the usage or purchase frequency of products from the respective category and brand familiarity.

	Marlboro		Mercedes Benz		Ikea		Schwan-Stabilo		Total	
	Complete	Incomplete	Complete	Incomplete	Complete	Incomplete[a)]	Complete	Incomplete	Complete	Incomplete
Manipulation check variables:										
Perceptions of ad completeness	3.00* (1.73)	2.40 (1.58)	3.53* (1.76)	2.96 (1.77)	5.27* (1.95)	3.34 (1.56)	4.37* (1.76)	3.02 (1.57)	4.13* (1.98)	2.90 (1.64)
Ease of mentally completing the image	-	5.33 (1.53)	-	4.83 (1.74)	-	4.62 (1.44)	-	5.04 (1.75)	-	5.00 (1.66)
Response variables:										
Feelings of pleasant surprise	2.27 (1.14)	2.63 (1.27)	2.80 (1.43)	3.53* (1.41)	2.67 (.87)	4.02* (1.27)	2.98 (1.32)	3.33 (1.65)	2.71 (1.22)	3.30* (1.52)
Perceptions of ad originality	1.94 (1.01)	2.54* (1.53)	2.90 (1.39)	3.44* (1.52)	3.52 (.99)	4.98* (1.26)	3.23 (1.33)	3.66* (1.74)	2.94 (1.32)	3.52* (1.74)
Brand attitude	3.00* (1.67)	2.45 (1.13)	5.16* (1.24)	4.62 (1.15)	5.27* (.78)	4.76 (.99)	4.72* (1.01)	3.87 (.99)	4.55* (1.47)	3.81 (1.35)

Notes: Scales range from 1 (low, negative) to 7 (high, positive). Standard deviations in parentheses.
[a)] In this condition, the product image was completely absent.
An asterisk indicates that the mean values differ at the .05 level (one-sided test) and indicates the higher value.

Tab. 3: Results of Study 1

5.5. Description of results, manipulation checks, and hypotheses tests

Description of the results:

Tab. 3 contains the mean values and standard deviations for the manipulation check and response variables as well as information about significant differences.

Manipulation checks:

The manipulation worked as intended. *First*, perceptions of ad completeness were higher in the completeness condition than in the incompleteness condition ($F_{1;503}$ = 55.227, $p < .001$). *Second*, the test participants strongly agreed to the statement that they were able to mentally complete the image in the incompleteness condition.

Hypotheses tests:

Because the results were stable across the brands, we aggregated the data. We estimated the parameters of a mediation model (Hayes 2013, model 4). We used a binary independent variable (1 = incompleteness/less comprehensible reason for incompleteness, 0 = completeness), feelings of pleasant surprise (due to recognising that one can envision the promoted product) and perceptions of ad originality as the mediating variables, and brand attitude as dependent variable. The findings are shown in *Fig. 6.* As predicted in H1a, feelings of pleasant surprise due to recognising that one is able to envision the promoted product were stronger in the incompleteness condition than in the completeness condition (a = .60, $p < .001$). In line with H2a, incompleteness resulted in higher perceptions of ad originality than completeness (a = .58, $p < .001$). The data also support H1b and H2b, which hypothesised positive effects of pleasant surprise (b = .19, $p < .001$) and perceptions of ad originality (b = .26, $p < .001$) on brand attitude. Importantly, there was also an additional negative direct effect of incomprehensible incompleteness on brand attitude (c' = -1.01, p <.001), which was hypothesised in H3b.

We should mention the phenomenon that the mediating variables were correlated ($r_{\text{surprise, originality}}$ = .547), which might have biased the estimates of the b-coefficients. However, we cannot avoid the correlation between these variables because they are affected by the same source (the independent variable). Preacher and Hayes (2008, p. 887) discuss this issue and recommend using conceptually different mediators to minimise the collinearity

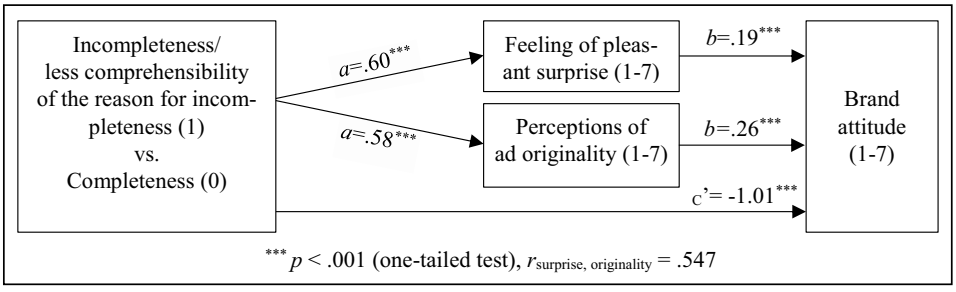


Fig. 6: Estimates of a mediation model (Study 1)

problem. We presume that feelings of pleasant surprise and perceptions of ad originality are conceptually distinct.

5.6. Interpretation

We found that we can distinguish three significant effects on brand attitude. Incompleteness has a positive effect via feelings of pleasant surprise ($a \times b = .11$, .95 CI = (.05; .20)) and a positive effect via perceptions of ad originality ($a \times b = .15$, .95 CI = (.08; .26)), and there is an additional negative direct effect ($c' = -1.01$, .95 CI = (-1.25; -.78)). The total effect is negative ($M_{\text{incomprehensible reason for incompleteness}} = 3.81$, $M_{\text{completeness}} = 4.55$, mean difference = $.60 \times .19 + .58 \times .26 - 1.01 = -.74$, .95 CI = (-1.00; -.49)). For the ad versions selected for this study, the negative direct effect c' outweighed the sum of the positive indirect effects, resulting in the overall negative effect of incompleteness on brand attitude. The experiment provides evidence for the validity of H1a, H1b, H2a, H2b, and H3b. We *interpret* the latter effect c' as the impact of the incomprehensibility of the reason for incompleteness. However, this initial study does not allow for the *testing* of the comprehensibility of the reason for incompleteness because we have only one incompleteness condition (i.e., we compared incomprehensible incompleteness to completeness and did not consider comprehensible completeness as an additional level).

With respect to the aim of Study 1, we conclude from its findings that the use of incompleteness in advertising is not advantageous *per se*. Particularly, if incompleteness is associated with a lower comprehensibility of the reason for the use of incompleteness, then incompleteness *impairs* attitudes; i.e., it has an overall negative direct effect. Prior research did not reveal this sign of the total effect. Thus, we have good reasons to examine the effect of the comprehensibility of the reason for incompleteness in more detail. In our pilot study, we looked for types of incompleteness for which the reason for their use is highly comprehensible. We used these findings in the subsequently presented studies.

6. Study 2: Comprehensibility of incompleteness of visual information that aims to increase consumer agreement to the ad message

In Study 2, we tested the effect of incompleteness of *visual* stimuli in advertisements (complete vs. incomplete) and, for the incomplete versions, the effect of the comprehensibility of the reason for incompleteness (highly comprehensible, less comprehensible). For the highly comprehensible incompleteness condition, we used ad versions that aim to increase consumers' agreement to the ad message with the means of incompleteness.

6.1. Experimental design

We used a 2 (product image that emphasises the ad message, image that does not emphasise the ad message) × 3 (product image: complete, moderately incomplete, strongly incomplete) × 2 (brand: Nike sports shoes, Absolut vodka) experimental between-subjects design. The brand served as a replication factor that enabled us to check the generalisability of the results. Below, we will explain in detail how we collapsed the conditions of this experimental design to obtain conditions of highly comprehensible reasons for incompleteness (HCI), conditions of less comprehensible reasons for incompleteness (LCI), and conditions of completeness (C).

6.2. Test stimuli

In 2012, the Nike brand launched "flyknit" sports shoes, whose upper part is woven from yarn. Due to this feature, the weight of the shoes is very low, which increases the users' comfort. In the original ad, the manufacturing process is visualised as follows: the ad image shows yarn and the front part of one of the shoes as if it is in production at this moment (HCI version 1). The observer easily infers the special product characteristic due to the "flyknit" technique; i.e., the shoes are very light. Based on this version, we created a complete-image ad version that shows the entire shoe (C version 1). We faced the challenge of creating another incomplete image version for which the reason for incompleteness was less comprehensible. In pretests, we found that larger incompleteness of the shoe did not result in lower perceptions of comprehensibility (HCI version 2). Thus, we decided to create an ad version that depicted only a part of the shoe without explaining why this image was incomplete (LCI version 1). Because this image looked different (without the spool of yarn), we additionally created another complete version (C version 2). To complete the ad versions, we also added a version that only showed a very small part of the shoe without an explanatory reason for the strong level of incompleteness (LCI version 2).

