

# **Crossing personal boundaries or enhancing engagement? The effect of personalized advertisements on consumer's response**

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Student Name: Sanne Linders  
Student Number: 572225

Supervisor: Dr. Serge Rijsdijk

MA Media & Business  
Erasmus School of History, Culture and Communication  
Erasmus University Rotterdam

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## ABSTRACT

Advertisement personalization is a popular marketing tool used by marketers. Personalizing advertisements seems to create efficiency for consumers and platforms as the right ad is shown to the right person. However, previous literature is not unanimous on the effects of personalized advertisements and whether it is a good tool for marketers. Therefore, there is reason to believe that the effect on consumers is not favorable for advertisers and consumers. These differences in results from previous research could be blamed on the existence of mediators and moderators that were not considered. Therefore, this research aims to create a complete framework for advertisement personalization and consumer response. How consumers respond to personalized advertisements can be divided into behavioral and attitudinal responses. Their behavioral response is seen in their intent to click the advertisement, and their attitudinal response is expressed through their brand attitude. Perceived relevance is necessary for perceived personalization to influence consumer's response. Thus, perceived personalization influences how the relevance of an advertisement is perceived, which in turn influences the consumer's response. Therefore, perceived relevance is suggested to have a mediating effect. Furthermore, the attitude a consumer has towards the platform portraying the advertisement seems to interact with and influence both perceived personalization and the consumer's response. On top of that, the type of information used in the personalized message from an advertisement is suggested to have a similar effect. Thus, both platform attitude and the information type used are considered to be moderators in the theoretical framework. Using an experimental survey design the hypotheses from the conceptual framework were tested. All respondents were randomly assigned to one out of three groups. One group was exposed to an advertisement without personalization and the other two groups were exposed to an advertisement with different levels of personalization. The regressions used in this research showed a partial mediation effect of perceived relevance between perceived personalization and consumer's response. Next, this study concludes that perceived personalization positively affects consumers' responses. Also, only a negative platform attitude is a moderator for perceived personalization and brand attitude. Finally, there does not seem to be a difference in consumers' responses when exposed to different types of personalization.

**KEYWORDS:** *perceived personalization, brand attitude, click intention, platform attitude, perceived relevance*

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# 1. Introduction

Social media feeds and the internet are increasingly personalized. Algorithms have made it possible to collect data and other information to display content into a personalized list (Celis & Vishnoi, 2017). Personalization is the development of individual-specific communication to a targeted consumer, which is adjusted based on what interests the consumer (Tran, 2017). This personalization aims to create efficiency for its user as well as the platform displaying them. For the user, this means that the content they are exposed to on the platform becomes more recognizable and relevant. In the case of the platform, algorithms and personalization result in an increase in revenue because platforms can sell targeted advertisements.

The personalized advertisements sold by platforms are commercial displays of brands and products that contain personalized information about the viewer. Due to algorithms, this personal data can target specific segments with different marketing messages (Boerman et al., 2021). The goal of advertisement personalization is to target the ad to the right person at the right time (Tam & Ho, 2006). By selecting the right person at the right time, brands are attempting to create personalized messages and target users who will perceive them as relevant (De Keyser et al., 2015; Li, 2015). Perceived relevance seems to be needed to influence a consumer's response positively and increase the success of personalized advertisements. Consumer response consists of attitudinal and behavioral responses (De Keyser et al., 2015; Gauzente, 2010). Attitudinal responses can be someone's brand attitude, and behavioral response can be their intent to click or not click the advertisement displayed.

On social media, personalization is called web-based personalization (Li & Kalyanaraman, 2013), which is conceptualized as delivering 'individualized information to message recipients based on their unique preferences' (Li, 2016, p. 26). Here individualized information is the part of the advertisement that is personalized, and someone's unique preferences are what causes the advertisement to be displayed to this person. For example, a user is being displayed an advertisement for shoes from a previously visited website with a message addressing the user by their name. In this case, the unique preferences are the information of the previously visited website and the user's name is the individualized information.

Bringing these personalized messages to users can be done at different levels. For example, Boerman et al. (2021) distinguished between individual-specific and not individual-specific levels of personalization. The individual-specific advertisements include information from users that cannot be generalized to a larger group but are specifically tailored to the user

(i.e. name). On the other hand, not individual-specific personalized ads contain personal information that can be tailored to specific groups (i.e. location).

De Keyzer et al. (2015), Stevenson et al. (2000), and White et al. (2008) suggest that there is another variable that moderates the effect of personalization and consumer response. According to them, the attitude a user has towards the platform that shows the personalized advertisement affects how they respond to the advertisement. However, so far, there is little research on the effect and role of platform attitude with social media.

Each social media platform collects data about its users for personalized ads to be created, which is used to develop personalized advertisements using their algorithms (Boerman et al., 2021). Users' online behavior is monitored and collected to target people individually. Different types of information are used: demographic data, shopping behavior, social media posts, or emails. The collection of online data raises privacy concerns as it has become a part of social media and there is no way to prevent it from happening. In addition, users are unaware of when and what personal information is collected and used to advertisers' advantage (Jussila et al., 2015). Therefore, consumers could be more suspicious, and influence their attitudes and behaviors.

Next, algorithms can influence opinions and result in a propagating tool. For example, field studies have shown that search ranking manipulations can manipulate political views about candidates (Epstein & Robertson, 2015). This illustrates how powerful algorithms can be and which influence they can have on users. Therefore, a product created by algorithms, such as personalized advertisements, might also be manipulating and influential for consumers.

Research into personalized advertisements is not unanimous on the effects and implications of personalized advertisements and is, therefore, of interest. Some studies have concluded the effects to be positive for the advertiser with increased clicks and buying behavior (De Keyzer, 2015; Tucker, 2014). On the other hand, other studies concluded that personalized ads are crossing personal boundaries by using their personal information to their advantage and negatively influence consumers as they become resistant towards brands (Boerman et al., 2021; White et al., 2007). The difference in results from previous research could result from potential moderating variables, namely platform attitude and the information type used in personalization. Therefore, there is a need for future research on the topic to test the effects of personalization and present what influence these personalized ads have on someone's brand attitude and click intention.

This study's objective and problem statement resulted in the following research question: *What is the effect of the type of advertisement personalization on brand attitude and click intention and what is the role of the attitude towards the social medium?* The research question is answered by creating a complete conceptual framework about advertisement personalization and consumer's response in the next chapter, considering all relevant concepts. The next chapter also states the formulated hypotheses. After the literature review, the method section of this study is discussed. In the fourth chapter, the results are presented. Finally, the last chapter provides the discussion.

## **2. Literature Review**

This chapter will describe existing literature relevant to this research's objective and build a conceptual framework. Starting with identifying the concept that this research mainly looks into, namely consumer's response. Furthermore, the key concept perceived personalization is discussed. Next, the mediator perceived relevance and moderators platform attitude and information type used are described.

### **2.1. Consumer's response to advertisement personalization**

Advertisers are constantly looking for ways to increase advertising effectiveness. Advertising research distinguished two characteristics, affective and cognitive, in consumers' response to advertisements (Ruiz & Sicilia, 2004). Developing these characteristics helped study consumers' responses and seek a greater understanding. Because of the affective and cognitive responses to advertisements, individuals have different responses as it is influenced by someone's knowledge, belief, and emotions (La Barbera et al., 1998).

The effect on consumers' responses can be seen through various observations. Advertisements affect an individual's behavior by being memorable, enjoyable, and triggering emotions. These changes in behavior can be measured through someone's brand attitude and intent to click the advertisement (De Keyzer et al., 2015; Gauzente, 2010).

#### **2.1.1. Brand attitude**

Attitude in social sciences is defined as the internal evaluation of an object (Mitchell & Olson, 1981). More specific, in advertising and marketing, this entails someone's general affective reaction to an advertisement or brand (Lutz, 1985). Thus, the definition of brand attitude used in this research is a consumer's general evaluation of a brand. This attitude influences the consumer's affective reaction and is generally stable over a more extended period of time.

