Online News Habits: Related Motives, Context, and Behavior

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ABSTRACT

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Online News Habits: Related Motives, Context, and Behavior

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For a long time habit has been a blind spot of research on media attendance generally and Internet usage particularly. Especially uses and gratifications approaches have mainly focused on intentional and conscious motives. Psychological research and recent studies on media attendance, however, suggest that habit is an important determinant of media behavior, too.

This study set out to examine the role of habit in the use of online news, a medium traditionally associated with instrumentality and information needs. The study draws on social cognitive theory as theoretical framework. Two hundred fifty-nine usable datasets were gathered through an open online survey. A confirmatory factor analysis confirmed habit strength as an independent factor. Habit strength had a significant influence on overall usage of online news. It was further correlated to deficient self-regulation, pass time and other self-reactive incentives, and context stability. An exploratory factor analysis tentatively confirmed hypothesized dimensions of online news behavior such as searching, elaboration, use of visual elements, follow-up actions, and distraction. These dimensions, however, lacked internal reliability.

DEDICATION

To my parents, who have always supported me along my way, no matter how meandering it has been.

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TABLE OF CONTENTS

Page

LIST OF TABLES

Page

LIST OF FIGURES

Page

CHAPTER 1: INTRODUCTION

Donna Leon, an American best-selling author, spoke recently about her consumption of online news in an interview on German radio. She said:

> I spent hours every day checking; "Oh what's happening in Nicaragua?" I don't care what's happening in Nicaragua. But I couldn't work. So I said: "Oh I'll do something." So I look at the news. It's two or three hours a day that I wasted looking at the news that I couldn't remember. So I stopped and now my day is three hours longer. Try it! (radioeins, 2017)

Why did Leon spend hours each day reading online news that she was not interested in and could not remember? In layman's terms one would say she had developed a habit and then she kicked it. Even though habit is a term that is widely used in everyday language, from a psychological perspective it is a complex concept.

Media and communication research has only recently started to approach it systematically (LaRose, 2010). Traditionally authors have focused on conscious motivations to explain media consumption. Especially the Internet and online news have been portrayed along those lines (Kaye & Johnson, 2002; Ko, 2000; Papacharissi & Rubin, 2000; Van Eimeren, Gerhard, & Frees, 2002). The introductory example suggests that this may not be the whole truth. Behavioral determinants such as habit can help to gain a more complete understanding of media behavior. In fact, the literature suggests that habit is a major determinant of human behavior (Wood, Quinn, & Kashy, 2002) and also the use of mass media (Adams, 2000).

The audience is turning its back on print news and turns towards digital sources (Pew Research Center, 2016c) but research on online news habits is limited. In order to understand the implications of the shift toward online news, research has to investigate how users engage with this medium. The idea that media on their own produce behavioral effects has been thrown on the scrapheap together with the magic bullet theory a long time ago. Instead media interact with the motivations and behavior of the audience. The present study focuses on the behavioral side of this interaction. It focuses on habit and related antecedents and ignores other factors such as instrumental motives. This narrow focus allows for more detail and draws particular attention to a side of online news consumption that has been largely overlooked. More generally it tests preconceptions of the Internet as a highly interactive and largely information-focused medium.

The present study addresses the following questions: Is habit a significant determinant of online news consumption? What conditions and antecedents are related to online news habits? Does habit influence the way users engage with online news? In order to answer these questions the study is structured as follows: In Chapter 2, a definition of online news is developed that serves as a basis for the study. Also discussed is where users find their news on the Internet and why and how they engage with it. In Chapter 3, based on psychological literature spanning the late nineteenth century through the present, habit is conceptualized and different measurements are discussed. Chapter 4 provides an overview of habit in media and communication research. It is explained why habit has been a conceptual and empirical blind spot of uses and gratifications and social

cognitive theory is introduced as an alternative theoretical approach. The remainder of Chapter 4 is devoted to the development of the hypotheses and research questions. Chapter 5 describes the research design, procedures, and operational measures. Chapter 6 provides an overview of the data. Furthermore, the hypotheses are tested and the results discussed. The last chapter addresses implications and limitations of the present study and points into directions for future research.

CHAPTER 2: ONLINE NEWS

What is Online News?

As a "simple answer" Mencher (1981) proposed "that news is what newspapers print in their news columns and what stations broadcast on their programs" (p. 67). Does this mean that online news is everything that is published online? Of course not. Any attempt to define online news must go beyond organizational or technological criteria because the Internet transcends such boundaries (Neuberger, 2008, pp. 19–20).

Function

From a functional perspective, news belongs to journalism. It is the "bread and butter of journalism" (Schwiesau & Ohler, 2003, p. 9; Weischenberg, 2001, p. 11) or, as Lünenborg (2013) put it, "the core piece of informative journalism" (p. 239). Therefore, and because conceptualizations of online news per se are limited, a discussion of online journalism is required here.

Decades ago a journalist could be described somewhat satisfactorily as someone who worked for a certain organization, a broadcaster organization or a newspaper, and who wrote columns or produced TV or radio segments.[1] This has changed. On the Internet, potential journalists neither have to be employed or paid by certain organizations nor is their work as strongly defined by technological affordances as the work of their ancestors in print or broadcast. In contrast to the technological limitations of print or broadcast, the Internet merges types of communication, dissolves boundaries

[1] This is of course a layman's and not an academic definition.

between sign systems, and increases flexibility in terms of space and time (Neuberger, 2008, p. 20). But these features are not exclusive to online journalism. The Internet facilitates various types of communication: interpersonal, group-, and public communication (Beck, 2010) and "as journalistic products, online news belongs to the mode of public communication" (Mehlis, 2016, p. 22). Beck (2010) argued that the Internet is merely a first-order medium that provides a technological basis with different potentials. Provided with this basis, actors select functionalities and use them in certain forms, for certain ends, and according to certain rules. Neuberger (2008) described these uses as institutionalized media (p. 21). Beck (2010) used the same term as well as *modes of communication* (p. 19) and *second*-order media (p. 17). In this vein, online journalism may be understood as a second-order or institutionalized medium based on the Internet as a first-order medium. What makes the differentiation between media complicated on the Internet, is the convergence and integration of different modes of communication (Beck, 2010, p. 19).

In terms of social function, online journalism is not different from its offline counterpart, according to Beck (2006). He described mediation of politics as one of the main functions of journalism (p. 206). Köster and Wolling (2006) contended that news "provide [*sic*] the population with information on a daily basis and therefore provide the foundation for social life and political participation" (p. 75). Neuberger (2008) listed the following functions as identifiers of journalism: selection of topics (relevancy, timeliness, news factors); elaboration of topics (correctness, variety, accessibility, analysis, factual expertise); range of topics (universality); editorial independence; periodicity; and

facilitation of public discourse (social and thematic openness, argumentation, mutual reference, rationality). Online services that fulfill these functions can be counted as online journalism. In a study on German online journalism, Neuberger, Nuernbergk, and Rischke (2009) condensed these criteria to topicality, universality, periodicity, publicity, and editorial independence (pp. 200-201). According to Neuberger (2008) instances of online journalism differ in terms of professionalism, participation, and technology.