In an Absolut vodka campaign from 2016, only the silhouette of the bottle in front of a black background and the text "Absolut Nights" is shown. The ad's implicit message is "Make your nights Absolut nights." The omission of elements of the product image seemingly connects the absence of the product ("absolutely nothing is recognisable because it is a dark night") with experiences of consumption ("to experience perfect nights"). In other words, the wordplay states that "Absolut" vodka is perfectly suitable for experiencing "absolute nights." Thus, the omission (i.e., the absence of a clear product image) aims to transfer a symbolic meaning. In the original ad version, the brand name on the label is invisible as well (HCI version 2). As the focus of our experiment was not to investigate the effect when the brand name is present or absent, we created an additional ad version in which the brand name, Absolut vodka, was still visible on the label and the wordplay "Absolut Nights" was still

comprehensible (HCI version 1). For the complete-image condition, we created an ad version in which the bottle was fully depicted (C version 1). Next, we needed to create an ad version in which the product image was incomplete, and the omission obviously had no clear reason. We created a version similar to the original ad but omitted the bottle image completely (this version only contained the text "Absolut Nights" against a black background). However, in a pretest, we found for this version that the test persons were unable to infer the brand name

	Complete image	**Moderately incomplete image**	**Strongly incomplete image**
Image emphasises the ad message (low weight of the sports shoes)			
	C version 1 *(Completeness)*	HCI version 1* *(Moderate incompleteness, incompleteness highly comprehensible)*	HCI version 2 *(Strong incompleteness, incompleteness highly comprehensible)*
Image does not emphasise the ad message			
	C version 2 *(Completeness)*	LCI version 1 *(Moderate incompleteness, incompleteness less comprehensible)*	LCI version 2 *(Strong incompleteness, incompleteness less comprehensible)*
Image emphasises the ad message (vodka especially suitable for experienceing absolute nights)			
	C version 1 *(Completeness)*	HCI version 1 *(Moderate incompleteness, incompleteness highly comprehensible)*	HCI version 2* *(Strong incompleteness, incompletenes highly comprehensible)*
Image does not emphasise the ad message			
	C version 2 *(Completeness)*	LCI version 1 *(Moderate incompleteness, incompleteness less comprehensible)*	LCI version 2 *(Strong incompleteness, incompleteness less comprehensible)*

Note: The ads marked with * are the original ad versions. The other versions were created for the purpose of this experiment.

Fig. 7: Test stimuli used in Study 2

(Absolut) and the product category (vodka). This was the reason why we designed additional versions in which the image of the bottle was shown in front of a white background and was more (or less) incomplete, such that the persons were, according to pretest results, capable of recognising both the brand name and the product category. These versions are denoted as LCI version 1 and LCI version 2. Moreover, we added an ad version with the white background and the complete product image, which was denoted as C version 2.

To summarise, we created two complete-image versions (C), two versions with high comprehensibility of the reason for incompleteness (HCI), and two versions with less comprehensibility of the reason for incompleteness (LCI) for both brands. The HCI versions only differed with respect to the degree of incompleteness of the image (moderately incomplete or strongly incomplete). The LCI versions were also different regarding this aspect. All test stimuli used in Study 2 are depicted in *Fig. 7.*

6.3. Test participants

Overall, 449 persons participated in this experiment (55.7 % females, 85.9 % students, age ranged between 18 and 40 years, M_{age} = 23.96 years, SD_{age} = 6.19). The test participants strongly agreed with the statement "The brand is very well-known" (M_{Nike} = 6.77; $M_{Absolut}$ = 6.21) on a seven-point scale. Thus, Nike and Absolut count as brands with which the test participants are highly familiar. There were no significant differences across the six experimental conditions with respect to consumption frequency ($F_{5;443}$ = .946, *n.s.*), interest in the product category ($F_{5;443}$ = .385, *n.s.*), and knowledge in the product category ($F_{5;443}$ = .418, *n.s.*).

6.4. Procedure and measures

Data were collected between the summer of 2018 and the spring of 2019 for the Nike sports shoes and in the spring of 2020 for Absolut vodka.

We adopted the measures from Study 1: brand attitudes: α = .834, feelings of pleasant surprise: α = .861, perceptions of ad originality: α = .921, ease of mentally completing the image [for the incompleteness conditions only]: α = .856, and perceptions of ad completeness (single-item scale).

Additionally, the comprehensibility of the reason why the marketer used incompleteness was assessed. The corresponding statements were introduced with the text "The reason why the company depicted this incomplete product image is ...", followed by a list of adjectives: "very comprehensible, "very easy to understand," "very fast to understand," "very clear," "not complicated," and "very obvious" (α = .828).

Moreover, we intended to assess consumer agreement with the ad message. We refrained from directly asking whether and to what extent the test participants associated the "flyknit" shoes of the Nike brand with low weight and the consumption of Absolut vodka with "absolutely perfect nights". Reading the verbal formulation of such statements would clarify the aim of the measure; due to such formulations, the consumers would be likely to focus strongly on the ad message and would agree with the ad message. Thus, to infer agreement with the ad message, we used the verbal information provided by the test persons in the thought-listing task, i.e., when they responded to the instruction to "Please indicate all the thoughts and feelings that come into your mind while watching the ad." If the test participants provided phrases such as "a very light shoe" or "a shoe with low weight," we presumed that there was agreement with the ad message. If the participants provided sentences such as "Absolut vodka goes perfectly with party nights" or "Absolut vodka is a perfect companion when going out at night," we concluded that respondents agreed with the vodka ad message. Two coders analysed the verbal texts and assigned the values 1 (agreement to the ad message present) or 0 (agreement to the ad message absent). A third coder was consulted if the coders provided contradictory assessments.

6.5. Descriptive results, manipulation checks, and hypotheses tests

We started the data analyses by investigating the perceptions of ad completeness and the comprehensibility of the reason for incompleteness for the ad versions for each brand. For perceptions of ad completeness, Scheffé tests indicated that these perceptions decreased with increasing incompleteness. For the aspect of the comprehensibility of the reasons for incompleteness, Scheffé tests showed that these perceptions were lower in both LCI conditions compared to the C and HCI conditions. Thus, we aggregated the data for both C conditions, both HCI conditions, and both LCI conditions, resulting in one C condition, one HCI condition, and one LCI condition for each brand.

Description of the results:

Tab. 4 contains the mean values of the manipulation check and response variables depending on the C, HCI, and LCI condition.

Manipulation checks:

First, perceptions of ad completeness were highest in the C condition compared to the HCI and the LCI conditions ($F_{2;446}$ = 98.459, $p < .001$). The Scheffé test indicated that these perceptions did not differ between the HCI and LCI conditions. *Second*, the test persons strongly confirmed that they were able to mentally complete the incomplete ad images. *Third*, we checked whether the HCI versions resulted in higher consumer agreement to the ad message than the LCI and C versions. We used chi-square tests to compare the percentages (for the shoes: $\chi^2_{(2)}$ = 34.731, for the vodka: $\chi^2_{(2)}$ = 10.348, and for both brands: $\chi^2_{(2)}$ = 36.299, all $ps < .01$). In the HCI condi-

