

Was this an advertisement?

Exploring the effects of intensity of Facebook usage and media literacy on millennials'
advertising literacy on Facebook

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WAS THIS AN ADVERTISEMENT?

ABSTRACT

Almost one million of Croatian millennials, people between the ages of 18 and 30, are using Facebook. With a large amount of information available on Facebook, users need to employ media literacy strategies in order to access and critically consume that information, as well as produce their own content to share. Because of low costs and high reach, there is also an increasing number of advertisements on Facebook, often in the form of paid posts. In order to be able to recognize and critically assess advertising, users need a certain level of advertising literacy. Therefore, this research investigated the overall levels of media and advertising literacy among Croatian millennials, as well as the effects of intensity of Facebook usage and media literacy on advertising literacy on Facebook. The overall question of this research was whether Facebook usage and media literacy are positive predictors for advertising literacy. To answer this question, an online survey was conducted during which participants were asked questions to determine their intensity of Facebook usage and media and advertising literacy. The participants were recruited through Facebook using snowball sampling. The findings showed that the overall level of media literacy of the Croatian millennials was high, attitudinal advertising literacy was high, but the ability to recognize advertising depended on disclaimers presented with paid posts. The results showed that media literacy positively influenced understanding of persuasive intent, but had limited effect on other segments of advertising literacy. At the same time, intensity of Facebook usage had limited effects on both media and advertising literacy. In order to increase people's ability to recognize advertising, disclaimers of paid posts need to be clearly visible, and possibly regulated with industry guidelines. Media and advertising literacy modules should also be present in the educational system, and individuals need to become aware that their levels of advertising literacy are not as high as they perceive.

KEYWORDS: Media literacy, advertising literacy, paid post, intensity of usage, Facebook

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Preface

As a final step before graduation, writing this thesis was a demanding, but at the same time interesting and rewarding experience. I would like to thank my supervisor, Sanne Oprea, for always offering valuable insights from the field of advertising research, giving extensive feedback throughout the process and encouraging me to do my best. Sanne's support and encouragement made it possible for me to complete this thesis. I also want to thank my family and friends for their support, patience and understanding, and especially for their extensive help in recruiting participants.

1. Introduction

A report from Pew Research Center (2010) showed that 71% of millennials (i.e., people aged between 18 and 29) have a profile on Facebook. All Facebook users combined spend approximately 700 billion minutes per month on the social network site (Williams, Crittenden, Keo, & McCarty, 2012). For these reasons, Facebook was chosen as a medium of interest of this research. Since advertising research was mainly done in Western countries (Saleem, Larimo, Ummik, & Kuusik, 2015), this research focuses on an Eastern European country, Croatia, where there is almost a million millennial Facebook users (arbona.hr, 2016). The increase in advertising and sponsored content on Facebook (Magnini, 2011) makes Facebook users more exposed to commercial messages, and therefore it is relevant to explore whether and how users can recognize this content. Ability to recognize advertising is one of the elements of advertising literacy (Rozendaal, Lapierre, van Reijmersdal, & Buijzen, 2011), and at the same time, interpreting and analyzing media messages is part of media literacy (Kamerer, 2013). Therefore, it is relevant to explore the ability to recognize advertising in terms of both media and advertising literacy. Furthermore, advertising literacy is often considered as part of media literacy (Potter, 2014), so exploring them within the same research can show whether there are practical differences between the two.

This research has four aims: (1) to determine the level of media literacy among millennial Facebook users in Croatia; (2) to determine the level of advertising literacy among millennial Facebook users in Croatia; (3) to determine whether an increase in media literacy leads to an increase in advertising literacy among millennial Facebook users in Croatia, and (4) to determine whether the levels of media literacy and advertising literacy are higher among heavy Facebook users than light Facebook users in the generation of millennials in Croatia. Definitions of key concepts used in this research are provided in the next paragraphs.

1.1. *Media literacy*

With the emergence of new media (i.e., the Internet), researchers became aware of the need for a definition of media literacy. In 1992, the National Leadership Conference on Media Literacy came up with the definition of media literacy as the *ability to access, analyze, and create information for specific outcomes* (Aufderheide, 1993). In the 21st century, definitions of media literacy often emphasize the word “critical” when talking about reflection, analysis and evaluation of content and social, political and economic contexts in which media messages are created (Hobbs, 2005). Key dimensions of media literacy defined by Buckingham (2003) are the ability to produce media content, the ability to use language to

construct the message, the ability to represent different ideas, values and ideologies through those messages, and to identify audience selection and interpretation. Another definition of media literacy states that it is the knowledge, skills and competencies needed to interpret and use media, and ability to access, analyze, create, reflect and act (Kamerer, 2013). The new definition adds to the previous ones in terms of analyzing, reflecting and acting upon those messages. Older definitions focus on accessing and producing the media, while the analytical part is limited to understanding the audience and the general representation of ideas. The newer definitions also include the critical approach, as well as acting upon these messages, which suggests a more active approach towards media messages.

These skills, knowledge, and competencies have become even more important with the emergence of social networking sites, because through these sites individuals consume and produce great amount of content. Social networks have become an important aspect of communication, which made way for research in motivations for individuals to participate in social networking and how attitudes towards social media and their messages are formed on social networks (Yap & Gaur, 2016). Yap and Gaur's (2016) research suggests that the information seeking on Facebook involves fun and entertaining information that require low levels of cognitive thought and critical assessment. This means that during their time on Facebook, individuals are less likely to engage in such thinking, allowing themselves to be more easily influenced by messages coming from that medium.

1.2. Advertising literacy

Advertising literacy has a wide range of definitions, and is understood as consumers' awareness of the different kind of ads, their sensitivity to production values and ability to describe advertising techniques (O'Donahoe & Tynan, 1998). Other definitions focus on awareness of advertising and understanding and evaluating persuasiveness of advertising messages, as well as specific techniques and forms of advertising, while they don't mention production, as regular consumers of the media only consume advertising, rather than produce its content (Spielvogel & Terlutter, 2013). This is one of the fundamental differences between media and advertising literacy, which serves as a basis for exploring advertising literacy on its own.

The most detailed definition of advertising literacy divides it into three advertising dimensions: (1) "conceptual advertising literacy", or conceptual knowledge of advertising, for example whether a person can identify what the ad is for, who paid for it and what is the purpose of the ad; (2) "attitudinal advertising literacy", which is characterized by low-effort attitudinal mechanisms in conditions of low elaboration, for example whether a person thinks the ad is truthful or not, and whether they find it deceiving, irritating or boring; and (3) "advertising literacy performance", or the use of conceptual knowledge of advertising while

exposed to it, or in other words, whether a person can distinguish advertisement from regular content (Rozendaal, et al. 2011).

1.3. Relationship between media literacy and advertising literacy

The definitions of media literacy focus on understanding, creating and evaluating messages from all forms of media and all producers of content. Within the scope of media literacy, there are other specific kinds of literacy that are researched, such as advertising literacy, visual literacy, story literacy, and computer literacy (Potter, 2014). These other kinds of literacies have their own definitions and concepts, but are considered to be a part of the common term “media literacy” due to the common denominators. One important distinction between media and advertising literacy, however, is that while people are rather active in searching for exposure to entertainment and informational media, they seem to encounter advertising messages in a state of automaticity (Potter, 2014). Moreover, advertising scholars talk about advertising literacy on its own, not as part of media literacy, suggesting there are practical differences between the two, which is relevant for this research because this research aims to determine whether the two are connected and whether they should be further explored independently.

The relationship between media literacy and advertising literacy was researched by other academics. Eagle (2007) refers to “commercial media literacy” when discussing understanding of the persuasive intent of advertising. She mentions that media literacy is a form of protectionism, but that the knowledge of media literacy and awareness of persuasive communication are not enough to mean effective resistance to these messages. Weintraub Austin, Muldrow and Austin (2016), explored the relationship between media literacy and skepticism towards advertising, which is only one part of advertising literacy. They propose that media literacy leads to a greater awareness of advertising, making individuals less susceptible to their messages, but at the same time they question to what extent that is so. This research aims to provide a solid answer to that question, within the context of the generation of millennial Facebook users in Croatia: *Is Croatian millennial Facebook users’ media literacy a positive predictor for their advertising literacy?*

1.4. Facebook usage

Importantly, Facebook usage may confound the relation between media literacy and advertising literacy (i.e., in which case media literacy does not predict advertising literacy, but Facebook usage predicts both). Individuals’ motivations for usage of Facebook vary from social interaction, information seeking, passing time, entertainment, relaxation, communication to convenience (Whiting & Williams, 2013). Duffett (2015) mentions several ways to measure Facebook usage, such as the amount of time an individual has been using

Facebook, how often they log in, how much time they spend per log-in, how often they update their Facebook account and through which device they access it. However, there is more to Facebook usage than frequency of use because mindless scrolling and intentional absorption of Facebook content have a different effect on perception of information received through that medium (Orosz, Tóth-Király, & Bóthe, 2016). We can assume that the people who spend a lot of time on Facebook just to pass time don't pay close attention to the actual content, but rather scroll through their feed and look at posts at a glance, while those who turn to Facebook to seek information pay closer attention to the content that is posted and read and notice details about posts in their feed.

Orosz, Tóth-Király, and Bóthe (2016) explored the dimensions of Facebook use and came up with a multidimensional intensity scale. In their research, Orosz and colleagues (2016) make the distinction between habits of usage and intensity/motivations of usage, arguing that motivations go beyond the aspects of use and can predict Facebook-related behaviors. Including motivations of usage of social media in the research question is necessary because different kinds of media deliver information cues in different ways, some forms of media doing it more accurately than others (Huang, Yang, Baek, & Lee, 2016). Therefore, motivations of usage of Facebook needed to be included in the model for this research in order to see how motivations of usage specific for the medium of Facebook can or cannot predict certain behaviors, in this case media and advertising literacy. Additionally, as individuals adopt different roles on social media (Williams et al., 2012), and as social media are changing the use of media for communication (Huang et al., 2016), it is necessary for individuals to be actively involved with the medium in order to be able to distinguish different types and sources of content from one another. In this research, individuals' activity on Facebook is measured through frequency of log-ons, profile updates, and time spent on Facebook, as well as in terms of characteristics of usage. If an individual is actively involved with the medium and can distinguish sources of information, it can be assumed that the individual will develop higher levels of media and advertising literacy due to better familiarity with the medium.

1.5. Relevance

The academic relevance of research is threefold. First, this question is that it aims to explore the relationship between media and advertising literacy, to see whether the two are the same or if they should be explored separately. Second, the majority of advertising research is done in the Western countries, while advertising research is still scarce in countries of Eastern Europe (Saleem et al., 2015), raising the question whether the findings from Western countries can be generalized to Eastern countries. Therefore Croatia was selected as a country where the research is going to be conducted. Third, the generation of

millennials is also of interest to academia. Since it is the second largest generation, it has a great impact on the workforce (Loroz & Helgeson, 2013), which in turn has an impact on their expectations of education and what they want from it (Ng, Schweitzer, & Lyons, 2010). Media and advertising literacy are still often trivialized (Hobbs, 2005), and only taught as parts of other subjects, instead of specialized modules (van der Linde, 2010). Therefore, this research will provide valuable insight into the current situation and provide a basis and direction for future research in the field of media and advertising literacy.

The societal relevance of this research is again the fact that it explores the generation of millennials, which as the second largest generation has a great impact on the economy and society as a whole (Loroz & Helgeson, 2013); therefore it is necessary to understand their characteristics. This research also gives insights for advertising practitioners and organizations, who are increasingly using Facebook as advertising platform, due to less profitable investments in advertising in traditional media (Magnini, 2011). From this research, advertising practitioners can develop a better understanding of how their messages are perceived by the consumers. Then, they can adapt them to be more efficient and, as stated before, media and advertising literacy are still often trivialized (Hobbs, 2005), and only taught as parts of other subjects, instead of specialized modules (van der Linde, 2010). This research will provide insight for educators to know which areas of education with regards to media and advertising literacy need improvement. For individuals, this research is important in order to become aware of their habits of using the media and how it reflects on their susceptibility to advertising. Finally, this research is of use to the regulators, to see whether their rules and guides for disclosure of advertising are recognized by the users.

2. Theory

The theory section of this research will explain the literature used to guide the research. First, the definitions of media literacy and advertising literacy are applied to Facebook. Second, the link between media and advertising literacy on Facebook, as well as the link between Facebook usage on the one hand and media and advertising literacy on the other hand are elaborated upon.

2.1. Media literacy on Facebook

As explained prior, media literacy is generally defined as the knowledge, skills and competencies needed to interpret and use media, and ability to access, analyze, create, reflect and act (Kamerer, 2013). When it comes to measuring media literacy, Koc and Barut (2015) developed a “New media literacy scale” that separates media literacy into four segments: (1) functional consumption, (2) critical consumption, (3) functional prosumption, and (4) critical prosumption.

Functional consumption entails accessing and understanding information in the media. Koc and Barut (2015) measured their participants’ functional consumption by asking questions about using searching tools to get information needed in the media, catching up with the changes in the media and making use of various media environments to reach information. These questions can be easily adapted to measure participants’ functional consumption on Facebook, by asking questions about using searching tools to get information needed on Facebook, catching up with the changes on Facebook and making use of various Facebook environments to reach information. Critical consumption entails critically assessing, evaluating and receiving media messages. This is examined by asking participants whether they can distinguish functions of media, determine whether media contents have commercial messages, combine media messages with one’s own opinions, consider media rating symbols to choose which media contents to use, and finally make decisions about the accuracy of media messages (Koc & Barut, 2015). These questions can be adapted to measure critical consumption on Facebook by asking participants whether they can distinguish functions of Facebook, determine whether Facebook contents have commercial messages, combine Facebook messages with one’s own opinions, consider Facebook rating symbols to choose which Facebook contents to use, and finally make decisions about the accuracy of Facebook messages.

Functional prosumption includes the usage of different tools to create media contents. Koc and Barut (2015) measured this by asking participants whether they can use hardware and software necessary for developing media contents and whether they can use basic operating tools in the media. To measure functional prosumption on Facebook, these questions can be adapted to ask participants whether they can use hardware and software

necessary for developing Facebook contents and whether they can use basic operating tools on Facebook. Finally, critical prosumption entails the ability to construct online identities and to contribute and critically reflect on media contents. Koc and Barut (2015) measured this by asking their participants whether they can influence others' opinions by participating to social media environments, make contribution to media by reviewing current matters from different perspectives, if they can construct online identity consistent with real personal characteristics and design media contents that reflect critical thinking of certain matters. These questions can be easily adapted to measure participants' functional consumption on Facebook, by asking each participant whether they can influence others' opinions by participating to Facebook environments, make contribution to Facebook by reviewing current matters from different perspectives, if they can construct online identity consistent with real personal characteristics and design Facebook contents that reflect critical thinking of certain matters.