Content

What is (online) news about? Lünenborg (2013) contended that typical news informs in timely manner about new information that is of interest to the public (p. 239). Interest and timeliness reoccur as defining features of news (Mencher, 1981, p. 70, 2003, p. 68; Schwiesau & Ohler, 2003, p. 21; Stensaas, 1986, p. 9; Weischenberg, 2001, p. 17). Timeliness is easily graspable as the period that lies between the occurrence of an event and the moment a news item addresses this event. The shorter this period is, the more timely the news. As for interest, the case is more complicated. Whether a news item is of interest depends on its overall *news value*. Research has identified various news factors that contribute to this value (Galtung & Ruge, 1965). Although journalists may not always deliberately reflect on these factors, their importance is widely accepted (Weischenberg, 2001, p. 26). The lists of news factors in the literature have considerable overlap but also show some differences (Lünenborg, 2013, p. 239; Mencher, 1981, pp. 70–76; Schwiesau & Ohler, 2003, pp. 54–58). Weischenberg (2001) listed the following factors: significance (magnitude and consequences), place, psychological proximity, prominence, currency and human interest (pp. 26–31). These factors depend for example,

on the audience, time and place of publication, or historical context. Therefore, what qualifies as news differs across places and cultures. Furthermore, the importance of individual factors can change over time and the concept of news with it. From a constructivist point of view, news factors are not manifest elements of an external reality used as criteria for news selection. Instead they are part of a reality constructed by journalists (Lünenborg, 2013, p. 239). Accordingly, Weischenberg (2001) referred to the "observation problem" and "objectivity problem" of journalists: Selection and interpretation make it impossible to truthfully depict *one* reality. He argued that notions such as "reality," "objectivity," and "truth" may be highly relevant as part of professional and social practice but too simple from a theoretical perspective (p. 16). These concepts were socially constructed. Notions such as credibility, reliability, and usefulness were more applicable (p. 22).

On a meta level, news usually describes an event that can be clearly delimited in time and space (Schwiesau & Ohler, 2003, p. 15). Furthermore, Neuberger et al. (2009) defined politics, business, culture, and sports as prevalent thematic categories (p. 210).

Form

News as a genre is characterized by certain formal and stylistic features that support the informative function and, especially on the Internet, attract attention. Opinion or value judgments are usually absent from news (Schwiesau & Ohler, 2003, pp. 37–38; Weischenberg, 2001, pp. 18–19) as information is its foremost function. News consists mainly of facts and verifiable information that are presented in neutral language. In order to maintain objectivity and balance, multiple sides of a story are presented if applicable

(Schwiesau & Ohler, 2003, pp. 35–37). Leads inform about the essence of a news story and ideally pull in the audience. The news item itself normally adheres to the principle of the inverted pyramid so that information is arranged depending on importance: More important information comes first followed by less important information (Lünenborg, 2013, p. 239). Overall, for communicative efficiency, news items are dense and short. Online news often combines text, images, and video and offers links so that users can navigate to further information. Compared with traditional news formats, online news allows for more interactivity. Because users read more superficially on screen, the language is simpler and texts are divided into smaller blocks. Teasers are designed to help users navigate but also lure them into clicking an item. Because the top part of the homepage is usually the access point, most important news are placed high up on the website (Schwiesau & Ohler, 2003, pp. 285–291).

Where Do Users Get Online News?

For years, news has consistently been the most sought content on the German Internet (Van Eimeren & Frees, 2013, p. 356). Approximately 60% of German Internet users regularly get their news online (Hans-Bredow-Institut, 2015, 2016, 2017; Hasebrink & Hölig, 2013, 2014). In the United States this share is larger, approximately three-quarters (Reuters Institute for the Study of Journalism, 2017). But where do people find news on the Internet? Neuberger, Nuernbergk, and Rischke (2009) took stock of online journalism in Germany. They used functional criteria and a content analysis in order to identify instances of online journalism. A variety of services met their criteria: online services of traditional media organizations such as daily newspapers, broadcasters,

weekly and Sunday newspapers, news agencies, and popular magazines; online-only services such as professional, editorially organized services; portals (e.g. e-mail portals); weblogs; collaborative user platforms; and search engines and news aggregators. Beck (2006) differentiated between journalistic and "pseudo-" or "parajournalistic" services (e.g. e-mail platforms, search engines, weblogs, and peer-to-peer services; pp. 209–210). Schwiesau and Ohler (2003) listed pure news, news with commentary and analysis, human interest and boulevard news, news aggregated by individuals, user-generated information, and opinion as forms of news on the Internet (pp. 297–299).

Despite this range of news formats, traditional media organizations seem to dominate online news (Mehlis, 2016, p. 36). More than half of the services identified by Neuberger, Nuernbergk, and Rischke (2009) were spin-offs of traditional newspapers. This group also met the authors' criteria for online journalism to the greatest extent (88.3% of the services in this group counted as journalism compared, for example, with only 18.6% of the weblogs). Neuberger (2012) found that users associated websites of the press most strongly with typically journalistic qualities such as credibility, objectivity, independence, and factual competence. This seemingly influences their media choices. Germans access online news mostly directly through websites or apps of established media organizations (Hans-Bredow-Institut, 2017, pp. 19, 31). When Americans are asked what online news sources they have recently used, traditional media organizations dominated the list, too (Pew Research Center, 2017, p. 15). Traffic statistics further support this dominance. In Germany and the United States, traffic of most online services of traditional media organizations is growing (Informationsgemeinschaft zur Feststellung

der Verbreitung von Werbeträgern e.V. (IVW), 2017; Pew Research Center, 2016c). Emmer and Wolling (2010) concluded that, on the Internet, streams of information are heavily centralized and channelized (p. 44). Whereas channels of communication are multiplying, relatively speaking, attention and credibility become even scarcer (Beck, 2006, p. 207). Researchers concluded that, in this context, offline brands were able to transfer their prestige to the online realm (Neuberger, 2012; Van Eimeren et al., 2002, p. 360).

There is, however, one type of service that increasingly competes with traditional media organizations: social media. A recent study by the Pew Research Center found that the majority of adults in the United States (62%) have already used social media to access online news. In 2012 this group had accounted for only 49% (Pew Research Center, 2016b, p. 2). In Germany, approximately every third Internet user accesses news via social media (Hans-Bredow-Institut, 2017, p. 22). In particular, younger Americans and Germans use social media as a news source (Hans-Bredow-Institut, 2017, p. 20; Pew Research Center, 2016a, p. 20). The growing importance of social media as a news source applies to Germany and the United States but the former trails the latter in this regard (Hasebrink & Hölig, 2013; Reuters Institute for the Study of Journalism, 2017). It has to be remarked, however, that many of these services merely function as pathways to traditional media. Users may use Facebook to access online news, but many of the links they find will ultimately lead them to websites of traditional media.