Consumers' positive experiences with brands stimulate their emotions and senses. As a result, they feel more engaged, and their good experience turns into a positive brand attitude (Dolbec & Chebat, 2013; Pham, 2004).



### **2.1.2. Click intention**

According to De Keyzer et al. (2015) and Gauzente (2010), there is a link between attitude and behavior. When looking at consumer's response, brand attitude is the measurement of someone's attitudinal response and their intent to click the ad is a measurement of behavioral response. Thus, as positive brand experiences influence a consumer's attitudinal response (brand attitude), their behavioral responses are also influenced. This suggests that a positive brand experience from a consumer can cause positive behavior by clicking the advertisement. Therefore, click intention is expected to be positively influenced by a personalized advertisement when the ad is experienced as enjoyable or likeable (De Keyzer et al., 2015). Besides, the opposite, personalized advertisements being experienced negatively, making a consumer less likely to click, can also occur.

### **2.1.3. Social contract theory and psychological ownership**

Previous studies have researched what influences consumers' responses and why consumers react in a certain manner. Boerman et al. (2021) studied the effect of personalized advertisement factors on consumer responses. These factors included: type of information, sharing of information, and personalized pricing. First, the type of information used as a personalization element in advertisements influences consumer's response. Jussila et al. (2015) and Pierce et al. (2003) suggest that people's responses might vary because personalization elements differ in psychological ownership. For example, some advertisements display a consumer's name, while others display someone's location. People can have a sense of possession of an object and feel a close connection to it and themselves, which is called psychological ownership. This can have a strong psychological and behavioral effect where the owner wants to protect the object. In personalized advertising, with more distinguishable and personal information, the feeling of ownership is more likely to be activated than more general and less private information (Boerman et al., 2021).

Boerman et al. (2021) researched if sharing someone's data with third parties affected their response to the ad. Sharing data about someone can breach a suggested 'social contract' between the (potential) customer and company (Miyazaki, 2008; Kruckemeier et al., 2019). People feel like there is a social contract in place when they intend to share data with a company. Users expect the company to not share personal information with third parties

without their knowledge. This expectation is what a social contract means, and this phenomenon is part of the social contract theory (Dunfee et al., 1999). The social contract theory explains that emotional or political obligations and rules depend on an agreement among people, and it forms the society in which we live. In return, humans get a respectful and ordered society. Here the social contract theory implies a mutual agreement between the consumer and the company that personal data will be treated fairly. In short, consumers approve of collecting their data published on social media and usage of data, but sharing it with others crosses a boundary and affects their response negatively.

Another factor that influences consumer response to an advertisement is price personalization (Boerman et al., 2021). Brands base their product pricing on personal information about the consumer. Examples of these are loyalty discounts and status-based discounts. Loyalty discounts are given when customers become members of brands and part of their loyalty program. Similarly, status-based discounts are given when members earn points through purchases or other actions. Algorithms are a tool helpful in personalized pricing. With algorithms, companies can estimate what customers are willing to pay for a product or service and provide discounts accordingly. Personalized pricing is legal as long as it does not lead to discrimination (Borgesius, 2020). However, people find personalized pricing unacceptable, leading to negative behavioral responses (Boerman et al., 2021; White et al., 2007).

For the purpose and scope of this research, only the factor of information type is examined. Furthermore, this research is looking into personalized advertisements on social media specifically. Therefore, the different levels of information used in personalization seem to be most frequently used on social media compared to sharing information and personalized pricing.

As stated previously, the feeling of psychological ownership can influence a person's behavior (Pierce et al., 2003). In that sense, ownership is a “dual creation, part attitude, part object, part in the mind, part ‘real’” according to Etzioni (1991, p.466) and has a person thinking ‘this is mine’. It has been established already that the feeling of ownership is common for individuals. Nevertheless, the theory does not explain where people have a feeling of ownership for. However, it is agreed that tangible and intangible objects can be tied to a person (Jussila et al., 2015; Pierce et al., 2003).

The development of psychological ownership and feelings of ‘mine’ emerge from the toddler's congenital motive to have control over objects (Furby, 1991). Possessions become part of the extended self because they act as a domineering role in the owner's identity (Belk,

1988; Carrier & Dittmar, 1994). In other words, belongings become a part of someone's self-identity.

Psychological ownership is composed of both cognitive and affective attitudes. Cognitive attitudes refer to someone's ideas and beliefs. At the same time, affective attitudes involve a person's emotional reaction or state (Pachankis, 2007). For example, psychological ownership is pleasure-producing and gives a sense of competence, which is part of the cognitive state. On the other hand, affective attitudes arise when others want to claim an object that a person feels is theirs (Pierce et al., 2003). There are different motivations behind developing these attitudes toward psychological ownership, as stated by Porteous (1976). These include providing control over space, declaration of identity by personalization of space, and stimulation by thinking or imagining about belonging. These possessions provide comfort, a 'home-like' feeling, and security.

Three main effects identified in consumer research come from these feelings (Jussila et al., 2015). First of all, psychological ownership influences ownership motivations, which means that psychological ownership has the power to spark someone's intrinsic motivation and develop loyal customers. Next, there is a relationship between feelings of ownership and satisfaction, which is part of the attitudinal effects. Customers can experience fulfilment when using a product they feel is theirs. The final effect mentioned is the behavioral effect seen in people using their voices. For instance, customers will voice their opinion about products they feel they own to improve them.

However, when it comes to ownership, people can become territorial. Brown et al. (2005) propose that psychological ownership also causes defensive behaviors. An individual can fear someone infringing their territory (material or immaterial). An example of this is in the context of a restaurant, which is part of the psychological ownership theory (Asatryan & Oh, 2008). When a regular visitor of a restaurant goes to eat there and demands 'their' table and causes a scene, someone can get defensive over an object they consider theirs, resulting in negative implications when someone tries to threaten their ownership. Next to defensiveness and anger, psychological ownership is also associated with stress and getting tired (Pierce & Jussila, 2011).

## **2.2. Perceived personalization**

Psychological ownership and advertisement personalization are concepts that have previously been linked by Boerman et al. (2021). Personalization in ads is using individual-specific communication to a targeted consumer, which is adjusted based on what interests or is

implied to interest the consumer (Tran, 2017). Kalyanaraman and Sundar (2006) have previously identified the meaning of personalization with: ‘each user is an audience of one because each user receives distinct content’ (p. 111). On social media, ad personalization is called web-based personalization (Li & Kalyanaraman, 2013), which is conceptualized as delivering ‘individualized information to message recipients based on their unique preferences’ (Li, 2016, p. 26). Advertisements can be personalized on different levels, ranging from no personalization to high personalization (Tucker, 2014). Here not individual-specific personalization can be regarded as moderately personalized. Individual-specific personalization, on the contrary, is highly personalized.

With various levels of personalization, the attitudes and behaviors of consumers might be influenced differently (De Keyzer et al., 2015). The difference is due to the difference in information processing, which affects how they perceive the personalization in ads. The difference in information processing is explained elaborately by the Elaboration Likelihood Model (ELM) of persuasion (Petty & Cacioppo, 1986). The model proposes that various communication variables (context, source, message, and recipient) affect how people process information and change their attitudes at different levels of elaboration. Therefore, two routes can be taken as a response to persuasive information: the central and peripheral (Petty & Cacioppo, 1986). The central route is when there is a high level of motivation and elaboration. On the other hand, the peripheral route occurs when there is a low level of elaboration and motivation. In the ideal scenario for advertisers, consumers experience both high and low levels of elaboration to positively influence how they perceive advertisements (De Keyzer et al., 2015). Therefore, it is considered essential to understand the information processing routes and the ELM of persuasion for this study, as personalization is influenced by how users process and perceive information.