Millennials have grown up with extensive exposure to and experience with various forms of media, and are sometimes referred to as "Digital natives" (DiLullo, McGee, & Kriebel, 2011). DiLullo et al. (2011) argue that because of the high exposure to media, millennials are used to selecting information that is most easily accessible, failing to critically assess that information. Research by Van de Vord (2010) argues that even though students have access to a large quantity of information online, they do not have the skills to critically assess this information. Maksl, Ashley, and Craft (2015) found that high levels of media literacy among teens are connected to higher levels of parental education, but the amount of media teens were exposed to did not affect their level of media literacy. On the other hand, Boyd and Dobrow (2011) argue that regular media consumption leads to higher media literacy and civic engagement.

Given the high Facebook use of millennials in Croatia (arbona.hr, 2016), their overall level of functional (both consumption and prosumption) media literacy is expected to be high. However, as previous research shows that many millennials lack critical processing skills, their overall level of critical (both consumption and prosumption) media literacy is expected to be low. These expectations are expressed in the following hypotheses:

H1: Functional media literacy on Facebook among millennials in Croatia is high, while critical media literacy is low.

H1a: Functional consumption of Facebook content among millennials in Croatia is high.

H1b: Critical consumption of Facebook content among millennials in Croatia is low.

H1c: Functional prosumption of Facebook content among millennials in Croatia is high.

H1d: Critical prosumption of Facebook content among millennials in Croatia is low.

2.2. Advertising literacy on Facebook

As stated in the introduction chapter, advertising literacy is divided into three dimensions: (1) conceptual advertising literacy (2) attitudinal advertising literacy, and (3) advertising literacy performance (Rozendaal, Lapierre, van Reijmersdal, & Buijzen, 2011). The dimensions are going to be measured with scales developed by Rozendaal, Oprea, and Buijzen (2016), which measure both conceptual and attitudinal advertising literacy in children, with sixteen and nine items respectively. The conceptual advertising literacy scale measured recognition of advertising, understanding selling intent, recognition of advertising's source, perception of intended audience, understanding persuasive intent and understanding persuasive tactics. Originally, in research by Rozendaal et al. (2016), this was measured by asking the participants whether what they saw was an advertisement and if so, what it was for, then participants were asked whether commercials are on television to make them buy the product and to feel and think positively about the product, as well as who they think pays for the making of television commercials. Then, participants were also asked why they think commercials often show happy children playing with product, and why they are often funny. To measure millennials' conceptual attitudinal literacy, these questions can be adapted to ask whether paid posts are on Facebook to make them buy the product and to feel and think positively about the product, as well as who they think pays for the writing of paid posts, as well as why they think paid posts often include a story in which the advertised product is used, and why they are often funny.

The attitudinal advertising literacy scale measured understanding advertising's bias, skepticism toward advertising and disliking of advertising (Rozendaal et al., 2016). This was measured by asking the participants how often they think television commercials are real, truthful, boring or stupid, how often they think what they see in commercials is like things in reality, and how often they think television commercials tell the truth. These questions can be easily adapted to measure participants' attitudinal literacy on Facebook, by asking how often they think paid posts are real, truthful, boring or stupid, how often they think what they read in paid posts is like things in reality, and how often they think paid posts tell the truth.

Because of the large audience that can be reached through social media sites, companies are starting to use them more and more in order to improve their communication and engagement with consumers, as well as to reach potential customers (McCorkindale, DiStaso, & Fussel Sisco, 2013). Increase in advertising on social media, like Facebook, has also led to an increase in advertising research on those media. Lin and Kim (2016) researched sponsored advertising on Facebook and users' response to sponsored messages in their news feeds. They found that although users dislike Facebook advertising and sometimes or often feel like Facebook ads are intrusive, they also express above average perceived usefulness and ease of use associated with Facebook ads. While this

research deals with Facebook ads, and not paid posts on Facebook, it will be interesting to see how people's perception of paid posts on Facebook compares to their perception of Facebook ads.

Lin and Kim's (2016) research dealt mostly with attitudinal advertising literacy by asking their respondents about their liking of ads, feelings of intrusiveness due to ads and their belief towards what the ad says. They explored conceptual advertising literacy to a lesser extent, by asking participants about the perceived usefulness of Facebook ads. Following the results of Lin and Kim's (2016) research, the assumption is that the overall level of advertising literacy is high, and the sub hypotheses are the following:

H2: The level of advertising literacy among Facebook users in Croatia is overall high.

H2a: The level of conceptual advertising literacy among Facebook users in Croatia is high.

H2b: The level of attitudinal advertising literacy among Facebook users in Croatia is high.

2.3. Media literacy and advertising literacy

In their research on dimensions of advertising literacy, O'Donahoe and Tynan (1998) identify three dimensions of advertising literacy according to which young adults can be grouped. These dimensions are "competent consumers" who can interpret and make sense of ads and make a distinction between direct and subtle ads; "surrogate strategists" that are able to discuss objectives and measures of effectiveness of ads, as well as identify the intentions behind ads; and lastly "casual cognoscenti" whose literacy goes beyond their consumer roles to discussion of techniques and production of the ads. This qualitative research gives insights into different roles that consumers take when analyzing media messages and provides the interpretation of measures of advertising literacy that can be adopted in future research. They suggest that future research should focus on how consumers move from one group or role to the other and how their perception of the ad changes with it. O'Donahoe and Tynan (1998) also argue that the switch between the roles in relation to advertising is largely influenced by their experiences of everyday life and the mass media. This is an indication for a connection between media and advertising literacy.

Additionally, Huang et al. (2016) found that new media are superior to old media when it comes to information seeking. The lack of time and location restrictions is changing the pattern of information seeking and people are able to access information anytime, anywhere. While being able to access a lot of valuable information is empowering, the information that is delivered to us is not only the information we specifically requested. Garcia-Molina, Koutrika, and Parameswaran (2011) point out the two different delivery modes of information; pull and push, pull being the information a user has specifically

requested through searching, and push being information given to a user without the user making a specific request for it, such as advertising. Since advertising and non-advertising messages are encountered in the same medium, and at the same time, both media and advertising literacy need to be employed to make sense of those messages, once again showing the overlap between the two literacies.

When it comes to research on recognition of sponsored content, Wojdyski and Evans (2016) found that the positioning of the disclaimer affects people's ability to recognize sponsored content as advertising. They found disclosures that appear in the middle or at the end of the text to be more effective than those that appear at the very beginning, just below the article headline. Wojdyski and Evans (2016) also found that visual attention to disclosures positively affected the likelihood of recognition of ads. However, visual attention on its own is not enough to create awareness of content (Kentridge, Nijboer, & Heywood, 2008; Lamme, 2003). While attention enables stimuli to reach a conscious state, awareness of these stimuli is needed in order to process information (Lamme, 2003), and processing information from the media falls into the scope of both media and advertising literacy.

Research by Weintraub Austin, Muldrow, and Austin (2016), included critical assessment and understanding of advertisements in their media literacy scales, which shows how research on media literacy can be connected to advertising literacy. However, because the research at hand also explores whether media and advertising literacy can be examined together, or if there should be different measures for each, media and advertising literacy are in this case looked at separately. Additionally, the influence of media literacy on advertising literacy is also explored. In the context of this research, we assume that media literacy and advertising literacy are connected in a way that media literacy positively influences advertising literacy, therefore the overall hypothesis is the following:

H3: The level of media literacy on Facebook positively influences the level of advertising literacy on Facebook.

Since both media literacy and advertising literacy have more dimensions, sub hypotheses were formulated and they are the following:

H3a: The level of *functional consumption* positively influences the level of *conceptual advertising literacy*.

H3b: The level of *functional consumption* positively influences the level of *attitudinal advertising literacy*.

H3c: The level of *critical consumption* positively influences the level of *conceptual advertising literacy*.

H3d: The level of *critical consumption* positively influences the level of *attitudinal advertising literacy*.

H3e: The level of *functional prosumption* positively influences the level of *conceptual advertising literacy*.

H3f: The level of *functional prosumption* positively influences the level of *attitudinal advertising literacy*.

H3g: The level of *critical prosumption* positively influences the level of *conceptual advertising literacy*.

H3h: The level of *critical prosumption* positively influences the level of *attitudinal advertising literacy*.

2.4. Motivations of Facebook usage and media literacy

When it comes to measuring involvement and usage of social media, Williams, Crittenden, Keo, and McCarty (2012), divided the users of social media into spectators, those who only read content; joiners, those who use social media to connect and unite; collectors, who save and share content; critics, those who rate and comment; and creators, those that publish, maintain and upload content to social media. Using a uses and gratification approach, McCorkindale, DiStaso, and Fussel Sisco (2013) propose that millennials use Facebook because of the need for integration and social interaction, because they want information about their friends, interests and current events, because they seek active entertainment, or for personal identity construction. Motivations, usage patterns and emotional connection with a medium are important for this research because they may affect the way individuals look and perceive content on social media, as well as their ability to critically access content, its source and intended message.

Even more recent research by Orosz, Tóth-Király and Bóthe (2016), makes a distinction between habits of Facebook usage and intensity of Facebook usage, arguing that the time one spends on Facebook, one's number of friends, and group memberships, does not necessarily reflect their emotional connection and involvement with the social network. For example, a person might have a relatively small number of Facebook friends and might spend less time on Facebook than their peers, but might hold Facebook more important and credible, and might even be more familiar with its functions, than those who spend more time on it. This distinction is important to make in this research, because this kind of involvement is the kind that is relevant for this research, as high intensity involvement and motivations, and mindless scrolling through Facebook feed can result in different media literacy regarding Facebook.

The motivations of usage in the case of this research is characterized by frequency of usage and strength of emotional connection towards Facebook and is measured by how often users access Facebook and how much time they spend on it, whether they use it for social interaction, information seeking, passing time, entertainment, relaxation,

communication or convenience, as well as their feelings and emotional connection to Facebook, for example how they feel if they don't have access to Facebook, if they spend time on Facebook instead of sleeping or doing their obligations, how detailed their profiles are and how important it is to update them regularly. Because this research aims to see whether heavy Facebook usage leads to higher media literacy, the overall hypothesis is:

H4: Heavy Facebook usage positively influences the level of media literacy.

And the sub hypotheses are the following:

H4a: *Frequency of Facebook usage* positively influences level of *functional consumption*.

H4b: *Frequency of Facebook usage* positively influences level of *critical consumption*.

H4c: *Frequency of Facebook usage* positively influences level of *functional prosumption*.

H4d: *Frequency of Facebook usage* positively influences level of *critical prosumption*.

H4e: The *motivations of Facebook usage* positively influence the level of *functional consumption*.

H4f: The *motivations of Facebook usage* positively influence the level of *critical consumption*.

H4g: The *motivations of Facebook usage* positively influence the level of *functional prosumption*.

H4h: The *motivations of Facebook usage* positively influence the level of *critical prosumption*.

2.5. *Motivations of Facebook usage and advertising literacy*

If users are highly involved with Facebook, and actively engage in its content, they might notice the different types of disclosures of paid content, as well as the newest ways of advertising.

Eagle (2007) saw a connection between different kinds of social media usage and advertising, researching how involvement with specific media can influence the perception of advertising in that media. The research also stated that while familiarity with medium could affect individuals' perception of advertising, as well as understanding of persuasive intent of advertising in that medium, the longevity of these effects is still unknown. The more familiar an individual is with a certain medium, in this case Facebook, it can be assumed that they are more literate with the medium and therefore can more easily recognize different types of content and their messages in that medium (conceptual advertising literacy), but also perception and liking of advertising (attitudinal advertising literacy). Because this research aims to see whether heavy Facebook usage leads to higher media literacy, the sub

hypotheses to answer this question are the following:

H5: Intensity of Facebook usage positively influences the level of advertising literacy.

H5a: *Frequency of Facebook usage* positively influences the level of *conceptual advertising literacy*.

H5b: *Frequency of Facebook usage* positively influences the level of *attitudinal advertising literacy*.

H5c: The *motivations of Facebook usage* positively influence the level of *conceptual advertising literacy*.

H5d: The *motivations of Facebook usage* positively influence the level of *attitudinal advertising literacy*.

The visualization of complete theoretical model including hypotheses H3, H4 and H5 is shown below (Figure 1).

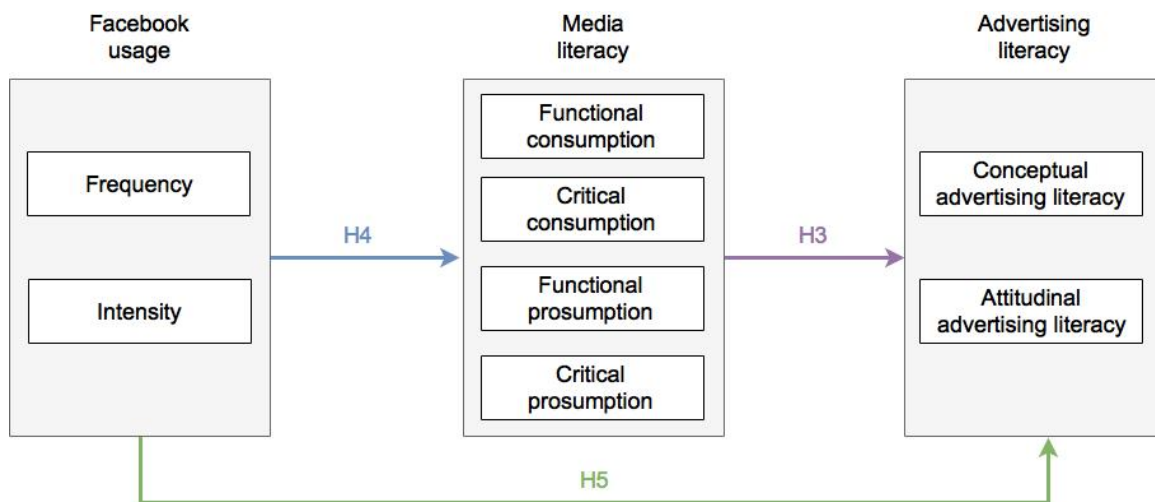


Figure 1. Theoretical model.

3. Method

3.1. Research design

This research takes a quantitative approach in order to answer the research question of whether the levels of media literacy and advertising literacy are higher among participants with higher intensity of usage of Facebook. Research method that was chosen to explore this research question was an online survey. In this survey, participants were asked to complete some demographic questions first, followed by questions to determine their frequency, motivations and intensity of use of Facebook, and questions to determine their level of media literacy. Then they saw six Facebook posts, three of which ads and three non-ads and they had to specify which posts were ads and which were not. Then, the participants were shown which posts were ads, and were asked to complete some questions to determine their level of advertising literacy. How each of the constructs was measured is described in detail below.