	Brand	Completeness (C versions)	Highly comprehensible reason for incompleteness (HCI versions)	Less comprehensible reason for incompleteness (LCI versions)
Manipulation check variables:				
Perceptions of ad completeness	Nike sports shoes	5.15 (.82)[b]	3.18 (1.33)[a]	2.95 (1.25)[a]
	Absolut vodka	4.73 (1.03)[b]	2.77 (1.54)[a]	2.91 (1.82)[a]
	Overall	4.91 (.97)[b]	2.93 (1.47)[a]	2.92 (1.62)[a]
Ease of mentally completing the image	Nike sports shoes	-	5.68 (1.32)[a]	5.80 (1.28)[a]
	Absolut vodka	-	5.99 (1.17)[a]	5.73 (1.36)[a]
	Overall	-	5.87 (1.34)[a]	5.76(1.33)[a]
Agreement to the ad message[*)]	Nike sports shoes	.017	.417	.117
	Absolut vodka	.195	.385	.208
	Overall	.120	.397	.173
Comprehensibility of the reason why the company used incompleteness	Nike sports shoes	-	5.34 (.79)[b]	4.03 (.64)[a]
	Absolut vodka	-	5.07 (1.06)[b]	3.80 (.50)[a]
	Overall	-	5.18 (.97)[b]	3.89 (.57)[a]
Response variables:				
Feelings of pleasant surprise	Nike sports shoes	2.69 (1.27)[a]	4.00 (1.05)[b]	2.95 (1.11)[a]
	Absolut vodka	2.85 (1.28)[a]	3.71 (.97)[b]	3.37 (1.41)[a,b]
	Overall	2.79 (1.27)[a]	3.83 (1.01)[b]	3.21 (1.32)[a]
Perceptions of ad originality	Nike sports shoes	3.36 (1.44)[a]	5.02 (1.33)[b]	3.24 (1.48)[a]
	Absolut vodka	3.27 (1.44)[a]	4.07 (1.41)[b]	3.66 (1.53)[a,b]
	Overall	3.31 (1.44)[a]	4.44 (1.45)[b]	3.50 (1.52)[a]
Brand attitude	Nike sports shoes	3.75 (1.21)[b]	4.63 (.97)[c]	2.99 (.53)[a]
	Absolut vodka	3.50 (1.19)[a]	4.29 (1.33)[b]	3.00 (.50)[a]
	Overall	3.61 (1.20)[b]	4.42 (1.21)[c]	3.00 (.51)[a]

Notes: Scales range from 1 (low, negative) to 7 (high, positive). Standard deviations in parentheses.
Different superscripts indicate different mean values at the .05 level (Scheffé test).
[*)] Data are percentages and indicate how many persons agreed to the ad message in the thought-listing-task.

Tab. 4: Results of Study 2

tion, agreement with the ad message was the highest. *Fourth*, the comprehensibility of the usage of the incomplete motif was higher in the HCI compared to the LCI condition ($F_{1,305} = 204.873$, $p < .001$). Thus, we conclude that our manipulation was successful.

Hypotheses tests:

We used Hayes' procedure (Hayes 2013, model 4) to estimate a mediation model with two independent and two mediating variables. Because the independent variable, i.e., the ad version, had three levels (C, HCI, and LCI), we calculated two binary variables: "X1 = highly comprehensible reason for incompleteness" (1 if HCI, 0 otherwise) and "X2 = less comprehensible reason for incompleteness" (1 if LCI, 0 otherwise). Thus, the completeness condition served as the reference level for both binary variables. The results are shown in *Fig. 8.* In H1a, we hypothesised a positive effect of incompleteness (compared to completeness) on feelings of pleasant surprise. The data are in line with this presumption for HCI ($a = 1.04$, $p < .001$) and for LCI ($a = .42$, $p < .01$). In H2a, we hypothesised a positive impact of incompleteness (compared to completeness) on perceptions of ad originality. The data confirm this presumption for HCI ($a = 1.14$, $p < .001$) but not for LCI ($a = .19$, *n.s.*). In H1b and H2b, we stated the existence of positive effects of feelings of pleasant surprise ($b = .24$, $p < .001$) and perceptions of ad originality ($b = .33$, $p < .001$) on brand attitude; these presumptions are supported. H3a postulated a positive effect of HCI, i.e., when the effects via the mediating variables (pleasant surprise, originality) are controlled, on brand attitude ($c' = .20$, $p < .05$), and H3b postulated a negative sign of this effect for LCI

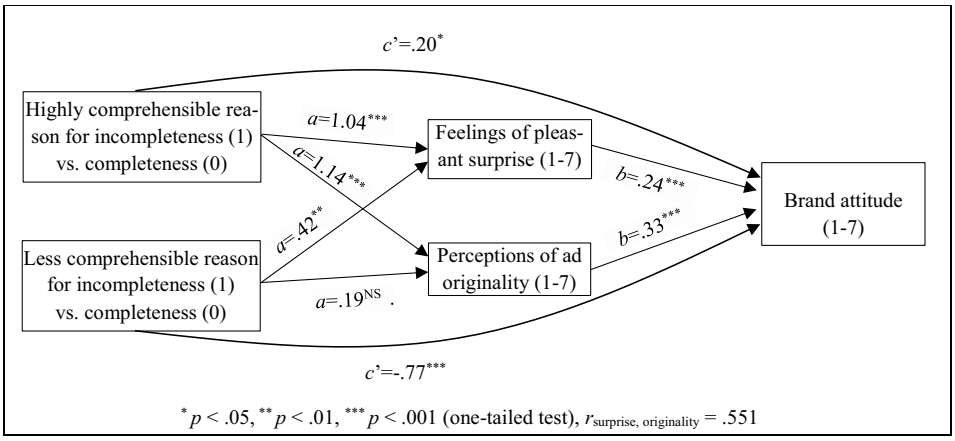


Fig. 8: Estimates of a mediation model (Study 2)

(c' = -.77, p < .001); the results are in line with these hypotheses.

When we compared the comprehensible incompleteness condition to the completeness condition, we estimated a positive total effect ($M_{\text{comprehensible reason for incompleteness}}$ = 4.42, $M_{\text{completeness}}$ = 3.61, mean difference = 1.04 × .24 + 1.14 × .33+ .20 = .81, .95 CI = (.54; 1.09)). When we compared incomprehensible incompleteness to completeness, we observed a negative total effect ($M_{\text{incomprehensible reason for incompleteness}}$ = 3.00, $M_{\text{completeness}}$ = 3.61, mean difference = .42 × .24 + .19 × .33 – .77 = -.61, .95 CI = (-.82; -.40)). We additionally selected the data for the incompleteness conditions and conducted a regression analysis. The feelings of pleasant surprise while envisioning the product, perceptions of ad originality and comprehensibility of the reason why the company used incompleteness served as the regressors, and the brand attitude was the dependent variable. The estimates are as follows: b_{surprise} = .245 (t_{303} = 5.689), $b_{\text{originality}}$ = .291 (t_{303} = 8.471), and $b_{\text{comprehensibility}}$ = .397 (t_{303} = 8.643). All the effects are highly significant (ps < .001). Thus, comprehensibility of the reason for incompleteness has an effect on brand attitude.

6.6. Interpretation

This study provides evidence for the validity of the presumption that incompleteness can be meaningful due to its symbolic value. HCI can either highlight a product characteristic (e.g., comfort through low weight of shoes) or emphasise a special consumption occasion (e.g., vodka as a companion for absolutely perfect nights). The symbolic meaning of HCI is comprehensible, which in turn improves brand attitudes. We found three positive effects in the HCI condition: a positive effect via feelings of pleasant surprise ($a \times b$ = .25, .95 CI = (.16; .36)), a positive indirect effect via perceptions of ad originality ($a \times b$ = .37, .95 CI = (.25; .51)), and a direct effect of the comprehensible reason for incompleteness (c' = .20, .95 CI = (.01; .39)). If the reason for the incompleteness was less comprehensible, we found a positive effect via feelings of pleasant surprise ($a \times b$ = .10, .95 CI = (.04; .19)) and a negative direct effect of incompleteness (c' = -.77, .95 CI = (-.95; -.60)). Thus, our study provides evidence to the validity of the presumption that using incompleteness for emphasising the ad message to increase consumer agreement to this message is a suitable means by which to make incompleteness effective in advertising.

7. Study 3: Comprehensibility of incompleteness of verbal information that aims to increase consumer agreement to the ad message

In Study 2, we manipulated the comprehensibility of the reason for incompleteness with the omission of visual elements to increase consumer agreement with the ad message. In Study 3, we investigated this effect when verbal elements are incomplete.