Another clear trend shows that consumers increasingly access online news via mobile devices. In 2014 and 2015 mobile traffic on online services of the top 50 U.S.

newspapers outpaced traffic coming from PCs. Furthermore, mobile traffic grew between 2014 and 2015 for the majority of these services whereas traffic from PCs decreased (Pew Research Center, 2016c, p. 20). The portion of Americans who get news on mobile devices has risen from 54% in 2013 to 72% in 2016. Mobile news consumption is particularly widespread among younger cohorts (Pew Research Center, 2016a, p. 6). Whereas the trend is similar in Germany, here the use of mobile devices still trails the use in the United States. In 2016 50% of German Internet users had accessed news on a laptop or PC during the week preceding the survey. Forty percent had accessed news on a smartphone. The gap had shrunk by 7% compared with 2015. For Germans under 45 years the smartphone has already surpassed the laptop and PC as a gateway to news (Hans-Bredow-Institut, 2017, pp. 29–30).

(Informational?) Uses of Online News

Research on online news has become a vital part of communication science (Mehlis, 2016, p. 22). Scholars have addressed a variety of questions: Does online news displace traditional news (Chan & Leung, 2005; Gentzkow, 2007; Kayany & Yelsma, 2000; Lin, Salwen, Garrison, & Driscoll, 2005; Nguyen & Western, 2007)? Does it homogenize or fragment audiences (MacDougall, 2005; Margolis & Resnick, 2000; Neuman, 2001; Stroud, 2008)? Does it facilitate political knowledge and civic participation (Beam, Hutchens, & Hmielowski, 2016; Boulianne, 2015; Knobloch-Westerwick & Johnson, 2014; Tran, 2013)? How do media effects compare with traditional media (Eveland, Jr. & Dunwoody, 2002; Neijens & Voorveld, 2016;

Tewksbury & Althaus, 2000)? Does it create a better public sphere (Gerhards & Schäfer, 2010)? What is the quality of online journalism (Mehlis, 2016; Neuberger, 2012)?[2]

Various studies have drawn on uses and gratifications (UG) theory in order to examine uses of the Internet and online news. Many of these studies have emphasized instrumentality, information seeking, and utility and dismiss ritualistic uses. In a preliminary study with a small sample of students, Mings (1997) examined how gratifications sought and obtained from printed newspapers transferred to online newspapers.[3] Surveillance, escapism, and excitement needs translated only limitedly from print to online newspapers and entertainment needs did not transfer. Utility was the gratification that transferred most clearly. Also based on a sample of students, Kaye (1998) applied the television viewing motivations identified by Rubin (1983) to the Internet. Entertainment gratifications were found to be the strongest predictor. The pass time[4] gratification was a weak factor and absent from answers of an open-ended questionnaire. A habit measure did not load on any factor. Kaye concluded: "The Web has probably not been in existence long enough for it to have become part of users' daily routines" (p. 34). Ko (2000), too, investigated the motives of college students for using

[2] For overviews of research on online news see also Boczkowski, 2002; Mitchelstein and Boczkowski, 2009, 2010; and Mehlis, 2016, pp. 21–65.

[3] Because of the small sample size, the results were of limited significance.

[4] "Pass time" gratifications refer to media uses based on the need to "pass the time," "kill time," or "relief boredom." For the remainder of this text the term "pass time" instead of, for example, "passing the time" is used because it is more common in the pertinent literature.

the Internet. He found information seeking to be the strongest predictor, particularly for the use of services such as online news. He came to the result that uses of the Internet are goal-directed rather than ritualistic. In a comparable study, Papacharissi and Rubin (2000) analyzed the motivations behind the Internet use of college students. They, too, came to the conclusions that information seeking was the strongest predictor of Internet use and described it as mainly instrumental. Kaye and Johnson (2002) analyzed motivations for the use of political websites. They identified political interest and information needs as main predictors. However, their sample was limited to users of political websites and analyzed only politically motivated uses for information. This bias may have led to an underrepresentation of other, less information- and goal-oriented uses. Based on a representative sample of the U.S. population, Lin, Salwen, and Abdulla (2005) compared traditional newspapers with online news in terms of underlying motivations and uses. They confirmed the reliability of gratification categories derived from newspaper research (entertainment, interpersonal communication, information scanning, and information skimming[5]) and found that they applied almost similarly to online news. Although the constructs were similar, gratifications were not cross-predictive. That means offline gratifications did not predict the use of online news or vice versa. Furthermore, information scanning was more prevalent for online and information

[5] Information scanning means surveying the agenda of topics to get an overview of what is happening whereas information skimming means selectively following certain stories of interest by selecting some and discarding other information (Lin, Salwen, & Abdulla, 2005, p. 13).

skimming for print news. The last two studies measured only active, instrumental motives and neglected less goal directed motives (e.g. pass time, escapism, habit). This desideratum is indicative of the bias toward active motives within UG research. In a study on the Internet consumption of Germans, Van Eimeren et al. (2002) contended that users engage more actively with the Internet than, for example, with television. They further showed that news and current information were the most frequently used online content. But their data also indicated that most users navigate the web in a highly routinized fashion. Furthermore, 54% of the respondents said they surf the web without a goal at least once a week, only 1% less than goal-directed surfing. Younger cohorts were even more prone to random surfing (71% versus 54% for goal-directed surfing).

Another strand of research focuses on the range of online behaviors rather than gratifications. In a diary study, Sellen, Murphy, and Shaw (2002) examined how knowledge workers use the Internet. Of six typical activities, information gathering was the most common. Browsing, however, followed not far behind on the second place. This activity was characterized by short durations and the absence of a specific goal. It was rated as unimportant by the respondents and took place in a routinized fashion mainly during breaks from other activities. Accessing websites of newspapers or magazines was part of this browsing behavior. Tewksbury, Hals, and Bibart (2008) found that browsing the print version of a newspaper had other implication than browsing the website. Newspaper browsing was positively related to self-perceived knowledge breath and social and political efficacy. This was not the case for online browsing which may be a sign of lower levels of utility and instrumentality.

Gibbs (2008) found that behaviors such as browsing news websites further depended on the purpose of news consumption. In an experiment, he gave participants two types of tasks: directed and semi-directed.[6] So-called forward browsing, progressing through a website non-linearly and digressively, was found to be most common. Those participants who had a directed task used search functions more frequently and navigated further away from homepages. Contrastingly, those with a semi-directed task stayed closer to homepages, browsed and scrolled more, and paid more attention to advertisements.

Research further suggests that online news behavior differs depending on the types of service being used. Nguyen (2008) examined why individuals adopt particular online news services and how they use them. The author found that services such as e-mail alerts, personalized websites, or weblogs are not merely used as byproducts but deliberately. Individual features of these services influence their adoption. Classical news qualities such as immediacy were the main drivers of adoption. Also, the features that users particularly appreciated determined which services they attended to and how they used them. Users, who particularly appreciated the absence of costs and the possibility to multi-task, used online news more often but for shorter periods of time. These findings suggest that mere availability, the absence of costs, and the compatibility with other activities may support online news behavior.

[6] Directed: finding specific news stories and specific information. Semi-directed: locate stories of interest through free browsing (Gibbs, 2008, p. 132).

Neuberger (2012) looked at how types of online news are used differently. He found that websites of traditional media such as newspapers are primarily used for surveillance needs, to get an overview of the news agenda, and acquire news knowledge for social interactions. News search engines and encyclopedia (such as Wikipedia) were used mainly for specific searches, portals for incidentally discoveries, and social media, unsurprisingly, for communicating about news.