The reason this design was chosen is that the participants were already limited according to their nationality and age before the survey distribution even began. There were no conditions in this research; all participants saw the same survey with the same stimulus material, six post out of which three were advertisements and three were regular editorial content. Furthermore, a survey was chosen because it is the instrument that allows standardization for all participants, as all participants see questions in the same order and same wording (Sapsford, 2007). This allows us to compare the responses and make conclusions about the impact of variables. Since the results of survey are quantitative data, we can use statistical analyses to test the hypotheses (Sapsford, 2007). Furthermore, online survey is easier to distribute and can reach a larger amount of people from different backgrounds that still fit the sampling criteria.

3.2. Sampling and consent form

All respondents were collected in April 2017. Since selected method was an online survey and the survey included questions about Facebook use, the first participants were recruited via Facebook. This allowed for a personal approach, which can increase the response rate (Baltar & Brunet, 2012). The first participants were approached through Facebook chat of the researcher's own network of people that fit the selection criteria. They were given a direct link to the Qualtrics survey, and they were asked to distribute the survey further through their network of people that fit the selection criteria, meaning a snowball sample was adopted in order to reach a larger network of participants, making the sample more diverse and representative of the population (Baltar & Brunet, 2012). All participants were from Croatia, since that is the target group this research deals with. They were also

part of the generation of millennials, meaning they were between the of ages 18 to 29 (Lenhart, Purcell, Smith, & Zickuhr, 2010).

When participants clicked on the survey link, they were redirected to the Qualtrics survey. The first thing participants saw was the consent form (Appendix A). Here, they were explained that the research they are going to take part in is part of master's program in Media and Business at the Erasmus University Rotterdam, and that their participation is voluntary and anonymous. This is also where participants were introduced to the cover story of the experiment. They were told that this research deals with Croatian millennials' usage of Facebook and its content. The cover story is introduced in order to prevent response bias due to participants realizing their media and advertising literacy is being observed.

3.3. Participants

The participants of this survey (N = 155) were between ages of 18 and 29, more precisely, the biggest group of participants was 22 years old (N = 60), followed by 23-year-olds (N = 30), and 21-year-olds (N = 19). The smallest groups of participants were 18- and 29-year olds with one participant in each group. Ages of 28 and 27 were represented by two and three participants, respectively, while five participants indicated they were 25 years old. Groups of 19- and 20-year-olds each had 11 participants, and 24-year-olds 12. The complete distribution of participants across ages can be seen in Figure 2.

Out of all participants, 40.6% (N = 63) were male, while 59.4% (N = 92) were female. When it comes to the education of participants, the biggest number (N = 66) indicated they were high school graduates, followed by Bachelor's degree (N = 47), Master's degree (N = 26) and Associate degree (N = 10). Other groups had less than ten participants, more precisely three participants indicated they attended or received Professional degree, two attended or received a Doctoral degree, while one participant had less than high school degree. When asked if they noticed any advertising on Facebook, the majority (N = 152) replied with "yes", while three participants reported they have not noticed any advertising on Facebook.

3.4. Stimulus material

As stated above, participants of this research saw six Facebook posts in order to test their media and advertising literacy. All six posts were actual posts (Appendix B) that appeared on the Facebook page 'mindbodygreen', a health and wellness website. The reason this page was chosen for stimulus material is that it is gender neutral and relatively unfamiliar to Croatian audience, so pre-existing prejudice about the source were eliminated. Of the six posts, three were advertisements, while other three were regular editorial content. The first post that was an ad was for Kohl's. It was chosen as stimulus material that is easy

to recognize as an ad because it has several signifiers of the company that paid for the ad. Kohl's is tagged in the first line together with mindbodygreen, in the description of the post and in the post itself. The second ad was for SUJA Juice. This post is less easy to recognize as an ad, as it has only two signifiers of the company behind it; tagged with mindbodygreen and mentioned in the post. The last ad, that was least likely to be recognized as an ad was for The Model Health Show. This company was mentioned only at the very end of the post, below the picture. Other three posts were regular editorial content that served as distraction to the participants. After determining which posts they considered to be ads, participants were shown which posts in fact were advertisements and which were regular editorial content.

3.5. Measures

This survey consisted of several scales to measure frequency and intensity of Facebook usage, media literacy, and advertising literacy. Scales used in this research were validated through other research. However, some of them were adapted to suit the purpose and target group of this research, therefore factor analysis and reliability analysis were used for every scale to see if these scales were reliable and could be further used in this research. For the factor analyses, both the Kaiser-Meyer-Olkin measure of sampling adequacy and Bartlett's test of sphericity were inspected. The KMO value should be higher than 0.60, and the Bartlett's test of sphericity statistically significant, in order for factor analysis to be allowed. When it was, the Eigenvalues were looked at in order to determine how many factors there were within a scale. Eigenvalue of 1 or more indicates there is a factor within the scale, and all items must be positively correlated with one factor. If the analysis showed a one dimensional scale, we proceeded with a reliability analysis. In reliability analysis, Cronbach's alpha was looked at and values of 0.70 and above were accepted, but values above 0.80 are preferable (Pallant, 2007). Reliable scales were computed into a new variable by calculating the mean of all items. If Cronbach's alpha could be improved by removing an item from the scale, that item was removed and the remaining ones were computed into a new variable.

Frequency of Facebook usage. To examine the frequency of Facebook usage, people were first asked to answer the question "Do you use Facebook?" with either "yes" or "no". If the answer was "no", the respondent was redirected towards the end of survey, because non-users of Facebook are not the target group of this research. The next five questions about accessing Facebook, length of usage, frequency of log ins, hours spent per log in and frequency of updating profile have several answer categories. The whole scale can be seen in Appendix C. In terms of accessing Facebook, 119 participants access it through both mobile device and PC/laptop, while 31 report accessing through mobile device

only, and 5 participants access Facebook through PC/laptop only. The majority of participants (148) have used Facebook for more than five years, while 3 and 2 participants used it for four and three years respectively, and one participant reported usage for two years and one for less than one year. When it comes to frequency of log-ons, 134 participants log in several times a day, 15 once a day, 3 participants log in 2-4 times a week, while one participant logs in once a week and one once a month. As for the time spent on Facebook per log on, 118 participants spend less than one hour per log in, 26 spend up to two hours, and 7, 2 and 2 participants report spending 3, 4 and more than 5 hours, respectively. From 155 participants, 107 report updating their Facebook profile only once a month, 32 2-4 times a week, 11 report updating once a week, 3 participants update their profile 2-4 times a week, and 2 update it every day.

Intensity of usage. After frequency of usage, respondents were asked why they use Facebook in order to determine their motivations. As answer categories, they were presented with seven possible answers from Whiting and Williams (2013). These answers are “social interaction”, “information seeking”, “pass time”, “entertainment”, “relaxation”, “communication utility” and “convenience utility”, as can be seen in Appendix D. Respondents were allowed to choose several answers for this question. As a result, “communication” was the most indicated motivation, with 113 participants choosing it, followed by “passing time” with 109 participants, “looking for information” with 102, “entertainment” with 100, “social interaction” with 98, “relaxation” with 50, and lastly “convenience” with 33 participants.

The intensity of Facebook usage was further measured in terms of motivations of usage with thirteen items developed by Orosz et al. (2016). Responses were recorded on a five-point Likert scale, ranging from (1) completely disagree to (5) completely agree. The items from this list measure persistence with items such as “If I could visit only one site on the Internet, it would be Facebook” and “I feel bad if I don’t check Facebook daily”; boredom with items like “Watching Facebook posts is good for overcoming boredom” and “If I’m bored, I open Facebook”; overuse with items like “I spent time on Facebook at the expense of my obligations” and “I spend more time on Facebook than I would like to”; and, finally, self-expression with items like “My Facebook profile is rather detailed” and “It is important for me to update my Facebook profile regularly”. The full list of items for motivations of usage can be found in Appendix E.

The factor analysis for intensity of usage showed a KMO value of 0.801, while Bartlett’s test of sphericity was significant ($p=0.000$). The thirteen items loaded on 3 factors, out of which 2 had positive correlations with items. The first factor consisted of 4 items, “Watching Facebook posts is good for overcoming boredom”, “When I’m bored, I often go to Facebook”, “If I’m bored, I open Facebook” and “Before going to sleep, I check Facebook

once more” explaining 32.08% of the variance (factor loadings respectively 0.574, 0.847, 0.845 and 0.647). The second factor consisted of 3 items, “My Facebook profile is rather detailed”, “I like refining my Facebook profile” and “It is important for me to update my Facebook profile regularly” explaining 14.21% of the variance (factor loadings respectively 0.774, 0.780, and 0.803).

After factor analysis, reliability analysis was conducted for each of the two factors. The first, “boredom” showed Cronbach’s alpha of 0.719, however, removing the first item would improve Cronbach’s alpha to 0.732, therefore that item was removed. The remaining three items were combined into a mean scale with a mean of 3.63 and a standard deviation of 0.871. The mean indicates that, generally, the participants use Facebook as a way of overcoming boredom. The second factor, “self expression” with three items showed to be reliable with Cronbach’s alpha of 0.716. The items were combined into a mean scale with a mean of 1.989 and a standard deviation of 0.809, meaning the participants of this survey, in general, don’t use Facebook as a way of self-expressing.

Media literacy. The media literacy scale comes from research by Koc and Barut (2016). This scale has a total of 35 items, separated into four categories: functional consumption contains statements like “Know how to use searching tools to get information needed in the media” and “Perceive different opinions in the media”; critical consumption, statements like “Distinguish different functions of media” and “Determine whether or not media contents have commercial messages”; functional prosumption statements like “Use hardware necessary for developing media contents” and “Use basic operating tools”; and, finally, critical prosumption, statements like “Construct online identity consistent with real personal characteristics” and “Design media contents that reflect critical thinking of certain matters”. The full 35 item scale can be seen in Appendix F, while the answers were recorded on a 5-point Likert scale, ranging from (1) completely disagree and (5) completely agree.

The scale by Koc and Barut (2016) was designed to measure media literacy in general, but in order to be used in this research it was adapted to ask questions about Facebook specifically. However, at first double-barreled questions were removed, for example: “Understand political, economical and societal dimensions of media contents” and “Asses media in terms of credibility, reliability objectivity and currency”. Without the double-barreled statements, the total list consists of 15 items, more specifically FC1, FC2, FC3, CC1, CC2, CC5, CC6, CC7, FP2, FP3, FP4, CP1, CP2, CP4 and CP6. After deciding which items can be used in the survey, they also needed to be adapted to measure Facebook media literacy, therefore instead of “media” the word “Facebook” was used. For example, “Know how to use searching tools to get information needed in the media” became “Know how to use searching tools to get information needed on Facebook”, “Determine whether or not media contents have commercial messages” became “Determine whether or not

Facebook contents have commercial messages”, “Use hardware necessary for developing media contents” was transformed to “Use hardware necessary for developing Facebook contents” and “Design media contents that reflect critical thinking of certain matters” was turned into “Design Facebook contents that reflect critical thinking of certain matters”. All answers to the remaining items were recorded on a 5-point Likert scale, 1 being “completely disagree” and 5 being “completely agree”.

Functional consumption was measured on a 3-item scale with “I know how to use searching tools to get information needed on Facebook,” “I can catch up with the changes on Facebook,” and “I can make use of various Facebook environments to reach information.” The factor analysis resulted in a KMO of 0.682 and Bartlett’s test of sphericity was significant. All items loaded on one factor, explaining 66.21% of the variance (factor loadings respectively 0.793, 0.806, and 0.841). Then, reliability analysis was conducted and Chronbach’s alpha showed the scale to be reliable with 0.744. The three items were then used to form a mean scale, whose mean was 4.00 and standard deviation 0.764, showing that the level of functional consumption is in general high in this sample.

Critical consumption was measured on a 5-item scale with items “I can distinguish different functions of Facebook (communication, entertainment, etc.)”, “I am able to determine whether or not Facebook contents have commercial messages”, “I can combine information on Facebook with my own opinions”, “I can consider Facebook rating symbols to choose which media contents to use” and “I can make a decision about the accuracy of messages on Facebook”. The factor analysis resulted in a KMO value of 0.735, and Bartlett’s test of sphericity was significant. All items loaded on one factor, explaining 47.39% of the variance (factor loadings respectively 0.627, 0.825, 0.774, 0.429, and 0.715). Reliability analysis was then conducted and showed Chronbach’s alpha to be 0.707, which could be improved if “I can consider Facebook rating symbols to choose which media contents to use” was removed. This item was then removed and the new Chronbach’s alpha was 0.738. The four items were then combined into one variable with a mean of 4.05 and a standard deviation of 0.65, meaning the general level of critical consumption in this sample was high.

Functional prosumption was measured on a 3-item scale with items “I can use hardware necessary for developing Facebook contents (text, image, video, etc.)”, “I can use software necessary for developing Facebook contents (text, image, video, etc.)”, and “I can use basic operating tools (button, hyperlinks, file transfer, etc.) on Facebook”. When factor analysis was conducted, it showed KMO of 0.688 and Bartlett’s test was significant. All items loaded on one factor with eigenvalue more than one, explaining 75.79% of the variance (factor loadings respectively 0.899, 0.905, 0.803). Reliability analysis then showed Cronbach’s alpha of 0.839, but after removing the last item, Cronbach’s alpha was improved

to 0.869. Therefore, a new variable was created with two items, with mean of 3.88 and standard deviation of 1.061, meaning the level of functional prosumption of this sample was, in general, moderately high.

Critical prosumption was measured on a 4-item scale with items “I can influence others’ opinions by participating in Facebook environments”, “I can make a contribution to Facebook by reviewing current matters from different perspectives (social, economical, ideological etc.)”, “I am able to construct online identity consistent with real personal characteristics” and “I am able to design Facebook contents that reflect critical thinking of certain matters”. In the factor analysis, KMO was 0.687, and Bartlett’s test was significant. All four items loaded on one factor, explaining 54.99% of variance (factor loading respectively 0.722, 0.721, 0.749, and 0.774). The Cronbach’s alpha of the scale was 0.727, meaning the scale was reliable. The four items were then used to create a new mean scale, with a mean of 3.36 and standard deviation of 0.762, meaning the level of critical prosumption, in general, was moderately high.