7.1. Experimental design

We used a 2 (verbal stimulus: moderately incomplete, strongly incomplete) × 2 (comprehensibility of the reason for incompleteness: high, low) + 1 (complete verbal stimulus) × 2 (brand: Carlsberg beer, Snickers chocolate bar) experimental between-subject design. The brand factor served only as a replication factor to gain insights into the stability of the results. [6]

7.2. Test stimuli

In 2015, the Carlsberg brewery launched a "Don't drink and drive" campaign. The original advertisement shows a part of the brand's logo ("lsberg") and the appeal "Don't drink and drive" in front of a dark-green background. The idea behind the cropped brand logo is to evoke the impression that drunk drivers are unable to fully recognise their environment and, therefore, that one should leave one's car when alcohol has been consumed. We used this advertisement as one version of the HCI ads. As "lsberg" is rather incomplete, we created another HCI version, which contained the full brand logo but with the letters for "Car" shown in a blurred way. In both HCI versions, the information "Don't drink and drive" was inserted to make the reason for incompleteness un-

Note: For Carlsberg, the HCI version 2 was the original ad. For Snickers, the HCI version 1 was the original ad.

Fig. 9: Test stimuli used in Study 3

derstandable. We designed two LCI versions that did not contain this piece of information and thus made the reason for incompleteness of the verbal logo less comprehensible. Furthermore, we created a version with the complete Carlsberg logo and the appeal not to drive a car after alcohol consumption.

As a second example, we adopted stimulus material from a campaign by the Mars company. In 2015, it promoted mini versions of Bounty, Snickers, and Twix with ads showing incomplete brand names, e.g., "SNKRS Fnlly! Snkrs minis." The information "minis" enables consumers to understand the reason why the brand name was incomplete – "it is a mini version." Based on this original ad, we created a version with an even higher degree of incompleteness "SKS Fnlly! SKS minis." For these two HCI versions, we designed two corresponding LCI versions (SNKRS and SKS, without the information that mini versions are being promoted). Finally, as a control ad, a version with the full name of Snickers was created (C version).

All test stimuli used in Study 3 are shown in *Fig. 9*.

7.3. Test participants

In total, 418 persons participated in Study 3 (59.1 % females, 72.5 % students, age between 14 and 56 years, M_{age} = 23.72 years, SD_{age} = 4.79). The test participants indicated that the brands are well-known because they strongly agreed with the following statements: "The Carlsberg brand is very well-known" (M = 4.56) and "The Snickers brand is very well-known" (M = 6.30) on a seven-point scale. There were no significant differences across the five experimental conditions with respect to consumption frequency ($F_{4;413}$ = .018, *n.s.*), interest in the product category ($F_{4;413}$ = .067, *n.s.*), and knowledge about the product category ($F_{4;413}$ = 2.086, *n.s.*).

7.4. Procedure and measures

Data were collected in 2018 (for Snickers) and 2020 (for Carlsberg) on a university campus located in Germany. The procedure and the measures were adopted from Study 2. The reliability scores were as follows: brand attitude: α = .757, feelings of pleasant surprise when focusing on reading the text: α = .847, perceptions of ad originality: α = .857, ease of mentally completing the brand logo [in the incompleteness conditions]: α = .954, and comprehensibility of incompleteness [in the incompleteness conditions]: α = .863. Perceptions of ad completeness were assessed by a single-item measure. The wording of the statements was adapted to the target stimuli. For instance, to measure feelings of pleasant surprise due to recognising that one can read the text correctly, the introduction was as follows: "Please focus only on reading the words." For Carlsberg beer, we calculated consumer agreement to the ad message as follows: if a

test participant stated in the thought-listing task that one should not drink alcohol or only a little bit before driving a car, we coded the variable with 1. Otherwise, the value 0 was assigned. For Snickers, the consumer agreement was 1 if the person stated something similar to "it is nice that the company offers mini products" and 0 otherwise. As in Study 2, two coders analysed the answers and assigned the values.

7.5. Descriptive results, manipulation checks, and hypotheses tests

We aggregated the data for both HCI versions and for both LCI versions, which resulted in three conditions (C, HCI, and LCI) for each brand because we did not find remarkable differences among the HCI versions or among the LCI versions.

Description of the results:

Tab. 5 shows the results of the manipulation checks and the responses of the test participants.

Manipulation checks:

As intended, perceptions of completeness were higher in the C condition than in the HCI and LCI conditions ($F_{2;415} = 23.378$, $p < .001$). The test persons agreed with the statements that they did not face problems when they mentally completed the incomplete verbal information. Chi-square tests indicated the highest percentages of agreement to the ad message in the HCI condition (for Carlsberg: $\chi^2_{(2)} = 15.288$, $p < .001$; for Snickers: $\chi^2_{(2)} = 8.123$, $p < .05$; for both brands: $\chi^2_{(2)} = 20.547$, $p < .001$). Moreover, comprehensibility of the reason why the company used incompleteness was higher in the HCI condition than in the LCI condition ($F_{1;285} = 55.146$, $p < .001$).

	Brand	Completeness (C versions)	Highly comprehensible reason for incompleteness (HCI versions)	Less comprehensible reason for incompleteness (LCI versions)
Manipulation check variables:				
Perceptions of ad completeness	Carlsberg beer	4.20 (1.41)^{c}	2.97 (1.72)^{b}	2.33 (1.59)^{a}
	Snickers chocolate	3.33 (2.10)^{b}	2.72 (1.44)^{a}	2.41 (1.55)^{a}
	Overall	3.80 (1.80)^{c}	2.91 (1.65)^{b}	2.36 (1.57)^{a}
Ease of mentally completing the brand logo	Carlsberg beer	-	4.69 (1.63)^{a}	4.61 (1.06)^{a}
	Snickers chocolate	-	5.91 (1.54)^{a}	6.32 (1.09)^{a}
	Overall	-	5.00 (1.69)^{a}	5.33 (1.42)^{a}
Agreement to the ad message$^{*)}$	Carlsberg beer	.183	.223	.014
	Snickers chocolate	.067	.233	.068
	Overall	.130	.225	.035
Comprehensibility of the reason why the company used the incompleteness	Carlsberg beer	-	4.53 (1.49)^{b}	3.16 (1.09)^{a}
	Snickers chocolate	-	4.94 (1.25)^{b}	3.88 (1.13)^{a}
	Overall	-	4.63 (1.44)^{b}	3.44 (1.16)^{a}
Response variables:				
Feelings of pleasant surprise	Carlsberg beer	2.60 (.86)^{a}	3.41 (.92)^{b}	3.24 (1.41)^{b}
	Snickers chocolate	3.08 (1.27)^{a}	3.77 (1.45)^{b}	3.42 (1.13)^{a,b}
	Overall	2.82 (1.09)^{a}	3.50 (1.09)^{b}	3.31 (1.31)^{b}
Perceptions of ad originality	Carlsberg beer	2.60 (1.64)^{a}	3.60 (1.13)^{b}	2.97 (1.10)^{a}
	Snickers chocolate	2.90 (1.35)^{a}	4.01 (1.53)^{b}	3.08 (1.49)^{a}
	Overall	2.73 (1.51)^{a}	3.70 (1.24)^{b}	3.01 (1.26)^{a}
Brand attitude	Carlsberg beer	3.47 (1.30)^{b}	4.23 (.83)^{c}	3.07 (.84)^{a}
	Snickers chocolate	4.39 (1.10)^{a}	5.03 (1.37)^{b}	3.81 (1.17)^{a}
	Overall	3.89 (1.33)^{b}	4.43 (1.05)^{c}	3.36 (1.04)^{a}

Notes: Scales range from 1 (low, negative) to 7 (high, positive). Standard deviations in parentheses.
Different superscripts indicate different mean values at the .05 level (Scheffé test).
$^{*)}$ Data are percentages and indicate how many persons agreed to the ad message in the thought-listing-task.