Personalized advertisements aim to target the ad to the right person at the right time (Tam & Ho, 2006). From the opposite perspective, customization of messages is also beneficial for individuals to find what they want (Kalyanaraman & Sundar, 2006). However, marketers mostly use it as a powerful tool to increase awareness, engagement, and revenue. Besides, when used correctly, ad personalization can enhance brand image and equity (Shanahan et al., 2019). However, according to previous research, the effects of personalization on users are not only positive (Boerman et al., 2021; Shanahan et al., 2019; Tran, 2017; White et al., 2007). Some individuals respond negatively to personalization when they consider it invasive. As a result, they become message resistant and show signs of brand or message avoidance.

Messages are not always perceived as personalized when they are intended to do so (Li, 2016). As this research looks into the effects of personalization on consumers, it studies how personalization is perceived. A personalized message might be perceived as not-personalized or the other way around (Li, 2016). The level at which users perceive a correspondence between a personalized message and themselves does not always match. In other words, users might overlook the element of personalization in an advertisement as they do not recognize the element as part of themselves. Therefore, it is essential to consider if and how the personalization in this study is perceived instead of studying the actual personalization element.

There is a possibility of a shift in consumers becoming more message resistant and showing signs of brand avoidance with personalized advertisements over the years. As a result, the more recent studies are considered when formulating the following hypothesis:

H1: Consumers who perceive an advertisement on social media as more personalized will have (a) a more negative brand attitude and (b) are less likely to click the advertisement.

## **2.3. Perceived relevance**

A concept that seems to positively affect consumers' response to personalized advertising is perceived relevance. Sundar and Marathe's (2010) research suggests that a consumer would need to perceive a personalized advertisement as personalized to create a sense of relevance in seeing the ad. As a result, the perceived relevance influences the consumer's response. Thus, when users perceive an advertisement as personalized, it tends to be more relevant to them (Li, 2015).

Researchers have been attempting to define relevance for some time. Over a decade ago, the concepts of subjective topicality and situational relevance were recognized as a part of the umbrella term subjective relevance (Xu & Chen, 2006). Subjective relevance comes from the regard that relevance is subjective in nature rather than being determined by an algorithm (Borlund, 2003). In the case of personalized advertisements, consumers interpret the message, giving room for subjectivity. Part of this process is subjective topicality. Subjective topicality refers to what information a consumer wants to receive. Related to that, situational relevance is about the usefulness of a message. To conclude, relevance is a construct determined by how closely the ad matches a user's information need and message value (Borlund, 2003).

The concepts of subjective topicality and situational relevance are part of perceived relevance and, therefore, are what positively influence a consumer's response in ad personalization. Especially for social media, relevance is suggested to be crucial for persuasion in personalized messages (De Keyzer et al., 2015). Relevance is what enhances the elaboration, processing of messages, persuasion, and attention. These effects are supposedly helpful in positively influencing users' brand attitude and click intention (Pham, 2004).

How consumers perceive the relevance of a personalized ad serves as a mediator between perceived personalization and consumer response. This moderating effect is also in line with the ELM (Petty & Cacioppo, 1986) and the information processing routes, as there needs to be some form of elaboration and motivation to influence consumer response positively. In this case, subjective topicality and situational relevance is the elaboration and motivation suggested to be caused by personalization and positively influence the consumer's response.

As personal data is used to personalize ads and increase perceived personalization, consumers tend to perceive it as more relevant to them (De Keyzer et al., 2015). In addition, this relevance is suggested to affect a consumer's attitude and response. Thus, the following hypothesis is formulated:

H2: Perceived relevance is a mediator between perceived personalization and (a) brand attitude and (b) click intention for advertisements on social media.

## **2.4. Attitude towards the platform**

Next to the suggested mediation effect of perceived relevance, it is also suggested by previous research that there is a moderating effect of a consumer's attitude towards the social media platform with perceived personalization and consumer response (De Keyzer et al., 2015). For example, Stevenson et al.'s (2000) research described that an attitude towards a website could influence someone's brand attitude and purchase intention. More specifically, when a user's attitude towards the website improves, brand attitude and purchase intention also do. Even though Stevenson et al.'s (2000) research could not find a particular reason for this effect, later studies were able to find the same effect.

In the case of social media, Facebook, users with a more positive attitude towards the platform are more likely to make purchases from shown advertisements (Wen et al., 2009) and are more likely to click an advertisement (De Keyzer et al., 2015). The same conclusion came from Lee and Ahn's (2013) research, where a binge drinking prevention page on

Facebook was more likely to affect users with a more positive attitude towards the platform. Besides, the opposite effect has also previously been discovered with email marketing. When consumers do not see the relevance of the information stated in the email and the use of their details, the effectiveness of the email decreases (White et al., 2008). However, perceiving personalized advertisements as personalized is still essential for platform attitude to have an effect (De Keyser et al., 2015). Therefore, it is suggested that a positive attitude towards the platform will moderate perceived personalization and the response of consumers (brand attitude and click intention).

The attitude towards the social medium is expected to be a moderating variable as it can influence the direction of the relationship between perceived personalization and consumer response negatively and positively. Therefore, the following is hypothesized:

H3: The positive effects of perceived personalization of advertisements on social media on (a) brand attitude and (b) click intention is stronger for consumers with a more positive attitude towards the platform than consumers who have a negative attitude towards the platform.

## **2.5. Information types used in personalized advertising**

Boerman et al. (2021) distinguished different types of personalization elements in advertising that are suggested to have a moderating effect on consumer response. These types include individual-specific personalization and not individual-specific personalization. Individual-specific personalization can identify a person's identity without additional information (i.e. name or identification number). On the other hand, not individual-specific personalization can only identify a person when additional information is provided (i.e. location or online behavior).

The feeling of psychological ownership causes consumers to be negatively influenced by individual-specific information compared to not individual-specific information.

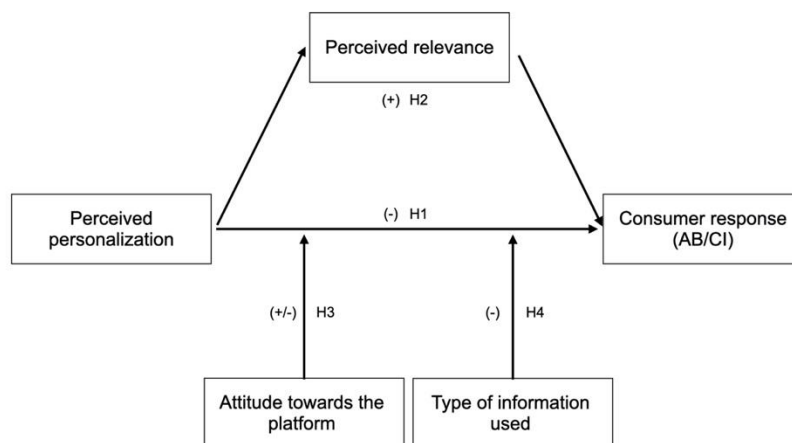
Individual-specific information can directly identify a person and can, therefore, be perceived as their information, whereas not individual-specific information is more part of a group. The study by Boerman et al. (2021) confirmed the expectation that consumers tend to protect their information and respond more negatively to individual-specific information portrayed in personalized advertisements than not individual-specific information.

As a result, negative implications can occur as their ownership feels threatened. However, it is expected that there will be a difference in the type of information used as psychological ownership might occur with some personal information sooner than others. The difference between the type of data is suggested to influence a consumer's response to a personalized ad and is, therefore, of importance for this research.

H4: The negative effects of perceived personalization of advertisements on social media on the (a) brand attitude and (b) click intention is stronger for consumers exposed to individual-specific information compared to consumers who were exposed to not individual-specific information.

## 2.6. Conceptual framework

Previous literature and the formulated hypotheses resulted in a conceptual framework that can be observed below in figure 2.1.



**Figure 2.1.** Conceptual framework.



### **3. Research Design and Methods**

As this study aims to test hypotheses, it will use a deductive and, thus, a quantitative approach (Babbie, 2009). Original data will be collected, and this chapter will describe the methodology of the data collection and data analysis. First of all, all information regarding the participants is described. The second part of this chapter provides information regarding the materials used. The next part will describe the design used in the experiment and the variables. After that, the procedure is explained. Finally, the ethical considerations are mentioned in this chapter.