Advertising literacy. Advertising literacy on Facebook was measured using the scale from research by Rozendaal et al. (2016). More specifically, the 11-item scale for conceptual advertising literacy, and a 6-item scale for attitudinal advertising literacy. The original list can be found in Appendix G. Again, this scale was designed to measure advertising literacy on television; therefore it needed to be adapted for Facebook. This was done similarly as in the case of media literacy, the word “television” was replaced by “Facebook”, and “commercial” was changed for “paid post”. For example, “Are commercials on television there to make you buy the advertised products?” was changed to “Are paid posts on Facebook there to make you buy the advertised products?”, “How often do you think television commercials are real?” was transformed to “How often do you think paid posts on Facebook are real?”. Also, questions that were targeted to children, such as “Commercials often show happy children who are playing together with the advertised products. Why do you think that is?” were modified to fit the target group of this research: “Paid posts often feature a story that mentions the advertised product. Why do you think that is?”. In this case, the answer categories also featured the word “children”, so they were modified to fit the target group of this research. More specifically, the answer category “To help children learn about the product” turned into “To help people learn about the product” and “To get children to believe what the ad says” became “To get people to believe what the ad says”. Two questions were deleted from the original scale, specifically “For whom is this commercial intended?” with answer categories “For children only”, “For adults only”, “For children and adults”, “Neither for children nor for adults” because it is not applicable for this research due to the target group, the same as the question “Are commercials on television there to make you ask your parents to buy the advertised products?”. The reasons these items were removed are the

following; the first item is irrelevant for posts that the participants saw because if paid posts appear on Facebook, they are not targeted for children, since children don't use the medium. Moreover, it was specified that the posts are from an online magazine, which again is not targeted for children. The second question was removed because the target group of the research were millennials, and while some of them were probably students, millennials in general have their own disposable income (Loroz & Helgeson, 2013) and therefore would not ask their parents to buy something for them. The whole modified scale can be seen in Appendix H.

Conceptual advertising literacy was firstly measured with recognition of advertisements. The first post, that was easy to recognize as an ad, was successfully recognized by 102 participants (65.8%), out of which 93 correctly recognized the ad was for Kohl's. The second post, 97 participants (62.6%) recognized as an ad, but 63 of them correctly recognized the ad was for Suja Juice. The third post, only 54 participants (34.8%) recognized as an advertisement, and 38 of them correctly recognized the ad was for The Model Health Show.

Persuasive intent was measured with three items; "Are paid posts on Facebook there to make you buy the advertised product?", "Are paid posts on Facebook there to make you think positively about the advertised product?", and "Are paid posts on Facebook there to make you feel positively about the advertised product?". The factor analysis resulted in a KMO of 0.672, and Bartlett's test was significant. All three items loaded on one factor explaining 76.05% of variance (factor loadings respectively 0.786, 0.911, and 0.913). Reliability analysis showed a Cronbach's alpha of 0.837, but by removing the first item the Cronbach's alpha could be improved to 0.887. Therefore, a new mean scale was formed with the last two items, and the mean of that scale was 3.36 and standard deviation was 0.754, meaning the level of understanding persuasive intent was, in general, moderately high.

Understanding of purpose of demonstration and humor in advertising was also measured, using items "Paid posts often include a story in which the advertised product is used. Why do you think that is?" and "Paid posts are often funny. Why do you think that is?". Answer categories were the following: "To help people learn about the product", "To get people to recall the ad", "To get people to believe what the ad says" and "To make people like the ad". The answer categories were then recoded to reflect findings of Rozendaal, Buijzen, and Valkenburg (2011), meaning the answers were ranked from the most correct one to the least correct. In the case of demonstration, ranking was from best to worst as follows; "To help people learn about the product", "To get people to believe what the ad says", "To get people to recall the ad", and "To make people like the ad". For use of humor, ranking of the answers from best to worst was as follows: "To make people like the ad", "To

get people to recall the ad”, “To help people learn about the product”, and “To get people to believe what the ad says”. A factor analysis of the two items showed KMO of 0.500, which means the two items can’t be loaded on one factor and they have to be tested separately. For understanding the use of demonstration in advertisements, mean was 2.16 and standard deviation 0.765, meaning the participants, in general, have a low understanding of usage of demonstration. For understanding the usage of humor, mean was 1.72 and standard deviation 1.019, meaning the participants, in general, have a low understanding of usage of humor in advertisements.

Attitudinal advertising literacy was measured on a 6-item scale with the items “How often do you think paid posts are real?”, “How often do you think that what you read in paid posts is like things are in reality?”, “How often do you think paid posts are truthful?”, “How often do you think paid posts tell the truth?”, “How often do you think paid posts are boring?”, and “How often do you think paid posts are stupid?”. The answer categories were “never”, “sometimes”, “often” and “very often”. Consequently, the first four items were recoded so that a higher score would indicate a higher level of attitudinal advertising literacy and the six items could be compared. Then, factor analysis was conducted and it resulted in a KMO-value of 0.638 and Bartlett’s test was significant. However, two factors had eigenvalue higher than one. The first four items loaded on one factor explaining 40.18% of variance (factor loadings respectively 0.723, 0.692, 0.782, and 0.856), while the last two items loaded on the second factor, explaining 26.76% of variance (factor loadings respectively 0.888 and 0.896). Then a reliability analysis was conducted for both factors separately. The first, 4-item scale, was reliable with Cronbach’s alpha of 0.759, so a new mean scale for attitudinal literacy that measures belief was created. This scale had a mean of 3.01 and a standard deviation of 0.432, meaning participants, in general, did not believe paid posts. The second scale was also reliable with Cronbach’s alpha 0.761, therefore a new mean scale was created with a mean of 2.85 and a standard deviation 0.720, meaning that participants, in general, didn’t show a high level of disliking towards paid posts.

4. Results

In this section, the five hypotheses are tested using several analyses. Software used for this analysis was SPSS. After exporting data from *Qualtrics*, this raw data was imported in SPSS where it was cleaned so that only completed responses from the target group remained

4.1. Media literacy on Facebook (H1a, H1b, H1c, H1d)

To first four hypotheses stated that the levels of functional consumption (H1a) and levels of functional prosumption (H1c) are high, while levels of critical consumption (H1b) and critical prosumption (H1d) are low. In order to test these hypotheses, one-sample-t tests were conducted, since the dependent variables were continuous. The tests were conducted to determine whether participants scored significantly higher or lower than the mid-point of the scale, which was 3 in all cases.

The mean value for functional consumption was 4.00, with standard deviation of 0.061 and significance level $p = 0.000$ (95% CI [0.88, 1.12]). Therefore, hypothesis 1a is supported. For critical consumption, the mean value was 4.05 ($SD = 0.659$, $p = 0.00$, 95% CI [0.95, 1.15]). While p-value showed the difference between the mean of scale and mid-point of the scale is significant, looking at the mean value, we see that the mean is in fact significantly higher than the mid-point, therefore, hypothesis 1b is not supported.

The one-sample-t test for functional prosumption was significant ($p = 0.000$) with mean of 3.88 and standard deviation 1.061 (95% CI [0.71, 1.04], therefore hypothesis 1c was supported. The mean for critical prosumption scale ($M = 3.36$, $SD = 0.762$) was also significantly ($p = 0.000$) different than the mid-point of the scale. However, since the mean was significantly higher than the mid-point, hypothesis 1d is not accepted.

4.2. Advertising literacy on Facebook (H2a, H2b)

In order to test these hypotheses, which stated that the level of conceptual advertising literacy (H2a) and the level of attitudinal advertising literacy (H2b) are high, one-sample-t tests were conducted. The tests were conducted to determine whether the mean of the scale was significantly different than its mid-point.

To test conceptual advertising literacy, recognition of advertisements was tested first. In this case, respondents were asked whether what they saw was an advertisement or regular content, with advertisement being coded as 1, while regular content being coded as 0. For easy advertisement, the one with high level of transparency, the mean ($M = 0.63$, $SD = 0.483$, 95% CI [0.05, 0.21]) was significantly ($p = 0.001$) higher than the mid-point of the scale (i.e., 0.5). Therefore, for recognition of highly transparent advertisements, hypothesis 2a is supported. For the moderate and low transparency of advertisements, while the

difference was significant ($p = 0.000$) for both cases, the means ($M = 0.25$, $SD = 0.437$, 95% $CI [-0.34, -0.14]$ and $M = 0.10$, $SD = 0.309$, 95% $CI [-0.45, -0.33]$, respectively) were lower than the mid-point of the scale (i.e., 0.5). Therefore, hypothesis 2a is not supported for the recognition of moderate and low transparency advertisements.

Understanding of persuasive intent was also measured as part of conceptual advertising literacy, and in this case, the mean of the scale ($M = 3.36$, $SD = 0.754$, 95% $CI [0.74, 0.98]$) was significantly ($p = 0.000$) different than the mid-point of the scale (i.e., 2.5). For this reason, hypothesis 2a for understanding of persuasive intent is supported.

Understanding of usage of demonstration and humor in paid posts was also measured, and while for both the mean of scale ($M = 2.16$, $SD = 0.765$, 95% $CI [-0.45, -0.20]$ and $M = 1.72$, $SD = 1.01$, 95% $CI [-0.94, -0.61]$ respectively) were significantly ($p = 0.000$) different than the mid-point, they were lower than the mid-point (i.e., 2.5). Therefore, hypothesis 2a for understanding usage of demonstration and humor is not supported. Overall, there is more evidence to reject hypothesis 2a than to support it: Croatian millennial Facebook users actually have a low level of conceptual advertising literacy.

Attitudinal advertising literacy was measured with two scales, the first one for believing paid posts and the second for disliking them. The mean of scale that measured believing paid posts ($M = 3.01$, $SD = 0.432$, 95% $CI [0.44, 0.58]$) was significantly higher than the mid-point, therefore hypothesis 2b is supported for believing paid posts (i.e., 2.5). Additionally, the mean for the scale of disliking paid posts ($M = 2.85$, $SD = 0.720$, 95% $CI [0.24, 0.46]$) was significantly ($p = 0.000$) higher than the mid-point (i.e., 2.5). For this reason, hypothesis 2b for disliking paid posts is also supported. Overall, hypothesis 2b is fully supported: Croatian millennial Facebook users have a high level of attitudinal advertising literacy.

4.3. Media literacy and advertising literacy (H3a, H3b, H3c, H3d, H3e, H3f, H3g, H3h)

For testing these hypotheses, which assumed that medial literacy (functional consumption, critical consumption, functional prosumption and critical prosumption) positively influences advertising literacy (conceptual advertising literacy and attitudinal advertising literacy) regression analysis was used. More specifically, since the scales for the independent media literacy and the dependent variable advertising literacy were typically continuous, linear regression was applied in most instances. However, for the analyses in which the dependent variable was advertising recognition (i.e., H3a, H3c, H3e, and H3g) logistic regression was applied.

Functional consumption (H3a, H3b). To test H3a, which stated that functional consumption positively influences conceptual advertising literacy, several tests were used. Firstly logistic regression was used to test whether functional consumption positively

influences recognition of ads. For all three ad categories, with high, moderate and low level of disclosure, the relationship was not significant (p -values respectively 0.064, 0.586, and 0.287, Chi-square respectively 16.139, 6.550, and 10.849). The model for recognition of ads with high disclosure explained between 10.4% (Cox and Snell R squared) and 14.2% (Nagelkerke R squared) of the variance in ability to recognize ads with high disclosure, and correctly classified 66% of cases. The model for ad recognition with moderate disclosure explained between 0.8% (Cox and Snell R squared) and 1.17% (Nagelkerke R squared) of the variance in ability to recognize ads with moderate disclosure, and correctly classified 74.7% of cases. The model for ad recognition with low disclosure explained between 9.1% (Cox and Snell R squared) and 18.6% (Nagelkerke R squared) of the variance in ability to recognize ads with low disclosure, and correctly classified 89.4% of cases. Due to significance levels being higher than 0.05 (Pallant, 2007), hypothesis 3a is not supported for recognition of ads, and we conclude there is no relationship between functional consumption and recognition of ads.

Next, the relationship between functional consumption and understanding persuasive intent was explored using linear regression, since both independent and dependent variable were continuous. From regression analysis, according to R-square value, this model predicted 4.4% of the variance, $F(1, 153) = 7.09$, $p = 0.009$, in understanding persuasive intent. Functional consumption ($b = 0.20$, $\beta = 0.21$, $t = 2.66$, 95% CI [0.-5, 0.36], $p = 0.009$) was a positive and significant predictor of understanding persuasive intent. Therefore hypothesis 3a is supported for understanding persuasive intent.

For understanding the purpose of demonstration and understanding the purpose of humor, functional consumption was not a significant predictor with the respective p -values 0.376 and 0.060. For understanding the purpose of demonstration, $\beta = -0.07$, $p = 0.376$, $F(1, 152) = 0.78$, $p = 0.376$, while for understanding the purpose of humor, $\beta = -0.152$, $p = 0.060$, $F(1, 152) = 3.58$, $p = 0.060$. Therefore, we conclude that there is no relationship between functional consumption and understanding of demonstration and humor. Overall, hypothesis 3a is supported only for functional consumption being a positive predictor for understanding persuasive intent.

Hypothesis 3b stated that functional consumption positively influences attitudinal advertising literacy. Since attitudinal advertising literacy was measured with two scales, one for believing paid posts and the other for disliking them, linear regression was used because all variables were continuous. For both believing paid posts and disliking paid posts, functional consumption was not a significant predictor with respective p -values 0.169 and 0.975. For believing paid posts, the model explained 0.2% of the variance, $F(1, 153) = 0.001$, while for disliking paid posts, the model predicted 11.1% of the variance, $F(1, 153) = 1.911$. Therefore, hypothesis 3b is not supported.

Critical consumption (H3c, H3d). Hypothesis 3c assumed that critical consumption positively influences conceptual advertising literacy. Again, to test the effect of critical consumption on recognition of ads, logistic regression was used. For all three ad categories, high, moderate, and low disclosure, critical consumption was not a significant predictor with respective p -values 0.682, 0.238, and 0.961 and Chi-square values 0.168, 1.390 and 0.002, respectively. For recognition of ads with high disclosure, the model explained between 0.1% (Cox and Snell R Square) and 0.2% (Nagelkerke R Square) of the variance, and it correctly classified 63.3% of the cases. For recognition of ads with moderate disclosure, the model explained between 1.7% (Cox and Snell R Square) and 2.6% (Nagelkerke R Square) of the variance in ad recognition, and it correctly classified 74.4% of the cases. Finally, the model also explained 0% (Cox and Snell R Square and Nagelkerke R Square) of the variance in recognition of ads with low disclosure, and it correctly predicted 89.4% of the cases. This means that hypothesis 3c is not supported for recognition of ads.

To see whether critical consumption positively influences understanding persuasive intent, linear regression was used due to both variables being continuous. The regression analysis showed critical consumption to be a significant and positive predictor of understanding persuasive intent ($b = 0.40$, $\beta = 0.35$, $t = 4.61$, $p = 0.000$, 95% CI [0.22, 0.57]) with the model predicting 12.2% of the variance, $F(1, 153) = 21.309$, in understanding persuasive intent. Therefore, hypothesis 3c was supported for understanding persuasive intent

For understanding the use of demonstration and humor, critical consumption was not a significant predictor with respective p -values 0.221 and 0.102 and Beta values -0.000 and -0.132. The model predicted 1% of the variance, $F(1, 152) = 1.512$, in understanding the purpose of demonstration, and 1.7% of the variance, $F(1, 152) = 2.700$, in understanding the purpose of humor. For this reason, hypothesis 3c is not supported for understanding use of demonstration and humor in paid posts. Overall, H3c is accepted only for understanding persuasive intent.