As the above studies indicate, online news behavior is a complex phenomenon that depends on many factors and can vary greatly. Fittingly, Mitchelstein and Boczkowski (2010) called for wholesome approaches to the use of online news that do not focus either on media features or on social practices but rather integrate both. They further contended that, from the user perspective, the strict division between online and traditional media may not be tenable and the respective uses may not be so fundamentally different after all. Furthermore, in an earlier literature review on the use of online newspapers Boczkowski (2002) identified a trend: The use of online news was being mainstreamed and, simultaneously, decreasingly determined by information needs (p. 276).

In their study on the news consumption of college students, Diddi and LaRose (2006) followed a more comprehensive approach to the antecedents of news behavior than previous UG studies. They included independent habit measures and also pass time and escapism motives besides others. Habit emerged as the strongest predictor of news consumption and was particularly pronounced for online news. Surveillance was the gratification that correlated strongest with online news but entertainment and escapism

also correlated strongly with the use of online news, in fact stronger than with any other medium, including television. Overall, this study shed a different light on online news behavior than previous studies. The results relativized the importance of instrumentality and information compared with habit, pass time, and escapism needs.

The results of two qualitative studies substantiate this image. Based on 20 think-aloud interviews, Yadamsuren and Erdelez (2011) examined how participants read news online. They came to the result that "online news reading mostly happens on a habitual basis without conscious decisions from news consumers" (p. 1). The respondents read online news mostly as part of daily routines at the same time of day and in the same contexts, for example, after arriving at work, when Wi-Fi became available, or during breaks from work. Boredom relief was also one of the motivations. Furthermore, some respondents remained passive until they accidentally came across certain news, for example, on the website of e-mail providers. Then they started to read up on news stories. In this vein, the abundance of news on the Internet shapes news consumption. Again, information needs or active seeking were not the only drivers of online news behavior.

Costera Meijer and Groot Kormelink (2015) drew on various studies that covered a period of ten years in order to identify how usage patterns have changed over time and developed a typology of different online news behaviors. A behavior that gained particularly strongly was the so-called *checking*. It describes very frequent (20 times per hour for some respondents) but short and routinized instances of news consumption. Respondents checked during "micro-periods of waiting…: in the bathroom, at the bus stop, when waiting between appointments" (p. 670) or during work, comparable to

cigarette breaks. This behavior "seemed to be less connected to a need to be fully informed and more of an end in itself" (p. 669). Some users had developed *checking cycles* which involved accessing different services (such as twitter, e-mail services, social media, and news providers) one after another in a highly routinized way. As the authors pointed out, technological developments support this development. Apps make news consumption easier and quicker and smartphones in combination with mobile Internet provide access everywhere at any time. As a consequence news consumption became a habitual micro-practice intertwined with other behaviors, according to the authors.

Technology does not only make it easier to access news, it also provides user experience (UX). This experience can provide information-independent gratifications. Zhang and Zhang (2013) described this phenomenon as experience-related gratifications. In their study, the authors first asked 49 participants about their Internet and online news usage and information- and experience-related gratifications. The latter consisted of five factors: involvement, perceived freedom, spontaneity, mastery, and intrinsic enjoyment. Afterwards, the participants accessed online news in a laboratory setting while their sessions were recorded. Information- and experience-related gratifications were found to predict the choice of platform, content, and presentation (e.g. text-only or multimedia). Whereas attendance to entertainment news (e.g. movies, popular music, and celebrities) was predicted by freedom and spontaneity, attendance to general social news (e.g. petty crimes and soft news) was predicted by involvement and negatively by spontaneity, mastery, and intrinsic enjoyment. Attendance to lifestyle news (e.g. fashion and health) was predicted by intrinsic enjoyment and negatively by involvement. Interestingly, it was

found that early on, browsing was more focused on specific personal interests and at later stages of the session users gravitated more toward general news. Overall, the authors conclude that using online news consists not only of consuming content. Instead an online news session also provides for UX. Therefore, users access online news because they seek information but also UX-based leisure.

Coming from an human-computer interaction background, O'Brien devoted various works to UX and online news (O'Brien, 2011; O'Brien & Cairns, 2015; O'Brien, Freund, & Westman, 2014; O'Brien & Lebow, 2013). O'Brien (2011) contended: "Online news is a domain ripe for exploring interactive user experiences through the lens of user engagement" as it includes a range of behaviors, cognitions, and affective experiences (p. 2). O'Brien and Cairns (2015) tested the User Engagement Scale (UES) as a measurement of UX of online news. They found good applicability, reliability, and construct validity of the respective scale. O'Brien and Lebow (2013) applied a mixed-methods design that involved a questionnaire, browsing data, and physiological data to the interaction with online news. Their differentiation between the *pragmatic* and the *hedonic* of online news behavior parallels the differentiation between information- and experience-related gratifications of Zhang and Zhang (2013). O'Brien and Lebow (2013) found that users who found the news websites particularly usable or particularly unusable and those who were particularly absorbed cognitively or hardly absorbed at all spent more time with the websites and visited more pages than those with average levels. As a potential explanation the authors theorized that users either experienced difficulties or particularly enjoyed the interaction with online news. The numerous measurements paint

a complex picture and the artificial settings, small or biased samples, and potentially too simple coding of online behavior have to be acknowledged as limitations (O'Brien & Lebow, 2013, p. 1552; Zhang & Zhang, 2013, p. 2720). Nevertheless, it becomes apparent that UX is an important determinant of online news behavior.

Two larger surveys by the Reuters Institute for the Study of Journalism and the Pew Research Center have recently addressed the online news behavior of Americans and Germans. The former mainly addressed levels of online news consumption and the use of different devices and platforms. The results showed that reading articles is the preferred online news behavior of German Internet users (41%) followed by glancing over headlines (28%, Hans-Bredow-Institut, 2017, p. 37). The results further show that Germans rarely participate when using online news. Liking or rating content is the most common form of online participation. Fourteen percent of the Internet users have engaged in one of these behaviors. Much more frequently Germans talk to others about news content (48%, Hans-Bredow-Institut, 2017, p. 44). This is also the most frequent follow-up action among Americans. Thirty percent of American users of online news talked to someone else about the news they had accessed online (Pew Research Center, 2017, p. 17).

The Pew study also examined whether users actively sought out news or merely came across it on the Internet. Fifty-five percent of American Internet users got their news online while actually doing something else on the Internet and only 44% specifically sought them out. Those who seek them out are also more interested in news overall than those who do not (Pew Research Center, 2016a, p. 17). Although younger

cohorts are more likely to get their news online, they are less interested in news overall. They are also least likely to deliberately seek out online news and mostly happen upon news randomly while doing something else (Pew Research Center, 2017, p. 21). Compared with average users, seekers are more likely to get news from news organizations (Pew Research Center, 2016a, p. 17). The results of the Pew study fall in line with earlier studies as they paint a complex picture of online news behavior. How users behave, whether they share content, seek out news or happen upon it, and whether they recall the sources, was related for example to the topic of news or the pathway that led users to the news. In their selection of online news sources, however, users are largely consistent. Sixty-five percent of the respondents consistently got news through one pathway (Pew Research Center, 2017, p. 13). This seems to be the case for German users, too. Based on a representative sample of German mobile Internet users, Schnauber and Wolf (2016) came to the result that the selection of media platforms for information and news is mostly habitual.