Tab. 5: Results of Study 3

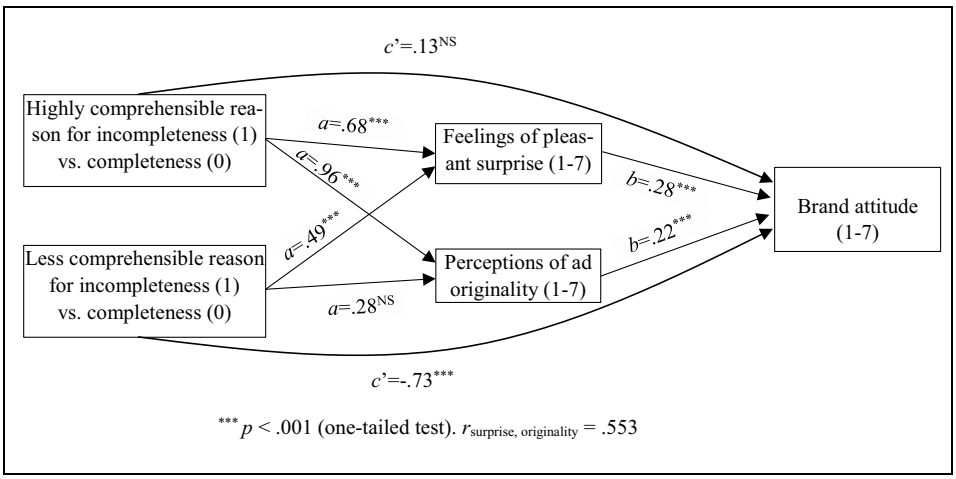


Fig. 10: Estimates of a mediation model (Study 3)

We conclude that the data passed our manipulation checks successfully.

Hypotheses tests:

We repeated the procedure used in Study 2. The findings of the mediation model are shown in *Fig. 10*. With respect to the hypotheses, Study 3 replicates the findings of Study 2. H1a, H2a (only for the HCI condition), H1b, H2b, and H3b are supported. However, there is one exception; while Study 2 also confirmed H3a, the data from Study 3 did not provide evidence for the validity of this presumption. As in Study 2, we additionally conducted a regression analysis. We excluded data for the completeness condition and thus considered only data from the incompleteness conditions. The feelings of pleasant surprise (while reading the text), perceptions of ad originality and comprehensibility of the reason why the company used incompleteness were the regressors, and brand attitude was the dependent variable. The estimates are as follows: $b_{surprise} = .199$ ($t_{283} = 3.291$, $p < .001$), $b_{originality} = .318$ ($t_{283} = 5.785$, $p < .001$), and $b_{comprehensibility} = .448$ ($t_{283} = 2.702$, $p < .01$). The findings show that the comprehensibility of the reason for incompleteness has a positive effect on brand attitudes.

7.6. Interpretation

Study 3 provides additional support for the validity of the presumption that comprehensible reasons for incompleteness result in more favourable brand attitudes than incomprehensible reasons for incompleteness. In this study, we achieved a higher level of comprehensibility due to the omission of particular *verbal* elements that provoked enhanced consumer agreement to the ad message. We found two positive effects for the HCI condition compared to the C condition: an effect via feelings of pleasant surprise ($a \times b = .19$, .95 CI = (.11; .31)) and an effect via perceptions of ad originality ($a \times b = .22$, .95 CI = (.12; .35)). If the reason for incompleteness was less comprehensible (comparison of the LCI to the C condition), we found a positive effect via feelings of pleasant surprise ($a \times b = .14$, .95 CI = (.06; .26)), as well as a relatively strong negative direct effect ($c' = -.73$, .95 CI = (-.99; -.48)). Thus, less comprehensible reasons for incompleteness of texts impair brand attitudes compared to using complete verbal stimuli.

When we compared comprehensible incompleteness to completeness, we found a positive total effect ($M_{comprehensible\ reason\ for\ incompleteness} = 4.43$, $M_{completeness} = 3.89$, mean difference = $.68 \times .28 + .96 \times .22 + .13 = .54$, .95 CI = (.27; .81)). When we compared incomprehensible incompleteness to completeness, we estimated a negative total effect ($M_{incomprehensible\ reason\ for\ incompleteness} = 3.36$, $M_{completeness} = 3.89$, mean difference = $.49 \times .28 + .28 \times .22 - .73 = -.53$, .95 CI = (-.83; -.23)).

8. Study 4: Comprehensibility of incompleteness that aims to induce feelings of humour

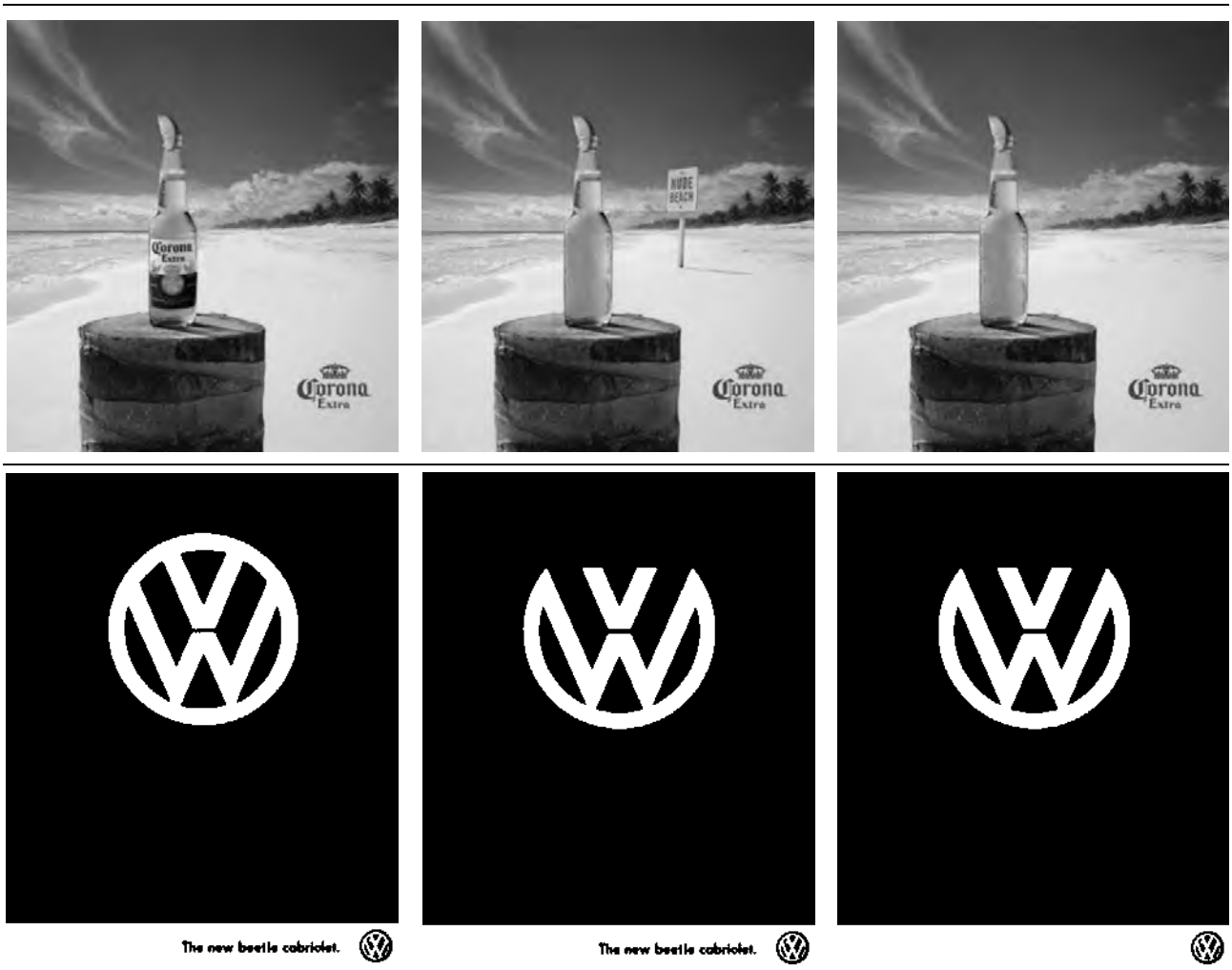
In the fourth study, we examined the effects resulting from incompleteness when the reason for using incompleteness was eliciting feelings of humour in consumers.

8.1. Experimental design

The study was based on a 3 (ad version: completeness, highly comprehensible incompleteness, less comprehensible incompleteness) × 2 (brand: Corona beer, new VW Beetle Cabriolet) experimental between-subjects design. Again, the brand factor was only a replication factor for investigating the stability of the results for different brands.