To test hypothesis 3d, which stated that critical consumption positively influences attitudinal advertising literacy, linear regression was used. Since both scales for attitudinal advertising literacy were continuous, as well as the scale for critical consumption, this was the appropriate analysis. At first, regression analysis was conducted to determine whether critical consumption positively influences believing paid posts. This model predicted 2.8% of the variance, $F(1, 153) = 4.347$, in believing paid posts. Critical consumption was a positive and significant predictor ($b = 0.10$, $\beta = 0.166$, $t = 2.08$, $p = 0.039$, 95% CI [0.00, 0.21]). This means that the hypothesis 3d for believing paid posts is supported. However, regression analysis for influence of critical consumption on disliking of paid posts was not significant ($\beta = 0.089$, $p = 0.273$), and it predicted 0.8% of the variance, $F(1, 153) = 1.211$, in disliking of

paid posts. Therefore, hypothesis 3d for disliking of paid posts was not supported, resulting in H3d being only partially supported.

Functional prosumption (H3e, H3f). Hypothesis 3e assumed functional prosumption positively influences conceptual advertising literacy. To test this hypothesis, several analyses were conducted. First analysis was a logistic regression to determine whether functional prosumption influenced recognition of ads. For the category of recognition of ads with high disclosure, functional prosumption was a significant predictor ($p = 0.037$, *Chi-square* = 4.357) for recognition of ads. The model explained between 2.9% (Cox and Snell R Square) and 4% (Nagelkerke R Square) of the variance in recognition of ads with high disclosure, correctly predicting 64.6% of responses. For recognition with moderate disclosure, functional prosumption was not a significant predictor ($p = 0.128$, *Chi-square* = 2.312). The model explained between 2.9 % (Cox and Snell R Square) and 4.3% (Nagelkerke R Square) of the variance in recognition of ads, correctly classifying 74.7% of the cases. For recognition of low disclosure, functional prosumption was a significant predictor ($p = 0.003$, *Chi-square* = 8.836), and it explained between 7.5 & (Cox and Snell R Square) and 15.3% (Nagelkerke R Square) of the variance in recognition of ads, correctly classifying 89.4% of responses. Therefore, hypothesis 3e is supported for recognition of advertisements with high and low disclosure.

For understanding persuasive intent, purpose of demonstration and humor, linear regression was used, since all variables were continuous. For understanding persuasive intent, functional prosumption was a significant predictor ($b = 0.17$, $\beta = 0.241$, $t = 3.07$, $p = 0.003$, 95% *CI* [0.06, 0.28]), predicting 5.8% in the variance, $F(1, 153) = 9.448$, in understanding persuasive intent. Then, linear regression was conducted for understanding purpose of demonstration and humor, but in both cases the model was not significant with p -values 0.732 and 0.859, respectively. The model predicted 0.1% of the variance, $F(1, 152) = 0.117$, in understanding the purpose of demonstration, and 0% of the variance, $F(1, 152) = 0.032$, in understanding the purpose of humor. Therefore, hypothesis 3e is supported for understanding persuasive intent, but not for understanding use of demonstration and humor. Overall, H3e is supported for recognition of easy and difficult advertisements and understanding persuasive intent.

Hypothesis 3f assumed functional prosumption positively influences attitudinal advertising literacy. To test this hypothesis, linear regression was conducted. For believing paid posts, functional prosumption was not a significant predictor ($\beta = 0.008$, $p = 0.924$), predicting 0% of the variance, $F(1, 153) = 0.009$, in believing paid posts. Therefore, hypothesis that functional prosumption positively influences believing paid posts is not supported. For disliking paid posts, functional prosumption was also not a significant

predictor ($\beta = 0.100$, $p = 0.214$), predicting 1% of the variance, $F(1, 153) = 1.554$, in disliking paid posts. Therefore, overall hypothesis 3f is not supported.

Critical presumption (H3g, H3h). To test hypothesis 3g, which stated that critical presumption positively influences conceptual advertising literacy, logistic regression and linear regression were conducted. Logistic regression was used to test whether critical presumption influences ad recognition. In all three cases, ad recognition for high, moderate and low level of disclosure, critical presumption was not a significant predictor with respective p -values; 0.968, 0.649, and 0.385, and Chi-square 0.002, 0.207, and 0.756, respectively. For recognition of ads with high disclosure, the model explained 0% (Cox and Snell R Square and Nagelkerke R Square) of the variance and correctly classified 63,3% of the cases. For recognition of ads with moderate disclosure, the model explained between 0.3% (Cox and Snell R Square) and 0.4% (Nagelkerke R Square) of the variance, and correctly classified 74.7% of the cases. For recognition of ads with low disclosure, the model explained between 0.7% (Cox and Snell R Square) and 1.4% (Nagelkerke R Square) of the variance, correctly classifying 89.4% of the cases. Therefore, H3g is not supported for ad recognition.

For testing the influence of critical presumption on understanding persuasive intent, linear regression was used. This model predicted 4.9% of the variance, $F(1, 153) = 7.872$, in understanding persuasive intent. Critical presumption was a positive and significant predictor ($b = 0.21$, $\beta = 0.221$, $t = 2.80$, $p = 0.006$, 95% CI [0.06, 0.37]) for understanding persuasive intent. Linear regression was also used to determine the influence of critical presumption on understanding the use of demonstration and humor, but critical presumption was not a significant predictor in either case, with respective β and p values; $\beta = 0.068$, $p = 0.404$ and $\beta = -0.016$, $p = 0.840$. For understanding the use of demonstration, critical presumption predicted 0.5% of the variance, $F(1, 152) = 0.701$, while for understanding the use of humor, critical presumption predicted 0% of the variance, $F(1, 152) = 0.041$. Therefore, H3f is supported only for understanding persuasive intent.

Hypothesis 3h assumed critical presumption positively influences attitudinal advertising literacy. To test this hypothesis, linear regression was used. Critical presumption was not a significant predictor for believing paid posts ($\beta = -0.125$, $p = 0.125$). The model predicted 1.6% of the variance, $F(1, 153) = 2.433$, in believing paid posts. For disliking paid posts, critical presumption was also not a significant predictor ($\beta = 0.019$, $p = 0.812$). The model predicted 0% of the variance, $F(1, 153) = 0.058$, in disliking paid posts. For this reason, the overall H3h is not supported.

To sum up, the overall H3 (“the level of media literacy on Facebook positively influences the level of advertising literacy on Facebook”) was only partially accepted as 3

hypotheses were declined (i.e., H3b, H3f, and H3h), while other 5 were only partially accepted (i.e., H3a, H3c, H3d, H3e, H3g, and H3h)

4.4. Frequency of Facebook usage and media literacy (H4a, H4b, H4c, H4d)

Frequency of Facebook usage was measured with five questions; way of accessing Facebook, length of usage, log on frequency, time spent per log on, and frequency of updating Facebook profile. Since those variables are categorical, and media literacy scales are continuous, ANOVA was the appropriate analysis for these hypotheses.

Hypotheses 4a assumed frequency of usage positively influences functional consumption. Participants were divided into three groups according to the way they accessed Facebook; “mobile device,” “PC/laptop” and “mobile device and PC/laptop”. Functional consumption did not significantly differ between groups with different way of accessing Facebook ($F(2, 152) = 1.007, p = 0.368$). Means and standard deviations for each group were, respectively, $M = 3.82, SD = 0.980, M = 4.06, SD = 0.149$, and $M = 4.04, SD = 0.712$. According to length of usage, participants were divided into groups “less than 1 year,” “2 years,” “3 years,” “4 years” and “more than 5 years”. Functional consumption did not significantly differ between groups with different lengths of Facebook usage ($F(4, 150) = 0.763, p = 0.551$). For log on frequency, original variable had to be recoded to remove answer categories with less than five cases. Groups removed were “once a month”, “2-4 times a month”, and “once a week”. With the remaining three groups “several times a day”, “once a day” and “2-4 times a week”, an ANOVA was conducted and it showed there is a difference in functional consumption between these groups ($F(2, 149) = 4.165, p = 0.017$). The differences between functional consumption of those who log on 2-4 times a week and those who log on once a day ($M_{difference} = -1.17, p = 0.038$) and the differences between functional consumption of those who log on 2-4 times a week and those who log on several times a day ($M_{difference} = -1.25, p = 0.013$) were significant. This means those who log on once ($M = 3.95; SD = 0.676$) or more times a day ($M = 4.03; SD = 0.744$) have higher levels of functional consumption than those who log on 2-4 times a week ($M = 2.77; SD = 1.38$).

Functional consumption did not significantly differ between groups depending on the amount of time they spent on Facebook per log on ($F(4, 150) = 1.637, p = 0.168$). When it comes to frequency of updating Facebook profile, functional consumption was significantly different between groups who update their Facebook profile daily and once a week ($M_{difference} = -1.93, p = 0.009$); those who update daily and those who update 2-4 times a month ($M_{difference} = -1.72, p = 0.018$); as well as between those who update their profile daily and those who do so once a month ($M_{difference} = -1.64, p = 0.023$). This means that those who update their profile daily have lower levels of functional consumption ($M = 2.33$

and $SD = 0.942$ compared to $M = 4.22$ and $SD = 0.693$, $M = 4.27$ and $SD = 1.190$, $M = 4.06$ and $SD = 0.607$, and $M = 3.98$ and $SD = 0.726$ respectively), therefore not supporting H4a. Overall, H4a was supported only for functional consumption being different between groups with different log-on frequency.

Hypothesis 4b stated that frequency of usage positively influences critical consumption. Critical consumption did not significantly differ between the groups who access Facebook differently ($F(2, 152) = 2.640, p = 0.075$), nor did it differ between groups with different length of Facebook usage ($F(4, 150) = 1.543, p = 0.193$). However, critical consumption did differ when it came to frequency of logging on to Facebook. It was significantly different between groups of those who logged on several times a day and those who logged on 2-4 times a week ($M_{difference} = 1.206, p = 0.004$), meaning those who logged on more often, scored higher on critical consumption scale ($M = 4.12$ and $SD = 0.628$ compared to $M = 2.91$ and $SD = 0.763$). Groups that spent different amount of time on Facebook per log on did not significantly differ in terms of critical consumption ($F(4, 150) = 0.098, p = 0.983$). Groups with different frequency of updating their Facebook profile scored significantly different in terms of critical consumption ($F(4, 150) = 2.928, p = 0.023$). However, looking at the post hoc test, the difference between those who update their profile daily and those who update it once a week was only marginally significant ($M_{difference} = -1.352, p = 0.054$), meaning those who update their profile daily scored marginally worse on critical consumption scale than those who update their profile once a week ($M = 3.12$ and $SD = 0.530$ compared to $M = 4.47$ and $SD = 0.606$). For these reasons, H4b is supported only for log on frequency.

Hypothesis 4c stated that frequency of usage positively influences functional prosumption. After conducting ANOVA analysis, we see that frequency of usage does not significantly differ between groups with different ways of accessing Facebook ($F(2, 152) = 1.476, p = 0.232$), or between groups with different lengths of Facebook usage ($F(4, 150) = 0.480, p = 0.750$). It also does not differ between groups with different log on frequencies ($F(2, 149) = 1.372, p = 0.257$), between groups that spend different amount of time per log on ($F(4, 150) = 1.189, p = 0.318$), nor does it differ between groups with different frequency of updating their Facebook profiles ($F(4, 150) = 1.246, p = 0.294$). Therefore, the H4c is not supported in any way.

Hypothesis 4d assumed that frequency of usage positively influences critical prosumption. After ANOVA analysis was conducted, the results showed that again there is no significant difference between the groups with different frequencies of Facebook usage. More precisely, difference between groups with different ways of accessing Facebook was not significant ($F(2, 152) = 0.963, p = 0.384$), and neither was the difference between

groups with different lengths of Facebook usage ($F(4, 150) = 0.363, p = 0.835$). Groups with different log on frequencies did not significantly differ in terms of critical presumption ($F(2, 149) = 0.307, p = 0.736$), and the same was true for groups with different amount of time spent on Facebook per log on ($F(4, 150) = 0.883, p = 0.476$), as well as for groups with different frequency of updating their Facebook profile ($F(4, 150) = 0.688, p = 0.601$). Therefore, H4d is not supported at all.

4.5. Motivations of Facebook usage and media literacy (H4e, H4f, H4g, H4h)

Hypothesis 4e assumed that the motivations of usage positively influences functional consumption. To test this hypothesis, a linear regression test was used, since both variables were continuous. For influence of motivations of usage on functional consumption in terms of usage to relieve boredom, the model was significant ($p = 0.001$), and it predicted 7.1% of the variance, $F(1, 153) = 11.78, p = 0.001$. Motivations of usage were a positive ($b = 0.23, \beta = 0.267, t = 3.34, 95\% CI [0.1, 0.37]$) and significant predictor for functional consumption in terms of boredom. For functional consumption in terms of self-expression, the model was not significant ($F(1, 153) = 0.31, p = 0.574$). Therefore, H4e is only partially supported.

Hypothesis 4f stated that the motivations of usage positively influence critical consumption. For usage out of boredom, the model was not significant ($F(1, 153) = 1.474, p = 0.227$), however, for self-expression it was marginally significant ($p = 0.053$). In this case, while self-expression was a marginally significant predictor, it was also a negative one ($b = -0.127, \beta = -0.156, t = -1.954, 95\% CI [-0.25, 0.00]$), predicting 2.4% of the variance $F(1, 153) = 3.818, p = 0.053$. Therefore, H4f is rejected.

Hypothesis 4g stated that the motivations of usage positively influence functional presumption. With respective significance levels for boredom and self-expression of 0.208 and 0.542, this hypothesis is fully rejected. Hypothesis 4h assumed that the motivations of usage positively influence critical presumption. In terms of usage out of boredom, the model was marginally significant ($p = 0.059$) and positive ($b = 0.13, \beta = 0.152, t = 1.90, 95\% CI [-0.00, 0.27]$) predictor, predicting 2.3% of the variance, $F(1, 153) = 3.63$, in functional presumption characterized by boredom. For self-expression, the model was a significant ($p = 0.011$) and positive ($b = 0.19, \beta = 0.203, t = 2.56, 95\% CI [0.04, 0.33]$) predictor, predicting 4.1% of the variance, $F(1, 153) = 6.55$, in functional presumption characterized by self-expression.