For this research, choosing a social media platform as an example for its respondents is desirable. Selecting a platform is wise because the stimuli in the experiment need to be designed as an advertisement that could be displayed on social media, and these designs are different on each platform. Therefore, one social media platform is chosen for this research, but the results can be generalized to other social media as it is merely an example. This study chose TikTok as it is the most popular and growing platform worldwide (Ma & Hu, 2021).

#### **3.1. Participants**

As TikTok is chosen as the example platform in this study, TikTok users were targeted as respondents. Participants need to be familiar with the platform and already have an attitude towards it as this variable is of interest in this research. A sample check was done at the beginning of the survey to ensure that only active TikTok users would participate in the survey. A question regarding their TikTok behavior was asked. If a participant answered that they use TikTok less than once a month, they were redirected to the end of the survey, and their response was not collected. If they admitted to using TikTok once a month or more frequently, the participant was able to continue the survey. As respondents are voluntarily active TikTok users, this research is aware that their attitude towards the platform might be more favorable.

#### **3.2. Materials**

An experimental survey was used as the design of this research. Which is considered the most suitable method of data collection as this research aimed to test a theoretical framework with three different conditions (Babbie, 2009). Besides, much data can be gathered using quantitative methods, which is considered essential as there are many variables to test. Furthermore, a survey provides the opportunity to test many variables, use different video

stimuli divided into three groups in a short time, and make it easier to analyze them compared to qualitative methods. The survey can be found in Appendix C.

The stimuli included a video from the supermarket Albert Heijn that shows how to make cheesy bread using their ingredients. This video is used as an advertisement by Albert Heijn to convince users to buy products in their supermarket. There are three different TikTok descriptions in the video that distinguish the three different groups in the experiment. The first group saw a regular description in the video without any form of personalization. The second group saw a different description in the video with a form of individual-specific information. This form is adding their name to the video's description box. Finally, the third group was exposed to a description in the video with a form of not individual-specific information. In this case, their location was mentioned in the video's description box. The videos can be seen using the link to the preview survey in Appendix D.

### **3.2.1. Manipulation check and pre-test**

Before distributing the survey, a manipulation check and a pre-test were done to ensure high reliability and validity. A manipulation check was valuable to test if the description box of the video stimuli was visible enough for respondents and if they noticed the form of personalization. Therefore, the manipulation check was intended only to test the video material. Each respondent was shown all three videos and was later asked to correctly rank which video they perceived as more personalized and least personalized. The manipulation check results confirmed that respondents correctly identified all forms of personalization, with all ten participants correctly ranking the videos.

The pre-test's objective was to find any errors or unclarities in the survey. Six respondents administered the survey, and aside from one comment about the readability of the survey, there were no comments made. After both pre-tests, the survey was sufficiently tested and, therefore, distributed.

## **3.3. Design**

Existing scales were used in the survey to measure the key concepts and ensure its reliability. All scales consisted of 7-point likert scale items ranging from value 1 (strongly disagree) to value 7 (strongly agree). First, the independent variable perceived personalization of the advertisement shown to the participant was measured using a scale based on Kalyanaraman and Sundar's (2006) research on personalized web content. A scale consisting of two items,

‘the ad seemed to be designed specifically for me’ and ‘the ad targeted me as a unique individual’ was used.

Followed by the mediator perceived relevance, a scale created by Xu and Chen (2006), consisting of five items, was part of the survey. However, minor adjustments were made to the items to fit the purpose of this research.

Attitude towards the platform is a moderator in the conceptual framework. The platform is TikTok in this study. A four-item scale from Chen and Wells (1999) was used in the survey. Their scale was also altered to target the platform TikTok. Thus, the wording of the scale was changed to specify TikTok instead of ‘the website’.

The final variable is the dependent variable, consumer response, consisting of two scales. One measures the attitude towards the brand portrayed in the advertisement shown to the participant. The other scale will measure the click intention for the advertisement. Mitchell and Olson (1981) originally developed the brand attitude scale, which seems to be outdated. However, it has also resulted in high reliability scores in more recent years (Dolbec & Chebat, 2013) and, therefore, was used in this research. It consists of four items. The level of click intention was determined using the one-item scale used in De Keyzer et al.’s (2015) research: ‘it is likely that I will click this ad’.

Besides these measurements, the survey contained demographic questions, such as: age, gender, and education level. In addition, a manipulation check was done to ensure that the participants noticed the form of personalization inside the advertisement. The check included a question towards the end that asked the respondents to select their level of personalization, with the options being: name personalization, location personalization, and no personalization.

### **3.4. Procedure**

A mix of purposive and snowball sampling was used to collect the right respondents. The questionnaire was distributed through specific channels to certain people to ensure that active TikTok users were reached. Certain channels entails particular communities and platforms where TikTok users could be active as well as TikTok itself. In addition, the researcher contacted people known to be active users and then spread the survey further by snowballing.

An incentive was used to convince respondents to participate in the research voluntarily. Respondents had the opportunity to leave their email address at the end of the survey to enter a giveaway for a 15 euro gift card of their choosing. The information about this giveaway was also mentioned in the message spreading the survey. The beginning of the

survey also mentions the details of the giveaway. One respondent was randomly chosen to receive the giveaway, and the gift card was already sent to this individual.

As this survey aimed to test the influence of personalized advertisements, a control group is needed for comparison with advertisements that do not contain a form of personalization (Neuman, 2010). In addition, as previous research suggested, there is a distinction in not individual-specific personalized advertisements and individual-specific personalized advertisements (Boerman et al., 2021). The individual-specific advertisement includes information from users that are not generalized to the population but specifically tailored to the user (i.e. name). On the other hand, the not individual-specific personalized ads contain personal information that can be tailored to certain groups (i.e. location). Therefore, the survey used an experimental design with three conditions.

All participants were randomly assigned to one out of three groups using the randomizer tool in Qualtrics. The first group was exposed to an advertisement that did not include any form of personalization and, thus, served as the control group in this experiment. Next, the second group saw a not individual-specific personalized advertisement using their location in the description. Finally, the third group was exposed to an individual-specific personalized advertisement that included their name in the description. To conclude, one control group and two experimental treatment groups were exposed to some sort of manipulation.

All data were analyzed using the software SPSS. First of all, the data was cleaned and prepared, and this includes: checking for outliers, checking for missing values, checking for repeating responses, recoding reversed items, checking for normality, testing reliability using Chronbach's Alpha, and combining items from one scale into one variable.

After data cleaning, the results were gathered. Generating the results started with computing the sample characteristics using descriptive statistics. Next, a principal components analysis (PCA) was done to assess dimensionality and the underlying structure of items. Finally, after conducting the PCA, a table of descriptive statistics was created to look for noticeable results.

After completing all these steps, hypothesis testing was done. For hypotheses testing, linear regression was used. With H1 and H4, a moderation analysis was conducted using linear regression to look for a moderation effect. Then, H2 could be analyzed using the linear regression results from H1 and H4. For H3, a mediation test using linear regression and Sobel's Z was done to determine if there is no mediation, partial mediation, or full mediation.

### **3.5. Ethics**

Ethical issues can occur in social research. To prevent these, Diener and Crandall (1978) broke down four main areas for ethical issues. Firstly, harm to participants was prevented by using brands and advertisements that are not considered violent or provocative. Next, the participant receives sufficient information about the study and its objective before participating in the research to prevent a lack of informed consent. Subsequently, to prevent the concern of invading a participant's privacy, all data is stored safely, and all participants will remain anonymous. Finally, participants were not deceived about the topic, and the true purpose of this research was shared with the participants before the start of data collection.

## 4. Results

In this chapter, results from data analysis are presented. First of all, data was cleaned and prepared for analysis. Cleaning data included: deleting incomplete responses, checking for outliers and deleting them, changing non-numerical values into numerical values for scale variables, and recoding reversed items. Next, the demographic information from the survey respondents is described. After that, the results of the principal components analysis are provided. Furthermore, any significant or outstanding correlations are presented using a descriptives table. Finally, the results of hypotheses testing are given.