Conclusion

Based on the preceding discussion the following definition of online news is proposed: Online news is a mode of communication or second-order medium that is based on the Internet as first-order medium. It is a journalistic form and therefore belongs to the realm of public communication. It provides information on a constant basis as prerequisite for social and political participation and meets criteria such as relevancy,

timeliness, universality, editorial independence,[7] and periodicity. What becomes news depends on so-called news factors such as significance, prominence, proximity, currency, and human interest. These factors organize reality and, from a strictly constructivist perspective, also construct it. In this vein, absolute objectivity and truth may serve as professional yardstick but are ultimately impossible. Despite this relativity the form and content of news has been conventionalized. News normally addresses concrete events in the realm of politics, business, culture, and sports with an emphasis on information and largely without opinions and value judgments. News items are dense and short and normally follow the principle of the inverted pyramid. Online news exists as websites or apps run by traditional media organizations, online-only outlets, or as functional equivalents such as news sections of e-mail portals, community websites, aggregators, and news search engines among others. It can be accessed, for example, through social media, search engines, e-mail links, and push notifications.

The discussion has further illustrated that the use of online news is complex. It involves conscious, goal-directed behavior and information needs, as well as entertainment, escapism, and pass time needs. Furthermore, factors such as experience-related and hedonic gratifications, behavioral factors such as routines and habit, and situational factors such as availability and coincidental exposure influence online news

[7] The independence of individual outlets is of course debatable. In this context editorial independence means that news does not primarily and explicitly follow a commercial or political agenda in contrast, for example, to advertisement or PR.

behavior. Users follow different patterns such as checking, browsing, information gathering, multi-tasking, and follow-up actions among others.

CHAPTER 3: HABIT

In the preceding discussion habit has already been mentioned as a determinant of online news behavior. Habit is widely used term in everyday life. But what is habit? Is habit a valid and useful psychological construct? These are complex and controversial questions as the following section will demonstrate.

What is Habit?

Early Concepts

James (1890) emphasized the importance of habit and called it the "fly-wheel of society" (p. 121) and living creatures "bundles of habit" (p. 104). Dewey (1922) devoted the entire first chapter of his tract *Human Nature and Conduct* to habit and Watson (1930) used the term to describe any type of learned behavior such as playing tennis or shoe-making. A survey of this early literature yields anachronistic ideas (e.g. behaviorist determinism) and significant discrepancies between the individual habit concepts. But many ideas have remained relevant.

One of these aspects is the influence of external stimuli on habits. James (1890) used the term plasticity to describe habit formation. As physical forces can form plastic objects, nervous stimuli can form the brain, he argued. Dewey (1922) even contended that it is not the subject that acts upon the environment but the other way around. Just as the oxygen in the air caused humans to breath, the social environment prompted certain social behaviors. Individuals merely differed in their sensitiveness and receptiveness to certain stimuli and therefore act differently. In this vein, habits are stimuli filters.

Comparably, Watson (1930) described habits as so-called conditioned responses that are learned based on the stimuli provided by society.

Another recurring theme is the repetition of behavior. James (1890) compared neurological pathways with channels that are increasingly "scooped out" (p. 108) every time they are used. Particularly frequently used paths functioned as "drainage channels" (p. 108). These scooped out paths were particularly easily passable and therefore would guide behavior. Thus frequent behavior became more frequent and, ultimately, habitual. Watson (1930), too, emphasized the importance of repetition. He described how an infant learns to grasp objects (here seen as a form of habit) by repeating a certain routine more than ten times daily for a month (p. 201). Dewey (1922) referred to the "insistent, self-perpetuating" (p. 58) nature of habits and theorized that their continuation through generations even constitutes society. Nevertheless he protested "against the tendency in psychological literature to limit its meaning to repetition" (p. 41-42). He argued that repetition is not the essence of habit.

Other prominent aspects are automaticity, awareness, and efficiency. James (1890) contended that habitual acts require less conscious attendance and are more efficient than strictly voluntary acts. They could also consist of automated sequences of multiple acts. A piano player, for example, requires less thought, moves less, but still plays more accurately the more he or she practices, James argued (p. 113). Dewey (1922), too, used musicians as an examples. Mechanization, he argued, makes performance less painful, clumsy, and halting. Nevertheless, he did not differentiate between habitual and conscious acts. For him, mechanization and thought were two sides

of the same coin (p. 71). He even asserted that habit equals *will* because one cannot want to or think about doing something that is not already part of one's habits (p. 32). Watson (1930), too, associated habits with more efficient and faster reactions to stimuli (p. 200).

Habit in Cognitive Psychology

Later psychologists challenged the behaviorists' determinism. Instead they integrated controlled, conscious, as well as mechanistic, unconscious dynamics in their explanations of human behavior (Wegner & Bargh, 1998). Several of the previously discussed elements of habit, however, reappear in contemporary psychology: Triandis (as cited in Newell, 2003) defined habits as "situation-behavior sequences that are or have become automatic, so they occur without self-instruction" (p. 3), Verplanken and Aarts (1999) as "learned sequences of acts that have become automatic responses to specific cues and are functional in obtaining certain goals or end-states" (p. 104), and Wood and Neal (2007) as "learned dispositions to repeat past responses. They are triggered by features of the context that have covaried frequently with past performance" (p. 843). Situational or environmental determinants, frequency, and repetition, automaticity and low awareness are part of the above definitions.

Early studies focused particularly on frequency of behavior. They found that past behavior is a significant predictor of later behavior and, under certain circumstances, even more predictive than intention (Bentler & Speckart, 1979; Landis, Triandis, & Adamopoulos, 1978). This falls in line with the colloquial understanding of habit: doing something routinely, often. But habit includes more than merely frequent behavior. In a meta-analysis combined with primary research, Ouellette and Wood (1998) found that

past behavior was particularly predictive of future behavior when the context of performance was stable. This means that behavior was predicted particularly accurately by past behavior when the performance took place, for example, at the same location or was consistently preceded by the same act. Under such circumstances intention was an inferior predictor. When the performance context was unstable, meaning that location, time, or situation differed, intention gained predictive power. These findings were confirmed by subsequent studies (Danner, Aarts, & De Vries, 2008; Ji & Wood, 2007; Verplanken, Walker, Davis, & Jurasek, 2008). Danner et al. (2008) used a specific example to illustrate the significance of context: A person who drinks wine sporadically but at a specific pub, at a specific time, and with the same people had a stronger habit than someone who drinks wine more often but in vastly different situations (p. 247). If the person constantly changed pubs, times, and company, he or she had to assess possible choices and make deliberate decisions. But if place, time, and company remained constant, the individual came to associate these situations themselves with drinking wine. When such associations guide behavior, it becomes habitual. Thus, it is theorized, frequency and context stability are crucial for habit formation because they create associative links between situations and behaviors that unconsciously guide behavior (Bargh & Chartrand, 1999, p. 469; Verplanken, 2006, p. 639; Wood & Neal, 2007, p. 843).