4.6. Frequency of Facebook usage and advertising literacy (H5a, H5b)

Hypothesis 5a stated that frequency of usage positively influences conceptual advertising literacy. Significance levels showed that there was a difference between groups who access Facebook in different ways in their understanding of persuasive intent and their

understanding of usage of humor. The difference between understanding persuasive intent was different between those who access Facebook through a mobile device ($M = 3.09$, $SD = 0.820$) and those who access it through PC/laptop ($M = 4.00$, $SD = 0.00$) was significant ($M_{difference} = -0.903$, $p = 0.033$) in a way that those who accessed Facebook through their mobile device scored lower than those who access Facebook on PC/laptop in terms of understanding persuasive intent. For understanding the usage of humor, the situation was the opposite. Those who accessed Facebook through their mobile device scored higher ($M = 2.12$, $SD = 1.147$) at understanding of humor than those who accessed Facebook through both their mobile device and PC/laptop ($M = 1.62$, $SD = 0.976$, $M_{difference} = 0.501$, $p = 0.038$). Additionally, there is also a difference in ability to recognize easy type of advertising among groups with different log-on frequencies. Those who log on to Facebook once a day could recognize ads with high disclosure ($M = 0.93$, $SD = 0.258$) better than those who log-on to Facebook several times a day ($M = 0.60$, $SD = 0.490$, ($M_{difference} = 0.327$, $p = 0.034$). All the other possible combinations of frequency of usage and conceptual advertising literacy were not significant and their p-values and F test can be seen in Table 1A and Table 1B.

	FB access	Length of usage	Log-on frequency
Easy recognition	$F(2, 144) = 0.32$, $p = 0.722$	$F(4, 142) = 0.71$, $p = 0.583$	$F(2, 141) = 3.27$, $p = 0.041$
Moderate recognition	$F(2, 76) = 2.90$, $p = 0.061$	$F(2, 76) = 1.86$, $p = 0.161$	$F(2, 75) = 0.74$, $p = 0.478$
Difficult recognition	$F(2, 110) = 0.25$, $p = 0.777$	$F(4, 108) = 0.18$, $p = 0.948$	$F(2, 108) = 0.66$, $p = 0.518$
Persuasive intent	$F(2, 152) = 4.07$, $p = 0.019$	$F(4, 150) = 0.40$, $p = 0.808$	$F(2, 149) = 0.58$, $p = 0.560$
Use of demonstration	$F(2, 151) = 1.48$, $p = 0.230$	$F(4, 149) = 0.65$, $p = 0.626$	$F(2, 148) = 0.99$, $p = 0.373$
Use of humor	$F(2, 151) = 3.35$, $p = 0.038$	$F(4, 149) = 2.01$, $p = 0.095$	$F(2, 148) = 0.84$, $p = 0.432$

Table 1A. Facebook access, length of usage, log-on frequency

	Hours spent per log-on	Profile update
Easy recognition	$F(4, 142) = 0.83$, $p = 0.502$	$F(4, 142) = 1.08$, $p = 0.368$
Moderate	$F(4, 74) = 0.47$	$F(4, 74) = 0.31$,

recognition	$p = 0.753$	$p = 0.867$
Difficult recognition	$F(3, 109) = 0.09,$ $p = 0.425$	$F(4, 108) = 1.07,$ $p = 0.372$
Persuasive intent	$F(4, 150) = 1.25,$ $p = 0.291$	$F(4, 150) = 0.37,$ $p = 0.829$
Use of demonstration	$F(4, 149) = 0.35,$ $p = 0.842$	$F(4, 149) = 1.10,$ $p = 0.357$
Use of humor	$F(4, 149) = 0.84,$ $p = 0.496$	$F(4, 149) = 0.40,$ $p = 0.803$

Table 1B. Hours spent per log-on and profile update

Hypothesis 5b assumed that the frequency of Facebook usage positively influences attitudinal advertising literacy. Significance levels showed that, in terms of believing paid posts, there is no difference among the groups who access Facebook differently ($F(2, 152) = 0.526, p = 0.592, M_{total} = 3.01, SD = 0.432$), those who have been using it for different periods of time ($F(4, 150) = 0.397, p = 0.811, M_{total} = 3.01, SD = 0.432$), those with different frequency of log-on ($F(2, 149) = 1.529, p = 0.220, M_{total} = 3.01, SD = 0.430$), those who spend different amounts of time on Facebook ($F(10, 144) = 0.350, p = 0.965, M_{total} = 1.35, SD = 0.744$), nor between those who update their profile in different frequency ($F(10, 144) = 0.973, p = 0.470, M_{total} = 1.45, SD = 0.815$) when it comes to attitudinal advertising literacy. Significance levels showed that, in terms of disliking paid posts, there is no difference among the groups who access Facebook differently ($F(6, 148) = 0.711, p = 0.641, M_{total} = 1.76, SD = 0.423$), those who have been using it for different periods of time ($F(6, 148) = 1.177, p = 0.322, M_{total} = 4.91, SD = 0.475$), those with different frequency of log-on ($F(6, 145) = 0.389, p = 0.880, M_{total} = 5.86, SD = 0.399$), those who spend different amounts of time on Facebook ($F(6, 148) = 1.327, p = 0.248, M_{total} = 1.35, SD = 0.744$), nor between those who update their profile in different frequency ($F(6, 148) = 1.071, p = 0.382, M_{total} = 1.45, SD = 0.815$) when it comes to attitudinal advertising literacy. Therefore, hypothesis 5b is not supported.

4.7. Motivations of Facebook usage and advertising literacy (H5c, H5d)

Hypothesis 5c stated that the motivations of Facebook usage positively influence conceptual advertising literacy. Logistic regression was conducted to analyze whether motivation of usage for boredom influences recognition of advertising. For two ads, with high and moderate disclosure, the model was not significant with respective p-values: 0.358 and 0.293 (Chi-square 0.844 and 1.107). The model for recognition of ads with high disclosure

explained between 0.6% (Cox and Snell R squared) and 0.8% (Nagelkerke R squared) of the variance in ability to recognize ads, and correctly classified 63.3% of cases. The model for ad recognition of ads with moderate disclosure explained between 1.4% (Cox and Snell R squared) and 2.1% (Nagelkerke R squared) of the variance in ability to recognize ads, and correctly classified 74.7% of cases. For the ad with low disclosure, the model was marginally significant ($p = 0.088$, Chi-square 2.911). The model for recognition of ads with low disclosure explained between 2.5% (Cox and Snell R squared) and 5.2% (Nagelkerke R squared) of the variance in ability to recognize ads, and correctly classified 89.4% of cases.

For motivation of usage in terms of self-expression, logistic regression showed that it is not a significant predictor for recognition of ads. Values for ad recognition with high disclosure were $p = 0.188$, Chi-square 1.732, while the model explained between 1.2% (Cox and Snell R squared) and 1.6% (Nagelkerke R squared) of the variance in ability to recognize ads, and correctly classified 61.2% of cases. Values for ad recognition with moderate disclosure were $p = 0.237$, Chi-square = 1.397, while the model explained between 1.8% (Cox and Snell R squared) and 2.6% (Nagelkerke R squared) of the variance in ability to recognize ads, and correctly classified 74.7% of cases. Values for recognition of ads with low disclosure were $p = 0.228$, Chi-square = 1.454, while the model explained between 1.3% (Cox and Snell R squared) and 2.6% (Nagelkerke R squared) of the variance in ability to recognize ads, and correctly classified 89.4% of cases.

Then, linear regression was conducted to analyze the relationship between usage out of boredom and self-expression and understanding persuasive intent and the purpose of demonstration and humor. Usage out of boredom was a positive and significant predictor ($b = 0.15$, $\beta = 0.177$, $t = 2.22$, $p = 0.028$, 95% *CI* [0.01, 0.28]) for understanding persuasive intent. This model predicted 3.1% of the variance, $F(1, 153) = 4.933$, in understanding persuasive intent. Usage out of boredom was not significant predictor for understanding the purpose of demonstration ($b = 0.11$, $\beta = 0.128$, $t = 1.59$, $p = 0.114$, 95% *CI* [-0.02, 0.25]), and it was a significant and negative predictor ($b = -0.22$, $\beta = -0.194$, $t = -2.44$, $p = 0.016$, 95% *CI* [-0.41, -0.04]) for understanding the usage of humor in advertising, predicting 3.8% of the variance, $F(1, 152) = 5.958$. Self-expression was not a significant predictor for understanding of persuasive intent ($F(1, 153) = 0.247$, $p = 0.620$), for understanding the usage of demonstration $F(1, 152) = 0.053$, ($p = 0.818$), nor for understanding the usage of humor ($F(1, 152) = 1.147$, $p = 0.286$). Therefore, Hypothesis 5c is partially accepted for boredom and difficult recognition, and boredom and understanding of persuasive intent.

Lastly, hypothesis 5d assumed that the motivation of usage positively influences attitudinal advertising literacy. After conducting linear regression and looking at the significance levels, neither usage out of boredom ($p = 0.455$), nor self-expression ($p = 0.089$) were considered to be positive predictors for attitudinal advertising literacy in terms of

believing paid posts. Usage out of boredom explained 0.4% of the variance, $F(1, 153) = 0.560$, in disliking paid posts. While self-expression would be a marginally significant predictor looking at the significance level, due to its Beta value ($b = -0.25$, $\beta = -0.137$, $t = -1.71$), we conclude that it is not a positive, but a negative predictor. Self-expression explained 1.9% of the variance, $F(1, 153) = 2.924$, in disliking paid posts. Additionally, boredom ($p = 0.767$) was not considered to be a positive predictor for attitudinal advertising literacy in terms of disliking paid posts, as it explained 0.01% of the variance, $F(1, 153) = 0.088$ in disliking paid posts. Self-expression, was a significant ($p = 0.046$) predictor for disliking paid posts, and it explained 2.6% of the variance, ($F(1, 153) = 4.036$, in disliking paid posts. However, looking at the Beta value ($b = -0.18$, $\beta = -0.160$, $t = -2.00$), we can see that it is actually a negative predictor for disliking paid posts. Therefore, Hypothesis 5d is rejected.

To provide an overview of all the hypotheses and sub hypotheses, as well as which ones were supported, a table is provided below (Table 2).

Hypothesis	Supported	Not supported	Partially supported
H1a: Functional consumption is high	x		
H1b: Critical consumption is low		x	
H1c: Functional prosumption is high	x		
H1d: Critical prosumption is low		x	
H2a: Conceptual advertising literacy is high			x
H2b: Attitudinal advertising literacy is high	x		
H3a: Functional consumption positively influences conceptual advertising literacy			x
H3b: Functional consumption positively influences attitudinal advertising literacy		x	
H3c: Critical consumption positively influences conceptual advertising literacy			x
H3d: Critical consumption positively influences attitudinal advertising literacy			x
H3e: Functional prosumption positively influences conceptual advertising literacy			x
H3f: Functional prosumption positively influences attitudinal advertising literacy		x	
H3g: Critical prosumption positively influences			x

conceptual advertising literacy			
H3h: Critical prosumption positively influences attitudinal advertising literacy		x	
< continues on next page >			
Hypothesis	Supported	Not supported	Partially supported
H4a: Frequency of usage positively influences functional consumption			x
H4b: Frequency of usage positively influences critical consumption			x
H4c: Frequency of usage positively influences functional prosumption		x	
H4d: Frequency of usage positively influences critical prosumption		x	
H4e: Motivations of usage positively influence functional consumption		x	
H4f: Motivations of usage positively influence critical consumption		x	
H4g: Motivations of usage positively influence functional prosumption		x	
H4h: Motivations of usage positively influence critical prosumption	x		
H5a: Frequency of usage positively influences conceptual advertising literacy			x
H5b: Frequency of usage positively influences attitudinal advertising literacy		x	
H5c: Motivations of usage positively influence conceptual advertising literacy			x
H5d: Motivations of usage positively influence attitudinal advertising literacy		x	

Figure 2. Overview of hypotheses.

5. Conclusion and discussion

Social media, more precisely Facebook, are increasingly popular with millennials in Croatia (arbona.hr, 2016). Because of the decreasing popularity of traditional media among millennials, advertisers have turned to promoting their products in the environment that is closer to millennials, being social media (Magnini, 2011). For this reason, the millennial generation is increasingly more exposed to advertising messages, and it is necessary to see whether they are able to recognize advertising efforts directed towards them, where those efforts are coming from, as well as to determine millennials' attitudes towards such advertising. The question that arises is what affects millennials' ability to recognize advertising, its sources and form opinions about it? Existing research suggests it is advertising literacy (Rozendaal, et al. 2011). Advertising literacy is often considered as part of media literacy, and the two terms are often researched together (Eagle, 2007; Potter, 2014). While both media and advertising literacy include similar concepts, such as awareness of persuasive communication (Eagle, 2007), ability to recognize commercial media messages (Duffett, 2015), and developing skepticism towards advertising (Weintraub Austin et al. 2016), existing research does not incorporate the full scope of advertising literacy into media literacy research.

In order to close the gap between media and advertising literacy, and to determine whether the two should be researched separately, this research had four aims: (1) to determine the level of media literacy among millennial Facebook users in Croatia; (2) to determine the level of advertising literacy among millennial Facebook users in Croatia; (3) to determine whether an increase in media literacy leads to an increase in advertising literacy among millennial Facebook users in Croatia, and (4) to determine whether the levels of media literacy and advertising literacy are higher among heavy Facebook users than light Facebook users in the generation of millennials in Croatia. Below, the findings for each goal are addressed.

5.1. *Level of media literacy*

The original hypotheses stated that the levels of functional consumption (H1a) and functional prosumption (H1c) are high, while the levels of critical consumption (H1b) and critical prosumption are low (H1d). After statistical tests, H1a and H1c were supported, and H1b and H1d were rejected. This means that the overall level of media literacy on Facebook among Croatian millennials is high, confirming the overall H1. For functional consumption and prosumption, these findings are in line with existing research (DiLullo et al., 2011), however, previous research also argued against millennials having high levels of critical consumption and critical prosumption (DiLullo et al., 2011; Van de Vord, 2010). While these

findings show that millennials in Croatia actually have high levels of critical consumption and critical prosumption, these results have to be taken with a dose of reservation. This is because media literacy was explored using scales that required participants to self-report. In cases where participants are asked to report on questions about their attitudes and abilities, social desirability bias has to be taken into consideration. Social desirability happens when respondents give answers that they think would be better perceived by the society, or answers that are in accordance with social norms (Kreuter, Presser, & Tourangeau, 2008). Another problem with self-reporting is that participants might not always be good at predicting their behavior or understanding why they are doing certain things (Bertrand, & Mullainathan, 2001). In the context of this research, this means that participants might not understand how well (or how unwell) they can, for example, make decisions about the accuracy of Facebook messages, or to what extent they can influence others' opinions by participating to Facebook environments.