### 4.1. Sample characteristics

After data cleaning, 217 responses were eligible for data analysis. All respondents were randomly split into different experimental groups, with 33.2% not being exposed to personalization in the ad ( $n=72$ ), 33.6% being exposed to individual specific personalization ( $n=73$ ), and 33.2% not individual specific personalization ( $n=72$ ). Next to the conditions, the demographics were also observed. Gender is fairly distributed amongst males, females, and others. On the contrary, what is very noticeable is the TikTok behavior of respondents. Almost two-thirds of the respondents are very active on the platform TikTok. Furthermore, the variable age seems to be distributed as expected because it is represented similarly to TikTok's primary audience. On the contrary, the level of education is distributed differently than expected, with respondents on average being highly educated. The sample characteristics can be observed in Table 4.1.

### 4.2. Principal component analysis and reliability analysis

To assess all scales and the underlying structure and dimensionality of the items included, a Principal Components Analysis (PCA) was conducted. An eigenvalue of 1.0 was used, and factor loadings beneath 0.40 were cut off. To ensure reliability, all individual items had a Cronbach alpha of 0.70 or higher and multi-item scales even scored a Cronbach alpha of 0.80 or higher. The results of the PCA can be found in appendix A (table A1).

The first scale brand attitude consisting of 4 items was entered into factor analysis using Varimax rotation based on Eigenvalues ( $>1,00$ ),  $KMO = .69$ ,  $\chi^2 (N = 217, 6) = 300.01$ ,  $p < .001$ . The resultant model explained 63.2% of the variance in brand attitude. As presented in the appendix, only one factor was found, resulting in a preferable alpha ( $\alpha = .80$ ). Another

factor analysis was conducted for perceived relevance containing 4 items using Varimax rotation based on Eigenvalues ( $>1,00$ ),  $KMO = .84$ ,  $\chi^2 (N = 217, 6) = 737.35$ ,  $p < .001$ . Here the resultant model explained 83.0% of the perceived relevance and one factor with a preferable alpha ( $\alpha = .93$ ). The final factor analysis was for the scale of platform attitude that contained 4 items with the use of Varimax rotation based on Eigenvalues ( $>1,00$ ),  $KMO = .79$ ,  $\chi^2 (N = 217, 6) = 434.23$ ,  $p < .001$ . The resultant model explained 71.4% of the variance in platform attitude. The PCA resulted in one factor with a preferable alpha ( $\alpha = .85$ ).

To assess the scale of perceived personalization consisting of 2 items, a reliability analysis was conducted in SPSS. The scale of perceived personalization resulted in a preferable alpha ( $\alpha = .89$ ). As a result, there were no items deleted or subscales created.

**Table 4.1**  
Sample characteristics table

Characteristic	Frequency in sample	Percentage of sample
Gender		
Male	99	45.6
Female	113	52.1
Non-binary/third gender	4	1.8
Prefer not to say	1	0.5
Frequency of using TikTok		
Every day	143	65.9
Between 1 and 4 times per week	41	18.9
Every week	21	9.7
Between every two weeks and once a month	9	4.1
Once a month	3	1.4
Age		
18-25	85	39.2
26-35	65	30.0
36-40	27	12.4
40+	40	18.4
Level of education		
High school	23	10.6
Trade school (vocational school)	33	15.2
Bachelor's degree	113	52.1
Master's degree	33	15.2
PhD or higher	8	3.7
Prefer not to say	7	3.2
Experimental group		
No personalization	72	33.2
Individual specific pers. (name)	73	33.6
Not individual specific pers. (location)	72	33.2

### 4.3. Descriptive statistics and correlations

In Table 4.2, correlations, the mean, and the standard deviation for the variables can be seen. However, the mean and standard deviation for the variables individual-specific, not individual-specific, and no personalization are not visualized in the table. This is because these are dummy variables and the only values possible are 0 and 1. Thus, the dummy variables' mean and standard deviation do not provide valuable information.

As can be observed from the table, respondents scored relatively high on click intention ( $M = 5.88$ ,  $SD = 1.01$ ), indicating that they were quite likely to click the advertisement shown in the survey. Furthermore, the mean of both brand attitude ( $M = 5.28$ ,  $SD = .99$ ) and perceived relevance ( $M = 5.30$ ,  $SD = 1.02$ ) scored reasonably high, suggesting that the respondent found the advertisement to be quite relevant and that they had a fairly positive brand attitude towards the brand portrayed in the ad. On the contrary, the mean of perceived personalization ( $M = 3.46$ ,  $SD = 1.37$ ) scored relatively low and indicated that the advertisements were not considered very personalized. However, it should be noted that a third of the respondents did not receive a personalized advertisement, which could cause a lower mean for perceived personalization.

What is noticeable from the correlations in Table 4.2 is that all correlations are significant except for those involving individual-specific information, not individual-specific information, and no personalization. Click intention and perceived personalization have the most considerable correlation,  $r(4) = .70$ ,  $p = <.001$ , which indicates a moderate to large relationship between them.

**Table 4.2**

Descriptive statistics and correlations ( $n = 217$ )

	1	2	3	4	5	6	7	8	Mean	SD
1. Click intention	-								5.88	1.01
2. Brand attitude	.46*	-							5.28	0.99
3. Perceived personalization	.70*	.34*	-						3.46	1.37
4. Perceived relevance	-.57*	-.28*	-.53*	-					5.30	1.02
5. Platform attitude	.49*	.41*	.46*	-.48*	-				4.32	1.32
6. Individual-specific	-.01	-.01	-.04	.07	-.08	-			-	-
7. Not individual-specific	-.15*	-.08	.08	-.16*	.11	-.50*	-		-	-
8. No personalization	-.19	-.22*	-.08	.09	.04	-.70*	-.59*	-	-	-

\* $p \leq .05$ , (2-tailed).



## 4.4. Hypothesis testing

In order to test the hypotheses, three regression analyses were conducted. Table 4.3 shows the results with brand attitude as the dependent variable, and Table 4.4 shows the results of click intention as the dependent variable. The first regression is Model 1, which is the relationship between perceived personalization as the independent variable and perceived relevance as the dependent variable. Next, Model 2 shows a regression with the main effects, Model 3 shows the regression of the main effects with perceived relevance, and Model 4 shows the regression with the interaction effects added. Models 2, 3, and 4 were calculated using one regression for each dependent variable (brand attitude and click intention). In addition, because individual-specific and not individual-specific are two dummy variables, no personalization is automatically the reference group.

The regression of Model 1 for both brand attitude and click intention was significant  $F(1, 215) = 82.46, p = <.001, R^2 = .28$ . The regression with brand attitude as dependent variable for Model 2  $F(4, 212) = 12.85, p = <.001, R^2 = .20$ , Model 3  $F(5, 211) = 10.31, p = <.001, R^2 = .20$  and Model 4  $F(8, 208) = 8.30, p = <.001, R^2 = .24$  were also found to be significant. Model 2  $F(4, 212) = 61.55, p = <.001, R^2 = .54$ , Model 3  $F(5, 211) = 55.78, p = <.001, R^2 = .57$ , and Model 4  $F(8, 208) = 35.45, p = <.001, R^2 = .58$  were also significant with click intention as dependent variable.

**Table 4.3**

Multiple regression with brand attitude as dependent variable.

Independent variables	Perceived relevance	Brand attitude		
	Model 1	Model 2	Model 3	Model 4
<b>Main effects</b>				
Perceived personalization (PP)	-.53*	.19*	.17*	.24*
Platform attitude (PA)		.32*	.30*	.24*
Individual specific information (IS)		.05	.05	.02
Not individual specific information (NIS)		.05	.05	.07
<b>Mediating effect</b>				
Perceived relevance (PR)			-.05	-.02
<b>Moderating effects</b>				
PP x PA				-.22*
PP x IS				-.10
PP x NIS				-.05

\* $p \leq .05$ , (2-tailed).

**Table 4.4**

Multiple regression with click intention as dependent variable.