Although frequency and context stability play significant roles for habit formation, according to recent theories, automaticity, too, is an important feature of habit once it is established (Bayer & Campbell, 2012; Hartmann, Jung, & Vorderer, 2012;

LaRose, 2010; Newell, 2003; Ozkaya, 2013). Automaticity does not exclude control. Instead both are two ends of a continuum. In contrast to controlled behavior, automatic behavior is characterized by lower levels of intentionality, awareness, controllability, and more efficiency (Bargh, 1994; Wegner & Bargh, 1998). According to a study by Wood, Quinn, and Kashy (2002) habitual behavior matches these features of automaticity. During habitual activities participants thought less about the activity itself and more about unrelated things and felt less challenged by the performance and less stressed or exhausted compared with more controlled behavior. Neurological studies, too, indicate a distinction between automatic and controlled behavior. Automatic behavior seems to be associated with less brain activity (Poldrack et al., 2005) and activates different brain structures than controlled behavior—the cerebellum more than the cerebrum (Yin & Knowlton, 2006). Saling and Phillips (2007) cautioned that automaticity is complex. Low levels of intention, awareness, and attention did not co-occur in a fixed pattern. Instead they covaried independently. Furthermore, they argued, automatic behavior is not merely faster but instead qualitatively different, more economical, and less hesitant than controlled behavior. It was not entirely sealed off from conscious determinants but could be influenced instead. Furthermore, automaticity could refer to different stages of behavior (Bargh, 1994) and be unintentional and context-driven or intentional and goal-driven (Bargh & Chartrand, 1999; Wegner & Bargh, 1998).

Whether goals or context determine habit is a recurring controversy in the literature. Some authors argue that habits are independent from goals but dependent on context (Wood & Neal, 2007). Others, contrastingly, contended the exact opposite. Aarts

and Dijksterhuis (2000) argued that "habits are mentally represented as associations between goals and actions. These associations are shaped by frequent performance of actions and require the activation of the goal to become manifest" (p. 60). They based this contention on a study that found participants to be influenced by habits only when they were previously primed with a certain goal. Verplanken and Aarts (1999), too, saw habit as goal-directed automaticity that sets in motion a sequence of acts to reach a certain goal. The order and performance of individual acts within this sequence are automatized through habit. These understandings put habit in the vicinity of the script concept (Abelson, 1981). Scripts are cognitive structures that help to comprehend situations and organize behavior. They can be adapted to different situations because they are not situation-specific but abstract. Schnauber and Wolf (2016) contended that habits can take the form of such context-independent metascripts.

Wood and Neal (2007), however, challenged the emphasis on goals. They argued that numerous studies have shown that habit predicts behavior independently of goals. They further contended that in Aarts and Dijksterhuis' (2000) study participants had not performed actual behavior but instead had completed association tasks. Therefore, they argued, the evidence was insufficient. Neal, Wood, Labrecque, and Lally (2012) argued that due to inaccurate self-perceptions, individuals may overemphasize the role of goals as drivers of their behavior. They found that goals play a role when habit strength was moderate whereas goals were less influential for strong habits.

Ultimately, these divergent habit concepts may not be mutually exclusive. Schnauber and Wolf (2016) proposed that there are different types of habit: specific,

context-dependent and general, context-independent habits. LaRose (2010), too, argued that both goals and contextual cues may prompt habitual behavior. He theorized that goals are more influential in early stages of habit formation and, with increasing automaticity, unconscious determinants such as contextual cues become more important. Thus habit is not a dichotomous category. Instead behavior is habitual in degrees and involves conscious and unconscious determinants. Empirical evidence supports this theory (Hartmann et al., 2012; Wood et al., 2002).

Is Habit an Empty Concept?

Criticism of habit as a concept comes from the theory of planned behavior (TPB), which focuses on intention as the immediate predictor of behavior. Intention is said to be based on beliefs about consequences of a behavior, social expectations, and actual control over a situation (Ajzen, 2002, p. 107). Ajzen (2002) challenged the idea that other, unconscious determinants could explain behavior, calling habit an empty concept. In his theoretical analysis he discussed the problem of residual effects of past on future behavior, which has been interpreted as a sign of habituation and, therefore, a challenge to TPB. Such effects have appeared in various studies. They stand for higher correlations between past and future behavior, than between intentions and future behavior, especially when context stability is high. Ajzen, however, argued that this can be explained by stable intentions. If past behavior could be explained by intentions so could be future behavior if contexts remained stable. He contradicted the idea that past behavior instead of conscious factors had a direct influence on following behavior. To support his argument, he discussed inconsistencies of Ouellette and Wood's (1998) study. For

example, he pointed out that TV habits had been found to be independent of context stability and that the influence of intention had not varied depending on context stability. He explained the lack of predictive power of intentions on future behavior with model insufficiencies and methodological problems. Factors that intervene between intention and actual behavior produced such inaccuracy. But these shortcomings are not per se a proof of habituation, he argued. He pointed out that, when intentions were strong and individuals' assessments of their own capability to actually perform a certain behavior were realistic, residual effects of past behavior disappeared. His main criticism, however, focused on the measurement of habit. He argued that for habit to be a useful theoretical concept, it required an independent empirical measurement. So far, however, studies had focused largely on past behavior frequency as measurement. But to infer the existence of habit from the correlation between past and future behavior and then measure habit through frequency of past behavior was circular, he criticized. Also such measures said something about performance frequency but not about the quality. Just because a mountaineer climbed a mountain frequently does not mean he does so automatically (p. 109), he argued.

Ajzen's criticism of operationalization of habit as frequency of past behavior is valuable. Habit is about *how* a behavior is performed and not just *how often*. Therefore it is a process variable rather than a mere statistical measure (Verplanken, 2006). To completely discard the habit construct, however, may be premature. If past behavior really did not influence future behavior, it is hard to explain, why bad habits, such as smoking, become harder to counteract the longer and more often they are performed.

Furthermore, neurological studies indicate that habitual behavior differs qualitatively from more conscious behavior (Saling & Phillips, 2007; Yin & Knowlton, 2006). This contradicts Ajzen's theory that all behaviors are based on the same conscious processes. Furthermore, studies have pitted habit against TPB variables (Bayer & Campbell, 2012; Verplanken, 2006; Wood & Neal, 2007). The results show that habit is an independent predictor. But most importantly, independent measures of habit that go beyond mere performance frequency have been developed and successfully tested as will be shown in the next section.

Measurement of Habit

As Ajzen pointed out, if habit is a relevant construct, there should be a way of empirically measuring habit strength. Especially early studies used frequency of past behavior as a measurement of habit strength (Landis et al., 1978). This is problematic. As Verplanken (2006) pointed out, habit is a process variable concerned with *how* something is done and not a mere statistical measurement of *how often* something is done. LaRose (2010) provided further reasons, why performance frequency is an insufficient measure of habit. He explained that frequent behaviors can still be conscious, for example, re-reading a calculus book multiple times or, using Ajzen's example, frequently climbing the same mountain. LaRose further explained that frequency is inadequate for measuring different levels of habit strength. There was not necessarily a linear correlation between frequency and habit strength. He pointed out that habit strength does not increase infinitely with the number of repetitions.