5.2. Level of advertising literacy

The original hypothesis stated that the level of advertising literacy among millennials in Croatia is high. This hypothesis was then separated into two sub hypotheses; one stating that conceptual advertising literacy is high (H2a), and the other stating that attitudinal advertising literacy is high (H2b). Statistically, there was more evidence to reject H2a than to accept it. Participants scored high on conceptual advertising literacy only for recognition of ads with high disclosure and understanding persuasive intent, while they scored low on conceptual advertising literacy for recognition of advertisements with moderate and low levels of disclosure, and understanding the purpose of demonstration and humor. These findings suggest that Croatian millennials are, in general, not good at recognizing ads. For moderately transparent advertisement, 62.6% of participants were able to recognize that it is an advertisement, while for the low transparency one, 34.8% were able to tell it was an ad. These findings have implications for advertising practitioners and for potential introduction of guidelines for paid posts on social media, which will be discussed in later sections. When it comes to understanding the use of demonstration and humor, participants in general scored low for these items, meaning they did not recognize the reasons why advertisers use demonstration of how a product is used and humorous scenes in paid posts. The reason for this might be that they find paid posts intrusive, and therefore perceive them as less useful (Lin, & Kim, 2016). However, since feelings of intrusiveness were not explored in the context of this research, these are only potential explanations that will be discussed in suggestions for future research.

The feelings that were explored in the context of this research were believing paid posts and disliking paid posts. In this case, H2b was supported, meaning the level of attitudinal advertising literacy among millennials in Croatia is, in general, high. This goes in hand with previous research by Lin and Kim (2016) who found Facebook users dislike advertising in their feeds and often find such advertising intrusive.

5.3. Media literacy and advertising literacy

While previous research explored advertising literacy as part of media literacy (Duffett, 2015; Eagle, 2007; Weintraub Austin et al. 2016), this research explored the relationship between the two. More precisely, it explored whether media literacy has a positive influence on advertising literacy. Weintraub Austin, et al. (2016) proposed that media literacy has a positive influence on advertising literacy, but they also questioned to what extent. This research provides insight into the question of extent of the influence of media literacy on advertising literacy. In short, there is more evidence to reject this assumption, than there is to accept it. In the following paragraphs, each sub hypothesis is discussed in more detail.

Functional consumption and advertising literacy (H3a, H3b). For conceptual advertising literacy, this hypothesis (H3a) is not supported for recognition of ads, and neither for the understanding of the use of demonstration and humor. It is only supported for understanding persuasive intent of advertising. This means that the better a person is at searching for information on Facebook, they are also better at understanding persuasive intent of advertising. For attitudinal advertising literacy, his hypothesis (H3b), was not supported, meaning functional consumption does not positively influence believing or disliking of paid posts. Participants showed moderately high levels of skepticism and disliking towards paid posts. What is interesting in these results is that even though participants in general claimed they are able to find information on Facebook, this did not make them more able to recognize advertisements. This might mean that even though millennials are able to access a lot of information, they are not able to critically assess it (DiLullo et al.,2011; Van de Vord, 2010).

Critical consumption and advertising literacy (H3c, H3d). The same as for functional consumption and conceptual advertising literacy, the hypothesis for conceptual advertising literacy (H3c) was rejected, except for the positive influence of critical consumption on understanding persuasive intent. The hypothesis for attitudinal advertising literacy (H3d) was supported for believing Facebook posts, while for disliking Facebook posts it was not. This means that the higher the level of individual's critical consumption, the higher their skepticism towards paid posts. This is contradictory to previous research that found

millennials are not good at critically accessing information they find in the media (DiLullo et al., 2011; Van de Vord, 2010). It is especially interesting that while participants self-reportedly scored high for statements like “I can distinguish different functions of Facebook,” “I can determine whether or not Facebook contents have commercial messages,” and “I can make decision about the accuracy of Facebook messages”, they actually scored low in recognizing ads, suggesting they can’t determine whether Facebook contents have commercial messages as well as they thought. Additionally, one of the questions that measured believing paid posts was “how often do you think paid posts are real,” and participants scored high on this (meaning they rarely thought paid posts are real), whereas in actual recognition they scored low. This might be because, as Bertrand and Mullainathan (2001) argue, people are sometimes not good at predicting their behavior. It could also be that participants perceived it to be socially desirable to claim they are able to determine whether Facebook contents have commercial messages and to make decisions about accuracy of Facebook messages. It is also interesting to look at this information while taking into consideration other findings of this research; while millennials are not especially good at recognizing paid posts, they claim they don’t believe them. Critical consumption did not positively influence recognition of paid posts, yet it positively influenced skepticism towards them, which raises the question of what they are actually skeptical towards. If one cannot recognize something as an ad, how can one then be skeptical towards it in the same way as towards other advertisements?

Functional prosumption and advertising literacy. For conceptual advertising literacy, the hypothesis (H3e) was partially supported. It was supported for recognition of paid posts with high and low transparency, as well as for understanding persuasive intent. This means that the more people are able to create user accounts and use software and hardware to produce contents for Facebook, the better they are at recognizing advertisements and the higher their level of understanding of persuasive intent of advertising. For attitudinal advertising literacy, the hypothesis (H3f) was rejected. This suggests that one’s ability to create user profiles and use hardware and software to create Facebook content do not influence one’s attitudes towards paid posts on Facebook. This suggests that one’s ability to create user profiles and use hardware and software to create Facebook content do not influence one’s attitudes towards paid posts on Facebook. These findings might suggest that those who are more competent in creating content can better recognize other types of content. However, this does not influence their ability to understand the use of demonstration or humor in advertising. Since the levels of understanding the use of demonstration and humor are in general low in this sample, it might be worth to further investigate this, but this is discussed later in text, in suggestions for future research. Also, these findings are good at illustrating the difference between media and advertising literacy.

While media literacy explores individuals' ability to produce and create content, advertising literacy does not, and these findings also show that ability to produce content have little to do with perceptions of advertising. So far, there is little evidence that would suggest that levels of media literacy positively influence the levels of advertising literacy.

Critical prosumption and advertising literacy. For conceptual advertising literacy, the hypothesis (H3g) was rejected for all components of conceptual advertising literacy, except for understanding persuasive intent. For attitudinal advertising literacy, the hypothesis (H3h) was not supported, which means one's ability to produce content that shows critical thinking and different perspectives does not influence one's skepticism or disliking towards paid posts. These findings suggest that one's ability to produce content with different and critical perspectives does not affect one's ability to recognize advertising content. This raises the question of how can one produce different types of content, but then not be able to recognize different types of content? Perhaps because producing critical Facebook content is different than producing advertising content, which points to another difference between media and advertising literacy. Also, producing Facebook content requires active participation, while advertising messages are often encountered in a state of automaticity (Potter, 2014), which might be another reason for differing results between critical prosumption and advertising literacy.

Looking at all sub hypotheses regarding the influence of media literacy on advertising literacy, there is greater evidence to reject the overall hypothesis than to accept it. These findings are important because if media and advertising literacy were essentially the same, there would be significant relationship. Since the influence of media literacy on advertising literacy is not significant, it shows that the two concepts are *not* the same and that they should be explored separately. However, another interesting finding is that media literacy does influence one aspect of advertising literacy, understanding of persuasive intent. This was already mentioned in research by Weintraub Austin, et al. (2016) and Eagle (2007). While this shows that understanding of persuasive intent is common to both media and advertising literacy, it is not the only concept that defines either, therefore media and advertising literacy should still be researched as separate concepts.

5.4. Intensity of usage and media literacy

Frequency of usage and media literacy. The hypothesis for functional consumption (H4a) assumed frequency of Facebook usage positively influences functional consumption. Way of accessing Facebook and length of usage of Facebook had no influence on functional consumption in this sample, which means that regardless of whether one accesses Facebook through mobile device, laptop or both, their functional consumption is, in general,

high, as is true for those who have been using Facebook for different periods of time, and those who spent different amounts of time on Facebook per log-on. On the other hand, log-on frequency positively influenced functional consumption in a way that those who logged on to Facebook once or more times a day scored higher on functional consumption scale than those who logged on 2-4 times a week. What is interesting is that at the same time, those who updated their profile more often scored marginally worse in terms of functional consumption than those who updated their profile less often. These findings suggest that scrolling through Facebook, or passive use, increases one's ability to look up information on Facebook, while actively updating profile negatively affects one's ability to make use of Facebook environments to reach information. For critical consumption (H4b), the hypothesis was rejected for Facebook access, length of usage and hours spent on Facebook. A possible explanation for these results is that the majority of participants access Facebook through both mobile device and PC/laptop; therefore it isn't a significant predictor. Majority of participants have also been using Facebook for more than five years, which is to be expected since people as young as 13 can already create a Facebook account (Wittek, & Grettano, 2012). An interesting finding of this hypothesis is that while log-on frequency positively influences critical consumption, frequency of profile update influences it negatively. Overall, possible explanation for these findings is that those who scroll through Facebook without updating pay more attention to content and information others post, while those who frequently update their profile are more concerned with content they post, than they are with searching for other content.

For functional prosumption, the hypothesis (H4c) assumed frequency of usage positively influences functional prosumption, but the hypothesis was rejected for all segments of frequency of usage, suggesting that one's ability to produce content and create profiles has little to do with their frequency of Facebook usage. This might be due to the fact that, in order to use Facebook, one already has to have a certain level of functional prosumption, meaning they need to be able to create content (profile picture, status update) for their Facebook page. For critical prosumption, the hypothesis (H4d) suggested a positive relationship between frequency of usage and critical prosumption, but it was not supported for any segment of frequency of usage. Since critical prosumption is characterized by producing content of critical thinking and influencing others' opinions, this dimension of advertising literacy probably has more to do with individual characteristics, such as assertiveness, (House, Quigley, & de Luque, 2010), than they do with the frequency of usage of Facebook. Since assertiveness is characterized by high value for thought, dominant behavior and a strong attitude (House, Quigley, & de Luque, 2010), it could have a larger influence on critical prosumption than frequency of usage has.

Motivations of usage and media literacy. For functional consumption, the hypothesis (H4e) suggested a positive relationship between the two, but it was rejected. This means that those who use Facebook to relieve boredom are not better at searching for information on Facebook. For critical consumption, the hypothesis (H4f) was also rejected. These findings might be due to the fact that Facebook is rich in content that can relieve boredom (Orosz, et al., 2016), and in order to relieve boredom, users don't look for specific content, but consume the one that is available. Additionally, usage of Facebook out of boredom doesn't require a conscientious approach (Orosz, et al., 2016), and therefore users don't activate their critical thinking. Self-expression might not influence functional nor critical consumption because, as said before, those who have the need to express themselves through Facebook will rather spend time refining their profile, than looking up and critically examining content posted by others.

For functional prosumption, the hypothesis (H4g) assumed a positive relationship between the two, but it was rejected for both usage out of boredom and usage for self-expression, while for critical prosumption (H4h) it was supported for both usage out of boredom and self-expression. Since functional prosumption includes the ability to create content, the fact that usage out of boredom does not affect this ability is in line with research by Orosz et al. (2016), who argue that usage out of boredom does not lead to more frequent posting, for which functional prosumption is necessary. On the other hand, usage out of boredom was only marginally significant predictor for critical prosumption, and this relationship should be explored further to make more concrete conclusions, since usage out of boredom is normally not connected to production of content (Orosz, et al., 2016). The fact that usage for self-expression does not affect the ability to create content is somewhat counterintuitive, since in order to express oneself, one should be able to create content. This finding should also be further explored in future research. On the other hand, since use of Facebook for self-expression pertains to the need to present ideas and thoughts through Facebook, the fact that it positively influences ability to create content that reflects critical thinking is in line with previous research (Orosz, et al., 2016).

5.5. Intensity of usage and advertising literacy

Frequency and advertising literacy. For conceptual advertising literacy, the hypothesis (H5a) was partially supported. People who access Facebook through both mobile device and laptop have a better understanding of persuasive intent of advertising, while those who access Facebook through both devices and those who have been using it for longer time, have a better understanding of the usage of humor. All other aspects of frequency of usage had no effect on conceptual advertising literacy. The analysis of

hypothesis for attitudinal advertising literacy (H5b) showed frequency of usage has no effect on attitudinal advertising literacy. These findings suggest that mere frequency of usage of Facebook does not lead to better understanding of information perceived through that medium (Orosz, et al., 2016). Additional explanation for the results regarding attitudinal advertising literacy are that the formation of attitudes is a topic that goes beyond the frequency of usage, as attitudes are formed automatically when a person acquires new information and draws a wide range of inferences beyond the information that was originally presented (Ajzen, & Fishbien, 2000).

Motivation and advertising literacy. The hypothesis for motivation and conceptual advertising literacy (H5c) assumed a positive relationship and it was partially accepted. Those who use Facebook in order to relieve boredom tend to have higher understanding of persuasive intent of advertising, but usage out of boredom had no effect on recognition of ads, or on understanding of the usage of demonstration and humor. Those who use Facebook for self-expression, in general, don't score better on conceptual advertising literacy. These results might be due to the fact that those who use Facebook to relieve boredom are engaged in consuming the content (Orosz, et al., 2016), while those who use it to express themselves are more concerned with the content they produce than with other content. The hypothesis for motivation and attitudinal advertising literacy (H5d) also assumed a positive relationship, but it was rejected. Again, this might be due to the fact that formation of attitudes is a more complex process. Attitudes are formed automatically when new information is received, and inferences beyond this information are drawn (Ajzen, & Fishbien, 2000), so these findings suggest that attitudes about advertising are formed somewhere else, and not while perceiving information on Facebook.

5.6. Limitations

While efforts were made to ensure generalizability of this research, there are still limitations that need to be considered. The first limitation has to do with sampling. This research used a snowball sampling method, and the problematic of snowball sample is the extent to which the sample is dependent on social networks, resulting in only the cases from existing social networks being discovered (Biernacki, & Waldorf, 1981). Since the first participants were recruited through researcher's network, and were then asked to recruit additional participants, the reach of this survey outside of those circles was unlikely. Therefore, there are probably cases further from the researcher's network that have not been represented in this research.

Other limitations of survey research include the lac of researcher's control over participant that enter the survey (Ilieva, Baron, & Healey, 2002). For this research specifically, it means that the researcher does not have the ability to check whether the

respondents entered the correct data for age and nationality, variables that determined the target group of the audience. When it comes to survey responses, in general the percentage is low (Ilieva, et al. 2002), and since participation is voluntary, there is a probability that those who completed the survey are in general more open to participating in research. While there are strategies that can increase the response rate, such as draws or raffles that include prizes, this strategy was not used in this research, because it can impact the quality of data negatively, as some participants might enter the survey several times in order to increase their chances of winning a prize (Ilieva, et al., 2002).