Independent variables	Perceived relevance	Click intention		
	Model 1	Model 2	Model 3	Model 4
<b>Main effects</b>				
Perceived personalization (PP)	-.53*	.60*	.51*	.54*
Platform attitude (PA)		.21*	.14*	.13*
Individual specific information (IS)		.09	.08	.08
Not individual specific information (NIS)		.12*	.10	.11*
<b>Mediating effect</b>				
Perceived relevance (PR)			-.22*	-.22*
<b>Moderating effects</b>				
PP x PA				-.07
PP x IS				.00
PP x NIS				-.07

\* $p \leq .05$ , (2-tailed).

#### 4.4.1. Effect of perceived personalization

The results show that perceived personalization has a significant effect on both brand attitude ( $\beta = .19$ ,  $p = .023$ ) and click intention ( $\beta = .60$ ,  $p < .001$ ). However, the regression shows a positive effect. Thus, people who perceive an advertisement as more personalized will have a higher brand attitude and are more likely to click an advertisement. Therefore, both H1a and H1b are rejected.

#### 4.4.2. Mediation effect of perceived relevance

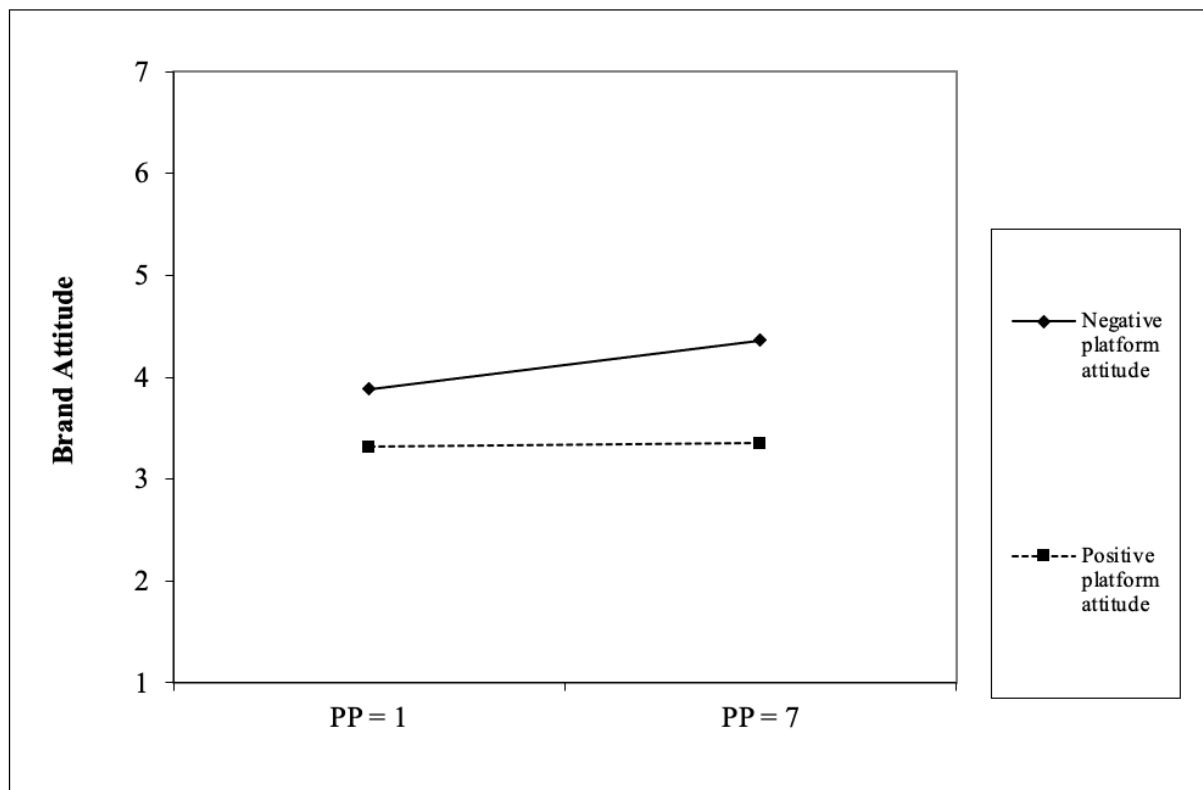
For the mediation analysis of perceived relevance on consumer response, the linear regression of Model 3 and Model 4 from Tables 4.3 and 4.4 was used. Sobel's Z (Sobel, 1982) was calculated using the Sobel test to determine if the effect is significant. First, the mediating effect of perceived relevance between perceived personalization and brand attitude is significant as stated with the Sobel's test ( $\beta = .19$ ,  $p = .007$ ;  $\beta' = .17$ ,  $p = .023$ , ns; *Sobel's Z* = 6.73,  $p < .001$ ). Next, the mediating effect of perceived relevance between perceived personalization and click intention is also significant ( $\beta = .60$ ,  $p < .001$ ;  $\beta' = .51$ ,  $p < .001$ , ns; *Sobel's Z* = 8.86,  $p < .001$ ). However, there is only partial mediation because there is a

difference in beta values when the mediator is added, and the values remain significant. Therefore, H2a and H2b are accepted.

#### 4.4.3. Moderating effect of platform attitude

Platform attitude has a significant moderating effect on brand attitude and an insignificant effect on click intention. The significant interaction effect of PP x PA ( $\beta = -.22$ ,  $p = .001$ ) on brand attitude is negative and the interaction of PP x PA ( $\beta = -.07$ ,  $p = .148$ ) with click intention as dependent variable is insignificant. Thus, H3b is rejected, but the results show a significant effect that supports H3a.

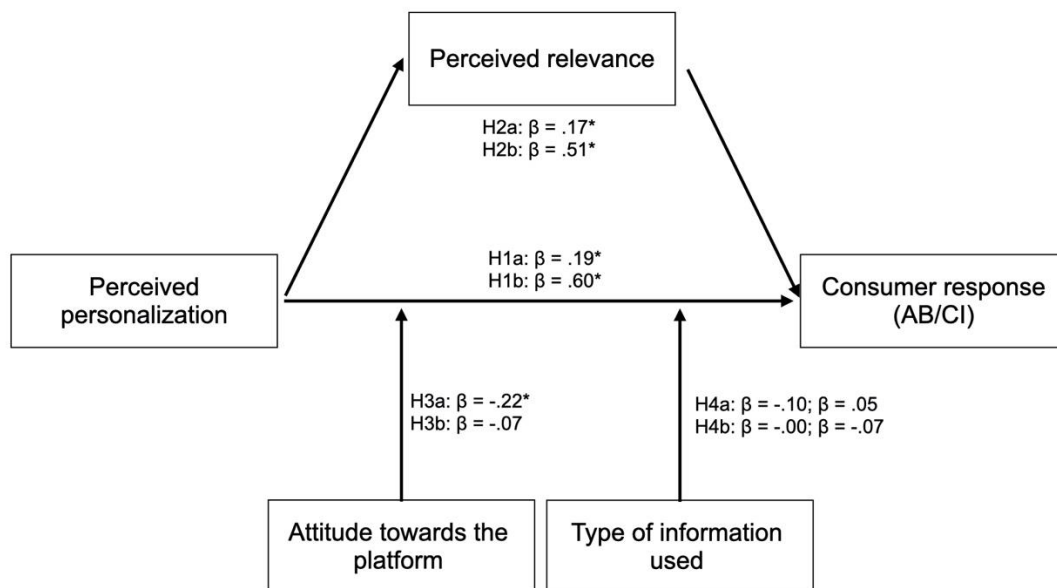
Figure 4.1 displays a simple slopes test for the moderating effect of platform attitude on perceived personalization and brand attitude. The effect is positive when platform attitude is negative (simple slope = .24,  $t$ -value = 25.44,  $p < .001$ ). The effect is nearly zero and insignificant when platform attitude is positive (simple slope = .02,  $t$ -value = 1.40,  $p = .162$ ). Thus, the effect of a more favorable brand attitude practically disappears when users have a positive brand attitude. As the simple slope test shows that consumers who have a more negative attitude towards the platform have a more positive brand attitude, H3a is rejected.