8.2. Test stimuli

In advertisements for beer, it is unusual for the bottle to have no label, which results in an incomplete product image. However, when such a bottle is combined with the sign "nude beach," the bottle is seemingly anthropomorphised and takes over the role of a visitor at a nude beach. The omission of the bottle's label can easily be understood from the perspective of another sphere of life; i.e., visitors of nude beaches wear nothing (HCI ver-



Note: The HCI versions were the original ad versions.

Fig. 11: Test stimuli used in Study 4

sion). The combination of an unexpected omission that makes sense in another sphere of life could elicit feelings of humour. We added a complete ad version in which the bottle's label was shown (C version) and a further incomplete version in which the label on the bottle and the information "nude beach" were absent, which made the incompleteness less comprehensible (LCI version). The original HCI ad was used by the beer brand Corona in 2004.

In an ad promoting the new VW Beetle Cabriolet in 2014, only the well-known VW logo without its upper part was depicted; thus, the ad was incomplete. The information that the new VW Beetle Cabriolet is being promoted enables consumers to comprehend the reason for the incompleteness; i.e., the logo is as topless as the car. Thus, from the perspective of another sphere of life, the incompleteness makes sense, which is likely to evoke humorous responses from consumers or is perceived as funny (HCI version). To add a C version, we created an ad version that contained the entire VW logo. Finally, we produced a version with a less comprehensible reason for incompleteness by omitting the information that the Cabriolet was promoted (LCI version).

All the ad versions used in this experiment are depicted in *Fig. 11*.

8.3. Test participants

In total, 243 consumers took part in this experiment. A total of 55.1 % were female consumers, and 84.4 % were students. The age of the test participants ranged from 18 to 50 years. The mean age was M_{age} = 23.47 years (SD_{age} = 3.97). The test participants strongly agreed with the statement "The brand is very well-known" (M_{Corona} = 5.54; M_{VW}= 6.49), indicating that we used well-known brands as test objects. The usage and consumption frequency ($F_{2;240}$ = .904, *n.s.*), interest in the product category ($F_{2;240}$ = .556, *n.s.*), and knowledge about the product category ($F_{2;240}$ = .317, *n.s.*) did not significantly vary across the test conditions.

8.4. Procedure and measures

Data were collected in 2018 by means of an online survey. It should be noted that this survey was carried out before the "coronavirus crisis" in the spring 2020, which otherwise would prompt a connection between the names of the virus and the beer. We were supported by two students who distributed the link to the questionnaire via social networks. The procedure and the measures were adopted from Study 2. The reliability scores were as follows: brand attitude: α = .927, feelings of pleasant surprise: α = .919; perceptions of ad originality: α = .952; comprehensibility of the reason why the company used the incompleteness [in the incompleteness conditions]: α = .902; and ease of mentally completing the product image/logo [in the incompleteness conditions]: α = .886. Additionally, we measured feelings of humour by agreement the following statements: "The ad is very humorous," "funny," and "amusing" (α = .994, statements adopted from Cline et al. 2003).

8.5. Descriptive results, manipulation checks, and hypotheses tests

Description of the results:

Tab. 6 contains the results for the manipulation check and response variables.

Manipulations checks:

Compared to the HCI and LCI conditions, perceptions of completeness were higher in the C condition ($F_{2;240}$ = 62.390, $p < .001$). The participants did not report any severe difficulties in mentally completing either the product image or the brand logo. Feelings of humour were much higher in the HCI condition than in the C and LCI conditions ($F_{2;240}$ = 179.98, $p < .001$). Regarding the comprehensibility of the reason why the company used incompleteness, higher values were observed in the HCI compared to the LCI condition ($F_{1;163}$ = 28.962, $p < .001$). Thus, we conclude that our manipulation worked as intended.

	Brand	Completeness (C version)	Highly comprehensible incompleteness (HCI version)	Less comprehensible incompleteness (LCI version)
Manipulation check variables:				
Perceptions of ad completeness	Corona beer	5.02 (1.60)^{b}	2.77 (1.55)^{a}	2.25 (1.53)^{a}
	VW cabriolet	4.59 (1.99)^{b}	2.65 (1.51)^{a}	1.89 (1.47)^{a}
	Overall	4.82 (1.80)^{b}	2.71 (1.52)^{a}	2.08 (1.50)^{a}
Ease of mentally completing the product image/logo	Corona beer	-	5.93 (1.02)^{a}	6.09 (.71)^{a}
	VW cabriolet	-	6.27 (.91)^{a}	6.00 (.80)^{a}
	Overall	-	6.10 (.98)^{a}	6.05 (.75)^{a}
Feelings of humour	Corona beer	1.71 (1.13)^{a}	5.23 (2.00)^{b}	1.96 (.97)^{a}
	VW cabriolet	1.10 (.29)^{a}	4.77 (1.95)^{b}	1.28 (.50)^{a}
	Overall	1.42 (.89)^{a}	5.00 (1.97)^{b}	1.63 (.85)^{a}
Comprehensibility of the reason why the company used incompleteness	Corona beer	-	5.24 (.99)^{b}	4.42 (1.17)^{a}
	VW cabriolet	-	5.10 (.92)^{b}	4.11 (1.24)^{a}
	Overall	-	5.17 (.95)^{b}	4.27 (1.21)^{a}
Response variables:				
Feelings of pleasant surprise	Corona beer	3.51 (.96)^{a}	4.73 (1.27)^{b}	4.42 (1.17)^{b}
	VW cabriolet	2.66 (1.02)^{a}	4.43 (1.51)^{b}	3.89 (1.30)^{b}
	Overall	3.11 (1.07)^{a}	4.58 (1.39)^{c}	4.16 (1.26)^{b}
Perceptions of ad originality	Corona beer	3.10 (.94)^{a}	5.27 (1.56)^{c}	4.59 (1.18)^{b}
	VW cabriolet	1.78 (.60)^{a}	4.67 (1.79)^{c}	3.67 (1.47)^{b}
	Overall	2.47 (1.03)^{a}	4.98 (1.70)^{c}	4.14 (1.40)^{b}
Brand attitude	Corona beer	4.38 (.77)^{a}	5.54 (.88)^{b}	4.01 (1.09)^{a}
	VW cabriolet	4.24 (.80)^{a}	5.18 (.96)^{b}	3.77 (1.27)^{a}
	Overall	4.31 (.78)^{b}	5.36 (.93)^{c}	3.89 (1.18)^{a}

Notes: Scales range from 1 (low, negative) to 7 (high, positive). Standard deviations in parentheses. Different superscripts indicate different mean values at the .05 level (Scheffé test).

Tab. 6: Results of Study 4

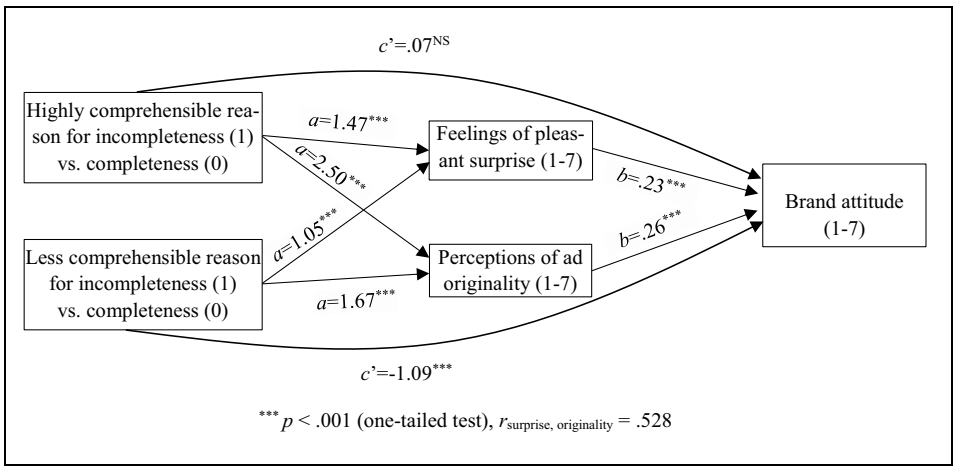


Fig. 12: Estimates of a mediation model (Study 4)

Hypotheses tests:

We used the estimates of the application of Hayes' (2013, model 4) procedure to test the hypotheses. These estimates are shown in *Fig. 12*. The findings are in line with hypotheses H1a, H1b, H2a, H2b, and H3b at the .001 significance level. This study did not support H3a. This means that we cannot support the presumption that a highly comprehensible reason for incompleteness compared to completeness has an additional direct positive effect (when controlling for the impact via pleasant surprise and originality) on brand attitude. We also used regression analysis based on the data for the incompleteness conditions and found the following: $b_{surprise}$ = .198 (t_{161} = 2.136, p < .05), $b_{originality}$ = .399 (t_{161} = 5.151, p < .001), and $b_{comprehensibility}$ = .193 (t_{161} = 3.163, p < .01). Thus, the comprehensibility of the reason for incompleteness turns out to be a critical factor for the effectiveness of incompleteness in advertising.