Additionally, as mentioned before, scales that were used to examine media and advertising literacy were based on self-reporting, which is problematic because people are sometimes not good at predicting their behavior or knowing why they are doing certain things (Bertrand and Mullainathan, 2001). There is also the issue of social desirability bias (Bertrand and Mullainathan, 2001). While media and advertising literacy are not considered controversial topics, respondents might feel embarrassed to say they, for example, can't distinguish different functions of Facebook, or that they often believe paid posts are regular content.

The next concern when it comes to limitations of this research is the stimulus material used. While the fact that the page and the brands were relatively unknown to Croatian audience ensured absence of existing attitudes towards the source, it might be that some participants failed to identify a post as an advertisement because they were unfamiliar with the advertised brand in the first place.

5.7. Suggestions for future research

As one of the limitations was the usage of self-reporting scales and the possibility that people can't always correctly predict their behavior (Bertrand and Mullainathan, 2001), future research should focus on finding alternative ways of measuring media and advertising literacy. Future research could also use stimulus material with brands familiar to participants in order to see whether recognition of advertising in that case increases. Other measures that are worth exploring further are understanding the purpose of demonstration and humor in advertising. Since the levels of understanding were low in the sample, it would be interesting to see whether people in general have difficulties understanding mechanisms used in advertising.

Future research should also further explore why those who update their Facebook profile often score lower on media literacy scales than those who don't update frequently. Also, it should be explored why the need for self-expression does not affect functional presumption. Since this research showed that those who create a lot of content are actually not the most competent at creating that content, the implications of this finding should be

explored further. In this case, it would be interesting to explore the quality of content that is posted and shared on Facebook. Lastly, since the majority of variables showed no effect on attitudinal advertising literacy, future research could focus on finding how and where attitudes on advertising are formed. Since attitudes about advertising on Facebook are not formed on Facebook, but the first time new information was acquired and a wide range of inferences beyond that information are drawn (Ajzen, & Fishbein, 2000), it would be relevant to find where they are formed, and whether attitudes on advertising in one medium affect attitudes on advertising in other media.

Additionally, because media literacy is the knowledge, skills and competencies needed to interpret and use media, and ability to access, analyze, create, reflect and act (Kamerer, 2013), further research should explore the relationship between motivations of usage and media literacy across different media, not just Facebook. Also, advertising literacy explores conceptual knowledge of advertising, attitudes towards advertising and the use of conceptual knowledge of advertising while exposed to it (Rozendaal, et al. 2011), and since advertising appears in a variety of media, the relationship between motivations of usage, media literacy and advertising literacy should also be explored across different media. This is especially important considering that literacy is not only a feature of a user, but it is also dependent on the medium, as interactive engagement between technology and user (Livingstone, 2004).

5.4. Practical implications

When it comes to advertising in terms of paid posts on Facebook, regulations and guidelines are not clear enough, allowing pages to disclose paid posts in ways that they see fit, which leads to inconsistencies in paid post disclosure. As this research has shown, people have difficulties recognizing paid posts as advertisements, especially if the disclosure is difficult to find. The purpose of a disclosure is to help recognize commercial content and disclose persuasive intent (Hudders, De Pauw, Cauberghe, Panic, Zarouali, & Rozendaal 2017), therefore it should be regulated through establishing clear and specific guidelines for posting paid posts on Facebook in order to be open about the purpose of the content.

Even though respondents in this research reported high levels of media literacy and attitudinal advertising literacy, the scores on conceptual literacy suggest a lack of education in this field. Since media literacy and advertising literacy have some touch points, like understanding persuasive intent, the two literacies could be taught as part of the same module, so that advertising literacy builds on the knowledge and skills of media literacy. While this does not affect those individuals who are out of the formal education, it can improve media and advertising literacy of future generations, as it was shown that even a few hours of advertising literacy education in elementary school lead to better understanding

of the message, persuasive intent and recognition (Nelson, 2016). Besides education, other socializing forces, including media, can help develop persuasive knowledge (Nelson, 2016). When it comes to other age groups, more specifically adolescents, in order to become more media literate, they need to use a range of materials from different media that appeal to them, such as books, movies, magazines, even music and videos (Schwarz, 2000). This shows that while education can improve media and advertising literacy in future generations, those who are already out of formal education firstly need to become aware of their levels of media and advertising literacy and understand that they might not be as high as they thought. From there, they can use other resources available to develop their literacies. Additionally, advertising industry could make interventions to bring awareness to advertising literacy levels.

Lastly, there are also practical implications that advertising practitioners should take into consideration. Besides employing guidelines for disclosure of paid posts for ethical reasons, they should also consider mechanisms used in their advertising messages. As this research has shown that the participants had low levels of understanding the use of demonstration and humor in advertisements, practitioners might want to reconsider the use of these methods, and explore how their efforts are perceived by the audience in order to improve their targeting.

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Appendix

Appendix A: Consent form

Dear participant,

Thank you for taking part in this research. This research is conducted as part of a Master thesis for the master's program in Media and Business at the Erasmus University Rotterdam. The research consists of an online experiment that is meant to explore Croatian millennials' usage of Facebook and its content.

At first you will be asked some questions about you media usage in general. Then you are going to see a screenshot of Facebook feed, after which you are going to be asked questions about your Facebook usage and the content you saw.

Please remember that your participation is completely voluntary and that you can quit at any point in the experiment. Furthermore, your anonymity is guaranteed, your personal information will be kept strictly confidential and used only for research purposes.

This research will take approximately 10 minutes of your time. If at any point, during or after the research, you have questions, please feel free to contact the researcher Lana Genc (453978lg@eur.nl).

I understand the above and agree to participate in this research.

Thank you once again for your participation!


Kind regards,

Lana Genc

Appendix B: Stimulus material

 mindbodygreen with Kohl's. 17 March at 16:00 · 🌐

Yogis, it's time to bring that booty back. 🍌 Kohl's #GetYourStart




How Taking Up Weight Training Can Totally Change Your Practice (Yes Yogis, I'm Talking To You)
When I'm lacking one aspect to my holistic workouts, I feel it in my body.
MINDBODYGREEN.COM | BY KOHL'S

See more from Kohl's. 


 Like  Comment  Share

 58

11 shares

 mindbodygreen with SUJA Juice. 6 hrs · 🌐

Booch fans, listen up. We've got a new one for you.



I Drank Vinegar For A Week To Heal My Gut. Here's What Happened
Drinking vinegar is one of the most exciting new beverages to hit the health world,...

MINDBODYGREEN.COM | BY SUJA JUICE

 Like  Comment  Share

  108

Top comments ▾

80 shares



mindbodygreen

Yesterday at 17:30 · 🌐

It's so small, yet so powerful.



The Best Time To Drink Water To Maximize Energy

You're going to want to get this one right.

MINDBODYGREEN.COM | BY THE MODEL HEALTH SHOW

👍 Like 💬 Comment ➦ Share

👍❤️ 64

Top comments ▾

39 shares



mindbodygreen

20 March at 19:45 · 🌐

Let's be real, we all have five minutes.



Have 5 Minutes? Here's What You Can Do For The Ocean

The problem of ocean trash might seem daunting, but every small action you take can make a world of difference.

MINDBODYGREEN.COM

👍 Like 💬 Comment ➦ Share

👍❤️ 45

14 shares

Remember, anywhere you go, there is community waiting for you.



How I've Traveled The World For The Last 3 Years (And Spent Next To Nothing)

There's so much beauty out there to discover.

MINDBODYGREEN.COM

👍 Like 💬 Comment ➦ Share

  109

Top comments ▾

45 shares

Ah, the beauties of functional medicine. ✨



The Best Doctor-Approved Supplements To Beat Your Brain Fog

Buh bye, brain fog.

MINDBODYGREEN.COM

👍 Like 💬 Comment ➦ Share

  35

18 shares

Appendix C: Frequency of Facebook usage

Do you use Facebook?	Yes No
Have you noticed any advertising on Facebook?	Yes No
How do you access Facebook?	Mobile device PC/laptop Mobile device and PC
How long have you used Facebook?	Less than 1 year 2 years 3 years 4 years More than 5 years
How often do you log on to Facebook?	Several times a day Once a day 2-4 times a week Once a week 2-4 times a month Once a month
How many hours do you spend on Facebook per log-in?	Less than 1 hour 2 hours 3 hours 4 hours More than 5 hours
How often do you update your Facebook profile?	Daily 2-4 times a week Once a week 2-4 times a month Once a month

(Duffet, 2015)

Appendix D: Motivations for using Facebook

<ol style="list-style-type: none"> 1. Social interaction 2. Information seeking 3. Pass time 4. Entertainment 5. Relaxation 6. Communicatory utility 7. Convenience utility
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(Whiting & Williams, 2013)

Appendix E: Motivations of Facebook usage

<i>1. If I could use inly one site on the Internet, it would be Facebook.</i>
<i>2. Watching Facebook posts is good for overcoming boredom.</i>
<i>3. I spent time on Facebook at the expense of my obligations.</i>
<i>4. My Facebook profile is rather detailed.</i>
<i>5. I feel bad if I don't check my Facebook daily.</i>
<i>6. When I'm bored, I often go to Facebook.</i>
<i>7. I spend more time on Facebook than I would like to.</i>
<i>8. I like refining my Facebook profile.</i>

9. I often search for Internet connection in order to visit Facebook.
10. If I'm bored, I open Facebook.
11. It happens that I use Facebook instead of sleeping.
12. It is important for me to update my Facebook profile regularly.
13. Before going to sleep, I check Facebook once more.

(Orosz, et al., 2016)

Appendix F: Facebook media literacy scale

<i>Functional consumption</i>
FC1: Know how to use searching tools to get information needed in the media. FC2: Catch up with the changes in the media. FC3: Make use of various media environments to reach information. FC4: Realize explicit and implicit media messages. FC5: Notice media contents containing mobbing and violence. FC6: Understand political, economical and social dimensions of media contents. FC7: Perceive different opinions and thoughts in the media.
<i>Critical consumption</i>
CC1: Distinguish different functions of media (communication, entertainment, etc.). CC2: Determine whether or not media contents have commercial messages. CC3: Classify media messages based on their producers, types, purposes and so on. CC4: Compare news and information across different media environments. CC5: Combine media messages with own opinions. CC6: Consider media rating symbols to choose which media contents to use. CC7: Make decision about the accuracy of media messages. CC8: Analyze positive and negative effects of media contents on individuals. CC9: Evaluate media in terms of legal and ethical rules (copyright, human rights, etc.) CC10: Assess media in terms of credibility, reliability, objectivity and currency. CC11: Fend against the risks and consequences caused by media contents.
<i>Functional prosumption</i>
FP1: Create user accounts and profiles in media environments. FP2: Use hardware necessary for developing media contents (text, image, video, etc.). FP3: Use software necessary for developing media contents (text, image, video, etc.). FP4: Use basic operating tools (button, hyperlinks, file transfer etc) in the media. FP5: Share digital media contents and messages on the Internet. FP6: Make contribution or comments to media contents shared by others. FP7: Rate or review media contents based on personal interests and liking.
<i>Critical prosumption</i>
CP1: Influence others' opinions by participating to social media environments. CP2: Make contribution to media by reviewing current matters from different perspectives (social, economical, ideological etc.). CP3: Collaborate and interact with diverse media users towards a common purpose. CP4: Construct online identity consistent with real personal characteristics. CP5: Make discussions and comments to inform or direct people in the media. CP6: Design media contents that reflect critical thinking of certain matters. CP7: Produce opposite or alternative media contents. CP8: Produce media contents respectful to people's different ideas and private lives. CP9: Create media contents that comply with legal and ethical rules. CP10: Develop original visual and textual media contents (video clips, web page, etc.)

(Koc & Barut, 2016)

Appendix G: Advertising literacy scale

<i>Conceptual advertising literacy</i>	
Is this an advertisement?	Yes, for sure Yes, I think so No, I don't think so No, certainly not
What was the ad for?	
Are commercials on television there to make you buy the advertised products?	Yes, for sure Yes, I think so No, I don't think so No, certainly not
Are commercials on television there to make you ask your parents to buy the advertised products?	Yes, for sure Yes, I think so No, I don't think so No, certainly not
Making a television commercial costs money. Who do you think pays for the making of television commercials?	The television network that shows the commercial The people who created this questionnaire The companies that make the products in the commercial The actors in the commercial Otherwise, namely...
For whom is this commercial intended?	For children only For adults only For children and adults Neither for children nor for adults
Are commercials on television there to make you think positively about the advertised products?	Yes, for sure Yes, I think so No, I don't think so No, certainly not
Are commercials on television there to make you feel positively about the advertised products?	Yes, for sure Yes, I think so No, I don't think so No, certainly not
Commercials often show happy children who are playing together with the advertised product. Why do you think that is?	To help children learn about the product. To get children to recall the ad.
Commercials are often funny. Why do you think that is?	To get children to believe what the ad says. To make children like the ad.
<i>Attitudinal advertising literacy</i>	
How often do you think television commercials are real?	Never Sometimes Often Very often
How often do you think that what you see in television commercials is like things are in reality?	Never Sometimes Often Very often
How often do you think television commercials are truthful?	Never Sometimes Often Very often
How often do you think television commercials tell the truth?	Never Sometimes Often Very often
How often do you think television commercials are boring?	Never Sometimes Often Very often
How often do you think television commercials are stupid?	Never Sometimes Often Very often

(Rozendaal, Opreel, & Buijzen, 2016)

Appendix H: Facebook advertising literacy scale

<i>Conceptual advertising literacy</i>	
Is this an advertisement?	Yes, for sure Yes, I think so No, I don't think so No, certainly not
What was the ad for?	
Are paid posts on Facebook there to make you buy the advertised product?	Yes, for sure Yes, I think so No, I don't think so No, certainly not
Writing a paid post costs money. Who do you think pays for the writing of paid posts?	Facebook The page that published it The company mentioned Creators of this questionnaire Other
Are paid posts on Facebook there to make you think positively about the advertised products?	Yes, for sure Yes, I think so No, I don't think so No, certainly not
Are paid posts on Facebook there to make you feel positively about the advertised products?	Yes, for sure Yes, I think so No, I don't think so No, certainly not
Paid posts often include a story in which the advertised product is used. Why do you think that is?	To help people learn about the product. To get people to recall the ad.
Paid posts are often funny. Why do you think that is?	To get people to believe what the ad says. To make people like the ad.
<i>Attitudinal advertising literacy</i>	
How often do you think paid posts are real?	Never Sometimes Often Very often
How often do you think that what you read in paid posts is like things are in reality?	
How often do you think paid posts are truthful?	
How often do you think paid posts tell the truth?	
How often do you think paid posts are boring?	
How often do you think paid posts are stupid?	