**Figure 4.1.** Two-way interaction plot with brand attitude (DV), perceived personalization (IV), and platform attitude (moderator).

#### 4.4.4. Moderating effect of information type used

As seen in the tables, the information type used in an advertisement does not significantly effect brand attitude and click intention. The interaction effects PP x IS ( $\beta = -.10$ ,  $p = .242$ ) and PP x NIS ( $\beta = .05$ ,  $p = .619$ ) with brand attitude as dependent variable are insignificant. With click intention as dependent variable, PP x IS ( $\beta = .00$ ,  $p = .997$ ) and PP x NIS ( $\beta = -.07$ ,  $p = .315$ ) are also insignificant. The results of H4 show that both the moderation effect of the type of information used in the personalized advertisement both H4a and H4b are rejected.



**Figure 4.2.** Results of conceptual framework.

**Table 4.5**

Summary of hypotheses.

	<b>Hypothesis</b>	<b>Outcome</b>
H1	Consumers who perceive an advertisement on social media as more personalized will have (a) a more negative brand attitude and (b) are less likely to click the advertisement.	H1a: Rejected H1b: Rejected
H2	Perceived relevance is a mediator between perceived personalization and (a) brand attitude and (b) click intention for advertisements on social media.	H2a: Accepted H2b: Accepted
H3	The positive effects of perceived personalization of advertisements on social media on (a) brand attitude and (b) click intention is stronger for consumers with a more positive attitude towards the platform than consumers who have a negative attitude towards the platform.	H3a: Rejected H3b: Rejected
H4	The negative effects of perceived personalization of advertisements on social media on the (a) brand attitude and (b) click intention is stronger for consumers exposed to individual-specific information compared to consumers who were exposed to not individual-specific information.	H4a: Rejected H4b: Rejected

**4.4.5. Manipulation check**

Deleting all responses from the participants that answered the manipulation check question incorrectly resulted in deleting 136 out of 217 responses. However, there were no significant changes in the outcome of the results. Therefore, the tables showing the results of this research with the respondents deleted are added to Appendix B (Tables B1 and B2) and hypotheses testing was done using the complete data set.

## **5. Discussion**

This chapter will describe the results of the research and its implications. First, the main findings are summarized. Next, theoretical and industry implications are described. Finally, limitations related to this study and recommendations for further research are discussed.

### **5.1. Summary of main findings**

This research aimed to determine the effect personalized advertisements have on consumer response. Platform attitude and the type of information used in personalization were suggested to moderate, and perceived relevance to mediate the effect. Using experimental design and randomly assigning each respondent to one out of three conditions employing a survey was used to test the conceptual framework.

The results showed that the influence of the type of information used as a moderator between perceived personalization and consumer response is insignificant. Thus, there does not seem to be a notable difference in whether brands use individual-specific data or not individual-specific data. Next, perceived personalization does have a significant effect on consumers' responses. However, the effect is the opposite, with a positive effect of perceived personalization on brand attitude and click intention. Furthermore, the mediation effect of perceived relevance between perceived personalization and consumer's response is significant. Finally, a significant moderating effect was found with platform attitude moderating between perceived personalization and brand attitude. However, the simple slope tests showed that this result contradicts the formulated hypothesis as the effect is negative. Thus, a more negative platform attitude results in a more positive brand attitude. The opposite, a more positive platform attitude, does not change someone's brand attitude. Besides, platform attitude does not have a moderation effect on click intention.

Thus, it can be concluded that perceived personalization influences consumers' responses favorably. Furthermore, perceived relevance influences perceived personalization affecting a consumer's brand attitude. In addition, a consumer's negative platform attitude positively strengthens perceived personalization's effect on brand attitude. However, the type of advertisement personalization does not influence perceived personalization and consumer response.

### **5.2. Theoretical implications**

This study has the following theoretical implications. First, the variables of perceived personalization and consumers' responses gave an interesting result. Previous literature was not unanimous if the effects of personalization on consumers were positive or negative. Therefore, it was already acknowledged in the literature review chapter that the results might contradict the formulated hypothesis and find the opposite effect. Some previous studies stated that consumers respond negatively to ad personalization and become brand and message resistant (Boerman et al., 2021; Jussila et al., 2015; Kruikemeier et al., 2019; Miyazaki, 2008; Pierce et al., 2003). However, other studies found positive effects in consumers' responses to ad personalization (De Keyzer et al., 2015; Kalyanaraman & Sundar, 2006; Shanahan et al., 2019). Even though the effect in this study was moderate, this research concludes that ad personalization positively influences consumer response.

Next, a mediating effect of perceived relevance was quite likely. Previous literature was unanimous on the mediating effect of perceived relevance (De Keyzer et al., 2015; Li, 2015; Sundar & Marathe, 2010). However, the effect proved to be only partial. This partial effect could entail that the effect, as previously described in the literature, is not as strongly present with consumers as expected.

Third, a consumer's negative platform attitude proves to be a moderator in the conceptual framework for brand attitude. Previous literature suggested that negative and positive platform attitudes would moderate the effect of perceived personalization and consumer response. Therefore, the results of this research mostly contradict previous studies. For example, Stevenson et al. (2000) showed this moderating effect, but they looked into websites instead of social media. Besides, the same effect with social media was also found by De Keyzer et al. (2015). However, previous research looking into the effect of this variable on consumers is relatively scarce. Therefore, the confirmation that this moderating effect does occur with negative platform attitude and brand attitude is valuable for academia.

Finally, no significant effect was found with the information type used as a moderator. With the recent Boerman et al. (2021) study about boundaries in personalized advertisements and the similar results from Jussila et al. (2015) and Pierce et al. (2003), this is somewhat unexpected. A possible reason could be the methodology of this research and the manipulation. Nevertheless, the platform used in this study, TikTok, could also influence consumers in their boundaries. The respondents seemed to like the platform TikTok, and because they liked it, their boundaries for invasiveness of information might have shifted.

### **5.3. Industry implications**

The results imply that it is favorable for brands to use personalized advertisements. However, as previous studies found evidence of ad personalization being boundary-crossing, it is crucial to consider that when creating this marketing tool. Although this research did not find any sign of personalized advertisements being boundary-crossing, other factors like the advertisement's content and message could still negatively influence consumers. Furthermore, this study used only one advertisement example, and it is, therefore, difficult to make inferences about other types of ads and messages. Besides, the platform should suit the target group the advertisement is trying to reach. Even though the moderating effect of platform attitude was only found with consumers who have a negative platform attitude, it is still advisable to consider this when selecting a platform. Therefore, it is advisable for employers working in marketing and communication to research the target group and their attitudes towards different platforms before choosing a platform for publishing a personalized advertisement.

Also, marketers should research their target group for their interests to create personalized advertisements perceived as relevant. Using the right trends, writing style, and message can help improve users' perceived personalization, creating relevance for consumers and, thus, enhancing their brand attitude.

## **5.4. Limitations and recommendations for further research**

Although this research methodology was designed to ensure its reliability and validity, there are still a few limitations that should be noted. A survey was used to gather many respondents and to gather much data. However, there are also downsides to using this survey method. There was no control for the researcher over how and if the respondents watched the presented material. A manipulation check and pre-test were used to determine if the respondents noticed the essential part of the material, namely the type of personalization. This manipulation check and pre-test showed that a large part of the sample incorrectly identified the type of personalization shown to them. Nevertheless, there is still a margin of error with respondents guessing the type of personalization or not noticing the personalization element until the manipulation check question. Also, respondents might not have comprehended the manipulation check question. Therefore, replicating this study in a controlled environment could show different results.

This study also has the following recommendations for future research. First, there are still many of unclarities about the moderating effect of platform attitude on consumer's



response. Previous studies (De Keyzer et al., 2015; Stevenson et al., 2000) already found a moderating relationship between perceived personalization, platform attitude and consumer response. However, with previous literature being relatively scarce, there is still a lot that remains unknown. Therefore, a quantitative study comparing advertisements on various online platforms would clarify the effect of a consumer's platform attitude and if it is a moderating effect.