8.6. Interpretation

Study 4 showed that incompleteness is advantageous compared to completeness when consumers recognise that incompleteness is used to induce humour. In this condition (HCI compared to C), we found positive effects on brand attitudes via feelings of pleasant surprise ($a \times b$ = .34, .95 CI = (.14; .59)) and via perceptions of ad originality ($a \times b$ = .65, .95 CI = (.32; 1.06)). As expected, ads with less comprehensible reasons for incompleteness also had positive effects via pleasant surprise ($a \times b$ = .24, .95 CI = (.10; .42)) and perceptions of ad originality ($a \times b$ = .43, .95 CI = (.23; .70)) but were accompanied by a strong negative direct effect, as the reason for the marketer's use of incompleteness was not well understood (c' = -1.09. .95 CI = (-1.36; -.83)). When we compared comprehensible incompleteness to completeness, we found a positive total effect ($M_{comprehensible\ reason\ for\ incompleteness}$ = 5.36, $M_{completeness}$ = 4.31, mean difference = 1.47 × .23 + 2.50 × .26 + .07 = 1.05, .95 CI = (.78; 1.32)). When we compared incomprehensible incompleteness to completeness, we calculated a negative total effect ($M_{incomprehensible\ reason\ for\ incompleteness}$ = 3.89, $M_{completeness}$ = 4.31, mean difference = 1.05 × .23 + 1.67 × .26 – 1.09 = -.42, .95 CI = (-.74; -.11)).

9. Summary

Our investigations started with the observation that some marketers use advertisements with incomplete product images and words and that prior research (Peracchio and Meyers-Levy 1994; Sengupta and Gorn 2002) has mostly reported positive or at least no negative effects of incomplete images on brand attitude. These authors have argued that perceivers mentally complete the incompleteness, experience positive affect due to successfully performing this task, and transfer the positive affect to the promoted brand. However, when we looked at the practices involved in advertising, we surmised that the reasons for using incompleteness were often incomprehensible to consumers. We aimed to identify some suspected reasons for the use of incompleteness and thus developed a typology. When starting the first study (see Study 1), we quickly found that the total effect of incompleteness on brand attitude could be negative as well. This finding motivated us to test the effect of the comprehensibility of the reason for incompleteness in further studies (Studies 2, 3, and 4).

9.1. Answers to the research questions

In the Introductory section, we formulated two research questions. First, we asked to what reasons do consumers attribute incompleteness and what makes incompleteness highly comprehensible. Based on the findings of our pilot study, we can state that consumers are able to comprehend the reason for incompleteness if they associate incompleteness with one of the following motives of the marketer:

- Use of incompleteness to increase consumer agreement to the ad message;
- Use of incompleteness to induce feelings of humour;
- Use of incompleteness to highlight a design element of the promoted product;

- Use of incompleteness to defamiliarize the product image for the purpose of creativity; and
- Use of incompleteness based on ambiguous images that are meant to challenge the perceivers' abilities to recognise the product image.

Second, we asked the following question: if the reason for the incompleteness is highly vs. less comprehensible, do these consumer perceptions influence the evaluations of the promoted brand? We used two of the five types of comprehensible incompleteness to answer this question. For these two types, we found that incompleteness is advantageous compared to completeness of product images and words if consumers recognise a comprehensible reason for the use of incompleteness.

9.2. Overview of the results of the hypothesis tests

The overview of the hypothesis tests shows that with few exceptions, the hypotheses were empirically supported (see *Tab. 7*).

First, we found support for the presumption that, compared to the completeness condition, mentally completing incomplete images is associated with feelings of pleasant surprise. This effect exists independently of whether there is a comprehensible reason for incompleteness. These feelings spill over to brand attitudes. H1a and H1b are supported in all studies.

Second, we also found that perceptions of ad originality are higher in the incompleteness condition than in the completeness condition (H2a), and we confirmed the existence of a spill-over effect on brand attitudes (H2b). However, in Study 2 and Study 3, H2a was only supported for the HCI condition (compared to the C condition) and not for the LCI condition (compared to the C condition). We surmise that the reason why we did not find the effects when we compared the LCI/C conditions is due to the special test stimuli used in these experiments. For instance, in Study 2, we compared ads showing an entire sports shoe (C condition) with ads showing only a part of this shoe (LCI condition). Most likely, the participants were highly familiar with the appearance of this shoe so that there was no effect on perceptions of ad originality in these cases.

Third, we expected a positive direct effect of HCI (compared to the completeness condition) on brand attitude. Because we could confirm this effect only in one study (in Study 2 but not in Study 3 and Study 4), we must reject H3a. Most likely, consumers expect that incompleteness is comprehensible and therefore comprehensible incompleteness does not elicit a separate effect.

Fourth, in H3b, we postulated the existence of a negative direct effect of LCI (compared to the completeness condition). The results of all the studies confirm this hypothesis.

9.3. Limitations

Evidently, our investigations suffer from numerous limitations.

First, we wanted to separate three effects of incompleteness: feelings of pleasant surprise due to recognising that one is able to successfully complete incompleteness, perceptions of ad originality, and the comprehensibility of the reason for incompleteness. However, when perceivers comprehend this reason, a further source of pleasant

	Hypothesis	Study 1	Study 2	Study 3	Study 4
H1a	Compared to completeness, incompleteness results in stronger feelings of pleasant surprise due to recognising that one is able to mentally complete the incomplete stimulus.	Supported for LCI (not tested for HCI)	Supported for HCI and LCI	Supported for HCI and LCI	Supported for HCI and LCI
H1b	Feelings of pleasant surprise positively affect brand attitude.	Supported	Supported	Supported	Supported
H2a	Compared to completeness, incompleteness results in higher perceptions of ad originality.	Supported for LCI (not tested for HCI)	Supported for HCI, but not for LCI	Supported for HCI, but not for LCI	Supported for HCI and LCI
H2b	Perceptions of ad originality positively affect brand attitude.	Supported	Supported	Supported	Supported
H3a	Highly comprehensible reasons for incompleteness result in more favourable brand attitude than completeness.	(Not tested)	Supported	Not supported	Not supported
H3b	Less comprehensible reasons for incompleteness result in less favourable brand attitude than completeness.	Supported	Supported	Supported	Supported

Note: HCI = highly comprehensible reason for incompleteness, LCI = less comprehensible reason for incompleteness.

Tab. 7: Overview of the results of hypothesis tests

surprise exists. We tried to separate the effects through the formulation of the statements in the questionnaire, but we cannot ensure that this approach truly worked.

Second, in Study 1, we combined two levels in one (we compared a complete image to an incomplete image with less comprehensible reasons for incompleteness). This study design only allows for pointing to the fact that this aspect (the distinction between completeness and incompleteness) matters.

Third, we focused on two types of comprehensible reasons for incompleteness. We investigated the comprehensibility of the incompleteness of information, which aims to increase consumer agreement to the ad message (Studies 2 and 3), and the comprehensibility of incompleteness, which aims to induce feelings of humour (Study 4). As there are further types, the findings cannot be generalised across all of these types.

Fourth, we used a limited number of mediating variables. Although we additionally analysed data from the thought-listing task and did not find evidence of the validity of the presumption that a special aspect was missing, we might have omitted further important aspects.