Another approach is to include measures of context stability. For this end, either participants are asked to self-assess the context stability of a certain behavior (Danner et al., 2008); the stability of factors such as time, place, social situation, and preceding activities is assessed (Ji & Wood, 2007; Neal et al., 2012; Newell, 2003; Ouellette & Wood, 1998; Schnauber & Wolf, 2016; Wood et al., 2002); behaviors are categorized depending on whether they are associated with stable contexts (Hartmann et al., 2012; Ouellette & Wood, 1998); or, in quasi-experimental studies, context changes such as a recent relocation are factored in (Verplanken et al., 2008; Wood, Tam, & Witt, 2005). Although such measures allow for a more complex habit concept they are usually combined with measures of frequency and, therefore, include aforementioned weaknesses.

Another type of measurement is much simpler and frequency-independent: explicitly worded items. These can include Likert Scales that measure participants' agreement to statements such as "Behavior X is a habit of mine" or "I routinely perform behavior X." LaRose (2010) cautioned that these measures suffer from the usual weaknesses of psychological self-assessments. Nevertheless, as he pointed out, the literature indicates that direct measures are relatively valid and reliable.

Ozkaya (2013) used a particularly elaborate approach. She did not measure habit strength but instead manipulated it as independent variable. She argued that habitual behavior influences later behavior because, cognitively, it is more present and easier retrieved. Therefore, as part of a manipulation, participants were asked to remember a certain behavior and provide related information. Thus, the behavior became more

present in participants' memory and, therefore, simulated higher levels of habit strength. Statistical manipulation checks indicated the effectiveness of this method and simulated habit strength had an impact on dependent variables. Still, no actual behavior was measured as independent variable and the method rests on a very specific concept of how habit affects behavior.

Another frequency-independent habit measure is the response frequency procedure. As part of this method, participants are presented with certain scenarios and, under time pressure, have to choose from a set of behaviors. Aarts and Dijksterhuis (2000) applied this method to travel choices. Respondents had to decide on means of transportation, for example, to get to the university or shopping mall. Frequency and latency of the individual choices, for example, "by bike," were used as measures of habit strength. The response frequency procedure requires a controlled setting and, therefore, administrative effort and a laboratory setting. Furthermore, the use of predefined scenarios and batteries of behaviors is relatively inflexible.

The Self-Report Habit Index (SRHI), developed by Verplanken and Orbell (2003), is an attempt to overcome the limitations of the above measurements. It consists of 12 Likert-type items that address multiple dimensions and, therefore, allow for the complexity of habit. Automaticity is measured directly ("I do automatically") and through lack of awareness ("I do without thinking") and lack of control ("I would find hard not to do"). The index also measures identification ("That's typically 'me'") and frequency ("I do frequently"). Verplanken and Orbell (2003) tested the SRHI for internal reliability, compared it with other measures of habit and estimates of past behavior

frequency, and tested the sensitiveness to variances in habit strength. The results indicated that the SRHI is a valid and reliable measure of habit. Nevertheless, problems remain. The SRHI, again, includes measures of performance frequency. Verplanken and Orbell (2003) showed that the SRHI works without measures of behavioral frequency, too. Other studies found that, of all SRHI items, either the frequency measures (Newell, 2003) or the frequency measures together with the identification measures had the lowest alpha values (Bayer & Campbell, 2012). Accordingly, Schnauber and Wolf (2016) used only the automaticity items of the SRHI. Automaticity seemingly emerges as the core element of habit (Bayer & Campbell, 2012; Verplanken & Orbell, 2003, p. 1326). Pitted against TPB variables and behavioral frequency, SRHI showed superior predictive power (Bayer & Campbell, 2012; Verplanken, 2006).

Conclusion

Based on the preceding discussion, habit is described as behavior that is automatic and, therefore, lacks intentionality, awareness, and controllability. Simultaneously, it is efficient because it spares cognitive resources. These individual components of habit covary and do not have to co-occur in a fixed pattern. Furthermore, behavior is habitual in degrees allowing for interactions with conscious determinants. Habituation is based on associations between a certain context and behavior developing through frequent repetition of the same behavior in the same context. Although contextual factors and performance frequency facilitate habituation, they are themselves not the essence of habit. Habit is a process variable describing the quality of a certain act rather than its context or frequency. Evidence from neurology supports this qualitative distinctiveness.

There are probably various types of habits (e.g. more specific vs. more general habits) differing in terms of context and goal dependency.

As a measurement the SRHI has shown good validity and reliability and can be administered flexibly. In accordance with the above conceptualization, however, frequency and identity have to be removed from the scale. Experience from previous research supports this adjustment. Measured through the SRHI, habit has been shown to be an independent and significant predictor of behavior.

CHAPTER 4: MEDIA HABITS

How has habit been conceptualized in media studies and what have been the empirical results? The following section addresses these questions and focuses on two theoretical approaches: uses and gratifications and social cognitive theory. After a summary of this theoretical discussion, based on pertinent literature and the discussion of online news behavior in Chapter 2, hypotheses and questions are developed as guidelines for empirical research.

Habit in Communication and Media Studies

Uses and Gratifications

The UG paradigm has been the dominant approach to the analysis of media uses. Although habit has been "lurking in the literature" (Stone & Stone, 1990) it has not been addressed systematically. One reason for this desideratum is conceptual: UG theory holds that recipients actively think and decide at all times and can reflect on their behavior and validly report on it (Katz, Blumler, & Gurevitch, 1973, p. 511). Habit, contrarily, refers to behavior that is not entirely based on active decision-making (Newell, 2003, p. 33). Instead it involves unconscious behavior beyond self-reflection and self-report. LaRose (2010) held that "UG may not reflect the thought processes of media consumers, even if consumers can produce such explanations for their behavior when researchers ask them to do so" (p. 209). Respondents might state instrumental motives, which, at some point, have given way to less deliberate factors or they try to appear conscious, rather than unconscious (Diddi & LaRose, 2006, p. 195; Koch, 2010, pp. 46, 97–98; LaRose, 2010, p. 208; LaRose & Eastin, 2004, p. 363). In this vein, UG studies artificially pronounce

deliberate motives due to a biased focus. Furthermore, because of social desirability bias, respondent may rationalize their behavior retrospectively based on gratification categories presented by researchers.

Methodologically, too, UG's grasp of habit is limited. Explicit measures have been rare (Bantz, 1982; Greenberg, 1973; Rubin, 1983). Items, whether implicit or explicit, have not constituted independent factors but instead have been mixed with gratifications, especially pass time, and attitudes (Abelman & Atkin, 2000; Bantz, 1982; Kaye, 1998; Rubin, 1983; Rubin & Perse, 1987b, 1987a; Vincent & Basil, 1997). Greenberg (1973) acknowledged that habit was a "catch-all category useful in lumping a group of less specific reasons" (p. 8).