Next, Boerman et al. (2021) suggested three factors influencing perceived personalization and consumer response. One of those factors was the information type used. This research concluded that the information type used in personalization is not a moderator for perceived personalization and consumer response. However, the other two factors mentioned in the literature review chapter, sharing of data and personalized pricing, might be of influence and could be researched in future studies.

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# Appendix

## A: Principal component analysis

**Table A1**

Measures, factor loadings, and Cronbach alphas

Construct	Items	Factor Loadings
Brand attitude	( $\alpha = .80$ ) (1=negative, 2=positive)	
	1. Do you feel good or bad about the brand?	0.85
	2. Do you dislike or like the brand?	0.78
	3. Do you find the brand unpleasant or pleasant?	0.78
	4. What do you think of the quality of the brand?	0.77
Perceived relevance	( $\alpha = .93$ ) (1=strongly disagree, 7= strongly agree)	
	1. This advertisement can be used to solve problems related to my interests.	0.93
	2. If asked about this brand, I would tell people things based on this advertisement.	0.93
	3. When facing a problem related to my interests, I will think about this brand.	0.92
	4. When facing a problem related to my interests, I will take action to what is suggested in the advertisement.	0.87
Platform attitude	( $\alpha = .85$ ) (1=strongly disagree, 7= strongly agree)	
	1. I'm satisfied with the service provided by this platform.	0.90
	2. I would like to visit this platform again in the future.	0.87
	3. This platform makes it easy for me to build a relationship with a brand.	0.82
	4. I think using this platform is a good way to spent my time.	0.78
Perceived personalization	(1=strongly disagree, 7= strongly agree)	
	1. This advertisement seemed to be specifically designed for me.	
	2. This advertisement targeted me as an unique individual.	
		$\alpha = .89$

## B: Results only with correct manipulation check

**Table B1**

Multiple regression with brand attitude as dependent variable.

Independent variables	Perceived relevance	Brand attitude		
	Model 1	Model 2	Model 3	Model 4
<b>Main effects</b>				
Perceived personalization (PP)	-.54*	.43*	.40*	.27
Platform attitude (PA)		.32*	.32*	.31*
Individual specific information (IS)		-.14	-.16	-.17
Not individual specific information (NIS)		-.23	-.28	-.17
<b>Mediating effect</b>				
Perceived relevance (PR)			-.08	.00
<b>Moderating effects</b>				
PP x PA				-.39*
PP x IS				.05
PP x NIS				.07

\* $p \leq .05$ , (2-tailed).

**Table B2**

Multiple regression with click intention as dependent variable.

Independent variables	Perceived relevance	Click intention		
	Model 1	Model 2	Model 3	Model 4
<b>Main effects</b>				
Perceived personalization (PP)	-.54*	.48*	.38*	.52*
Platform attitude (PA)		.13*	.11	.13
Individual specific information (IS)		.28*	.18	.12
Not individual specific information (NIS)		.39*	.19	.16
<b>Mediating effect</b>				
Perceived relevance (PR)			-.31*	-.31*
<b>Moderating effects</b>				
PP x PA				.00
PP x IS				-.04
PP x NIS				-.17

\* $p \leq .05$ , (2-tailed).

## C: Personalized advertisements on TikTok - Survey

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Start of Block: Default Question Block

Q1 Dear respondent,

For my Media and Business Master at Erasmus University Rotterdam I am conducting a research for my master thesis. I am looking into advertisements on TikTok. Therefore, this survey is intended for TikTok users.

The survey will take approximately 5 minutes to complete. The survey will show a video of a personalized advertisement on TikTok and ask questions about your experience while viewing this video.

Your identity will remain completely anonymous. The information you share is confidential and will only be used for the purpose of this research. The data will not be published nor will it be given to any third parties. As this survey is voluntary, you can stop at any time if you wish to do so. There are no correct or incorrect answers.

By completing this survey, you agree to the usage of your data for the purpose of educational research. If you have any question please email me: [572225sl@eur.nl](mailto:572225sl@eur.nl)

Thank you in advance for your participation.

Kind regards,

Sanne Linders

End of Block: Default Question Block

---

Start of Block: Sample Check

How often do you use TikTok?

- ☐ Everyday
- ☐ Between 1 and 4 times per week
- ☐ Every week
- ☐ Between every two weeks and once a month
- ☐ Once a month
- ☐ Less than once a month
- ☐ Never

End of Block: Sample Check

---

Start of Block: Video Material A

This video contains an advertisement of supermarket Albert Heijn on TikTok. Please look at it carefully before continuing with the survey. The remainder of the survey will provide you with statements about your thoughts and feelings while viewing this video.

To watch the video in full screen please click the full screen button in the below right corner.

End of Block: Video Material A

---

Start of Block: Video Material B

This video contains an advertisement of supermarket Albert Heijn on TikTok. Please look at it carefully before continuing with the survey. The remainder of the survey will provide you with statements about your thoughts and feelings while viewing this video.

To watch the video in full screen please click the full screen button in the below right corner.

End of Block: Video Material B

---

Start of Block: Video Material C

This video contains an advertisement of supermarket Albert Heijn on TikTok. Please look at it carefully before continuing with the survey. The remainder of the survey will provide you with statements about your thoughts and feelings while viewing this video.

To watch the video in full screen please click the full screen button in the below right corner.

End of Block: Video Material C

---

Start of Block: Attitude towards the brand/Click Intention

How do you feel about Albert Heijn?

Do you feel good or bad about Albert Heijn?	<input type="radio"/> Bad	<input type="radio"/> Good
Do you dislike or like Albert Heijn?	<input type="radio"/> Dislike very much	<input type="radio"/> Like very much
Do you find Albert Heijn unpleasant or pleasant?	<input type="radio"/> Unpleasant	<input type="radio"/> Pleasant
What do you think of the quality of Albert Heijn?	<input type="radio"/> Poor quality	<input type="radio"/> High quality

To what extent do you agree with the following statements.

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
It is likely that I will click this ad.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

End of Block: Attitude towards the brand/Click Intention

Start of Block: Perceived Personalization

To what extent do you agree with the following statements.

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
This advertisement seemed to be designed specifically for me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This advertisement targeted me as an unique individual	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

End of Block: Perceived Personalization

---

Start of Block: Perceived Relevance

To what extent do you agree with the following statements.

	Strongly agree	Agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Disagree	Strongly disagree
This advertisement can be used to solve problems related to my interests.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If asked about Albert Heijn, I would tell people things based on this advertisement.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When facing a problem related to my interests, I will think about Albert Heijn.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When facing a problem related to my interests, I will take action to what is suggested in the advertisement.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

End of Block: Perceived Relevance

---

Start of Block: Attitude towards the site

To what extent do you agree with the following statements.

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
TikTok makes it easy for me to build a relationship with a brand.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would like to visit TikTok again in the future.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I'm satisfied with the service provided by TikTok.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I think using TikTok is a good way to spent my time.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

End of Block: Attitude towards the site

Start of Block: Manipulation Check

Which video advertisement from Albert Heijn was shown to you?

- ☐ Name personalization
- ☐ Location personalization
- ☐ No personalization

End of Block: Manipulation Check

Start of Block: Demographics



Almost there, just a few demographic questions to end the survey!

What gender do you identify as?

- ☐ Male
  - ☐ Female
  - ☐ Non-binary / third gender
  - ☐ Prefer not to say
- 

What is your age?

---

What is your highest degree or level of education you have completed?

- ☐ High school
- ☐ Trade school
- ☐ Bachelor's degree
- ☐ Master's degree
- ☐ PHD or higher
- ☐ Prefer not to say

End of Block: Demographics

---

Start of Block: Giveaway

If you want to enter the 15 euro bol.com gift card give away, please enter your email here. If not, you can skip this question and finish the survey.

---

End of Block: Giveaway

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## **D: Link to survey with materials**

[Link to preview survey](#)