Fifth, with Hayes' approach, we used a widely used statistical procedure to analyse mediation processes. However, despite the experimental variation in the comprehensibility of the reason for using incomplete advertisements in our studies, this does not justify the causal interpretation of the mediation analyses carried out. The main reason for this is that the estimated effect of the mediators (e.g., feelings of pleasant surprise) on the dependent variable (brand attitude) may be confounded by unobserved variables (e.g., Bullock et al. 2010). For an overview of statistical procedures for enhancing the causal interpretation of mediation analyses, see, for example, MacKinnon and Pirlott (2015). Furthermore, we did not estimate the effect of the perceived comprehensibility of the reasons for an incomplete advertisement on the mediation variables; we only estimated the effect of the objective manipulation of the advertisements. Although the estimation of the effect of the perceived comprehensibility of the motives for an incomplete advertisement (instead of the experimental factor) on the mediation variables is possible with Hayes' approach, the estimated effect may again be biased because of unobserved confounding variables (Sajons 2020). [7]

Sixth, our examinations were based on samples that consisted of students and other young consumers. Students are likely to be considered as better-educated people and thus might be able to better comprehend reasons for incompleteness (e.g., incompleteness to elicit feelings of humour or perceptions of creativity) that are not understood by some less-educated people. Thus, in such samples, the effects of incomprehensible incompleteness are expected to be stronger.

Seventh, the method used to enable contacts to advertisements limits the validity of our results. Shapiro et al. (1997, p. 94) suggested distinguishing between direct exposure and incidental exposure to test stimuli. In our studies, we used the method of direct exposure. We presented the stimuli and directly asked test participants to report responses. By doing so, the participants directed their attention to the advertisement. An alternative method consists of enabling incidental exposure; in this condition, the test ad is contained in distracting material (e.g., a magazine), and the test participants do not recognise at the moment of exposure that their response to this ad will be measured. In our studies, we included a large number of manipulation check variables, which makes incidental exposures difficult. Moreover, McQuarrie and Mick (2003) reported that the used method (direct vs. incidental) has no effect on attitudes towards the ad.

10. Implications

10.1. Implications for theory

Prior knowledge from academic research suggests that the moderate incompleteness of a stimulus induces positive affect due to mentally completing the missing parts, which is transferred to the stimulus. This effect is denoted as the "ambiguity effect" (Peracchio and Meyers-Levy 1994). We add the insights that perceptions of originality, which are induced by incompleteness, play a role in stimulus evaluations and, more importantly, that perceivers must comprehend the reason for incompleteness. At least in advertising settings, this aspect is crucial. However, from our studies, we conclude that there is not a positive ambiguity effect *per se*. Thus, we add the insight that positive effects from successfully satisfying one's need or desire to complete incomplete stimuli only occur when the reason for the use of incompleteness is comprehensible.

Most likely, the incomprehensibility of the reason for incompleteness could also explain the findings of Hagtvedt (2011). In his study, he invented some brand names (Consul, Element, April, Centurox, and Salient). In one experimental condition, these words were written in a regular font; in the other condition, small parts within each letter were blanked out, and thus the letters of the brand names looked fuzzy. The author found a negative effect of incomplete letters on the evaluation of the fictitious brands. Based on our research, we presume that the negative effect of incompleteness of the letters on the brand attitude resulted from the fact that the test participants did not understand the reason for the use of the incomplete letters.

10.2. Implications for advertising practice

Based on our findings, we derive the following recommendation: if marketers use incompleteness in their advertisements, there should be a comprehensible reason for incompleteness. If the reason for incompleteness is not comprehensible for consumers, then the positive effects of incompleteness on feelings of pleasant surprise

and perceptions of ad originality are outweighed by the negative effect due to incomprehensibility resulting in an overall negative effect. Thus, incompleteness should have an obvious reason for consumers.

Finally, we want to emphasise that we used highly familiar brands in all of our studies, and we found remarkable positive effects of comprehensible reasons for incompleteness on attitudes towards these brands. Admittedly, the improvements were likely temporary. However, it is generally difficult to influence attitudes towards familiar brands even temporarily; thus, the use of incompleteness for which the reason is highly comprehensible is a promising option if advertisements for such brands are to be created.

11. Suggestions for future research

In our pilot study, we developed a list of comprehensible reasons for incompleteness in advertisements, but we have tested only a subset of these reasons in our studies. This lack of research provides opportunities for future research. If such types are investigated in future research, further aspects are suggested to be important. For instance, when the overt reason for incompleteness is the marketer's intent to develop highly original ads, i.e., to demonstrate creativity, the question arises of whether consumers like this type of incompleteness (see *Fig. 4*, row VI). We surmise that strong defamiliarizations of the product image might be disliked. If the obvious reason for incompleteness is the marketer's intent to challenge the perceivers' ability to identify the product image within the ad (see *Fig. 4*, row VII), perceivers must exert a greater cognitive effort to envision the entire product image. Exerting a greater cognitive effort might be disliked by consumers. Thus, we do not recommend using such types of comprehensible reasons for incompleteness without gaining knowledge about additional factors that might limit the advantages of comprehensible reasons for incompleteness in advertising.

Moreover, in future research, the generalisability of the results should be tested by using different samples (e.g., non-students) and other methods (e.g., incidental ad exposure).

Notes

[1] Many studies have investigated the effect of incompleteness/completeness of images and textual information on storage of these stimuli in memory. Slamecka and Graf (1978) introduced the term "generation effect" in the literature to denote this effect (if it was found). Researchers presume that incompleteness prompts more intense processing of the stimulus, resulting in better storage. However, for this relationship, research has reported mixed results (Brennan 2008; Jacoby 1978; Kinjo and Snodgras 2000; McElroy and Slamecka 1982; McFarland et al. 1980; Nairne et al. 1985; Nairne and Widner 1988; Peynircioğlu 1989; Sengupta and Gorn 2002; Slamecka and Graf 1978; Steffens and Erdfelder 1998). We did not investigate the effect of the comprehensibility of the reason for the incompleteness of stimuli on storage of these stimuli in memory.

[2] For instance, in Study 1, we showed an advertisement with an incomplete image of the Mercedes A Class (see lower row of *Fig. 5*). Typical statements of the test participants were as follows: "Why only a half of the car – am I half of a person?", "Only one half of a car, still a lot of space in the advertisement, why is it not completely on it?", "I am confused – why only a part of the car?", "I do not understand the message, I want to see more of the car", "You don't even really see anything from the car – stupid", "Questionable. Why only the half of the car?", and "The car that can only be seen as a half irritates me." Similar comments were provoked in all conditions, which we assigned to the "less comprehensible reason for incompleteness" condition.

[3] In all of our studies that we present in this paper, none of the participants stated that s/he was unable to imagine the promoted product (note that we only used familiar brands) or to read the text correctly when visual or textual elements were missing.

[4] A similar campaign was used by Volkswagen when it introduced the first version of the VW Golf [Rabbit] in the German market in 1974 as the successor of the VW Käfer [Beetle]. In a campaign of commercials, consumers could view increasingly more details of this car, while the rest were hidden by a wall of bricks, and the spokesperson stated, "Wir sind stolz auf ihn" ["We are proud of it"]. The incompleteness of the image of the Golf, which was reduced brick-by-brick, was likely highly comprehensible for consumers – the company wanted them to be curious.

[5] Raskin (1985, p. 100) illustrated humour resulting from the deviation of the expectations and the meaningfulness of the deviation in another sphere of life by the following joke: "'Is the doctor at home?' the patient asked in his bronchial whisper. 'No,' the doctor's young and pretty wife whispered in reply. 'Come right in'". The perceiver expects that the wife combines "No" with "He is absent. Please come later." "No, come right in" is an unexpected answer that can be understood from the viewpoint of a different sphere in life (the erotic sphere).

[6] If we added an ad version that contained the entire Carlsberg logo but did not contain the message "Don't drink and drive", we obtained a 3 (logo version) × 2 (message present or absent) design. Because we wanted to focus on different versions of a "Don't drink and drive" campaign, we refrained from adding this further ad condition.

[7] We thank an anonymous reviewer for raising this issue.

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Keywords

Advertising, Ambiguity Effect, Incongruity, Image Completion, Need for Closure, Pleasant Surprise, Originality, Comprehensibility.