Nevertheless, factors that include some sort of habit measures have frequently emerged as strong predictors of media use (Abelman & Atkin, 2000; Bantz, 1982; Greenberg, 1973; Kaye, 1998; Rubin, 1983; Rubin & Perse, 1987a, 1987b; Stone & Stone, 1990). Studies also identified two fundamentally different patterns of media use: The first was characterized by a focus on the medium rather than the content and lower levels of activity, involvement, and selectivity. It was also associated with pass time, companionship, and escapism gratifications. Habit measures scored high for this pattern. The second pattern described media use for information needs associated with more activity, selectivity, and a focus on content rather than the medium itself (Abelman & Atkin, 2000; Bantz, 1982; Rubin, 1983; Rubin & Perse, 1987b). Habit measures scored low for this pattern. In two studies the only factors that were clearly not correlated were the pass time/habit factor and the information factor (Abelman & Atkin, 2000; Rubin,

1983). Here a dichotomy emerges that falls in line with theories of media habits: active information-oriented media behavior as one pole and habitual, less active, automatized, and information-independent media attendance as the other.

Social Cognitive Theory

Recently, communication researchers have attempted to overcome the limitations of UG theory and have drawn on other theoretical frameworks. One such theory is social cognitive theory (SCT, Bandura, 1986). A comprehensive explanation of SCT would go beyond the scope of this work.[8] Therefore, only those aspects that are central to habit will be discussed here. First of all, SCT goes beyond the determinism of behaviorists on the one side and the exclusive focus on intentions of UG and TPB on the other side:

> In the social cognitive theory view people are neither driven by inner forces nor automatically shaped and controlled by external stimuli. Rather, human functioning is explained in terms of a model of triadic reciprocality [sic] in which *behavior* [emphasis added], cognitive and other personal factors, and *environmental events* [emphasis added] all operate as interacting determinants of each other. (Bandura, 1986, p. 18).

Hence, SCT acknowledges the possibility of human actions' being influenced not only by cognitive factors, such as intentions or gratifications sought, but also by environmental cues and (past) behavior. This falls in line with the habit conceptualization of Chapter 3.

[8] For a concise overview see Bandura, 1986, pp. 18–22.

Furthermore, although goals and intentions are seen as important determinants of human behavior, in contrast to UG and TPB, in SCT the link between intention and actual behavior is not immediate. Instead it is mediated by *self-regulatory* mechanisms. These mechanisms are based on the idea that individuals cannot efficiently act on their intentions without the capability to guide their behavior and, if necessary, adapt it. Therefore, humans posses three self-regulatory subfunctions: self-observation (surveying one's behavior), judgmental processes (evaluating one's behavior based on certain standards), and self-reaction (adapting one's behavior, Bandura, 1986, p. 337). These mechanisms provide a theoretical foundation for habit because they align with dimensions of automaticity: intention, attention, awareness, and control (see Chapter 3 and LaRose, 2010, pp. 210–212). From a SCT perspective, automaticity can be described in terms of self-regulation: Diminished self-observation aligns with lack of awareness and attention, diminished judgmental processes with lack of intentionality, and diminished self-reaction with lack of control. Because automaticity is a central element of habit, habit can be conceptualized as behavior with low levels of self-regulation (see Chapter 3 for discussion on automaticity and habit).

Furthermore, SCT models intentional media behavior differently than UG. It is based on "expectations formed by our own direct experience or mediated by vicarious reinforcement observed through others" (LaRose & Eastin, 2004, p. 360). These outcome expectations are tied to biologically based motivators such as food, sex, and physical contact and cognitively based motivators such as material (consumable), sensory (novel, enjoyable, stimulating), token (for example, grades or money), and social incentives

(positive interactions, Bandura, 1986, pp. 232–233). Thus, in SCT, the needs and gratifications of UG theory are supplanted by behavioral incentives and outcome expectations respectively (LaRose & Eastin, 2004, p. 360). These differences are not mere nomenclature. UG relies on gratifications sought (GS) and gratifications obtained (GO, Palmgreen, Wenner, & Rosengren, 1985). The former describes wished-for and the latter actually realized outcomes. Wished-for outcomes may not necessarily be realistic or expected, and the comparison of GS and GO is too static and isolated to adequately predict future media behavior. Contrastingly, outcome expectations allow for continuously changing expectations determined by more varied factors than merely the last instance of media attendance (LaRose & Eastin, 2004, p. 361). Thus they are specific to each individual instance of media behavior. Furthermore, behavioral incentives are theoretically grounded and not statistically derived from exploratory factor analyses and respondents' self-reports which is frequently the case in UG literature (LaRose & Eastin, 2004, p. 360). The combination of habit measures and pass time measures in UG research, for example, has been derived from essays written by English schoolchildren at the ages between 9 and 15 about their TV consumption (Greenberg, 1973). This illustrates the arbitrariness of some of the premises of UG. The results of various studies indicate that SCT-based models explain media consumption better than UG (Diddi & LaRose, 2006; Jers, 2012; LaRose & Eastin, 2004; Newell, 2003; Peters, Rickes, Jöckel, Von Criegern, & Van Deursen, 2006).

Conclusion

In UG literature habit has led a Cinderella-like existence. It has not been systematically and consistently conceptualized. Instead habit items have been scattered across different scales. Habit has been mixed with gratifications, especially pass time, or attitudes. Despite these problems, UG research indicates the influence of habit. Furthermore, two patterns of media attendance have been identified: On the one side media are used selectively, actively, and with a focus on information and on the other side routinely, passively, indiscriminately, and with a focus on the medium rather than the content. The latter points to behavioral and potentially habitual media behaviors.

Despite many differences, both UG and SCT focus on the individual recipient in order to explain media interactions. SCT, however, acknowledges that behavior itself and environmental factors, too, can influence human behavior. Furthermore, the concept of self-regulation provides the framework for a habit concept that falls in line with the discussions in Chapter 3. Finally, SCT models motives for media behavior more dynamically and interactively than UG and grounds them in theory rather than statistically obtained factors. Empirical tests indicate the superiority of SCT-based models of media behavior compared with UG.

Habit as Predictor of Online News Consumption

Based on SCT, Newell (2003) investigated how undergraduate students select electronic media such as TV, the internet, instant messenger services, or e-mail. He was able to explain past media behavior and confirmed the overall validity of the SCT model of media attendance. Furthermore, he revisited the UG habit model. Newell included

Rubin's (1983) habit and pass time category in addition to a SCT operationalization of habit. A factor analysis showed that the two habit-related items of Rubin's scale actually loaded stronger on the SCT habit scale. The remaining items of Rubin's category related exclusively to pass time gratifications. Although this pass time factor correlated with the habit factor, both were separate predictors. These results fall in line with Diddi and LaRose (2006), who applied Vincent and Basil's (1997) UG measures along with independent habit measures to news consumption of college students (see also Chapter 2). Habit emerged as independent predictor of news consumption. It was also the strongest predictor and particularly pronounced for the use of online news. In a study on college students' Internet use, Larose, Mastro, and Eastin (2001) operationalized self-perceptions of internet addiction as deficient self-regulation based on SCT. This factor emerged as second strongest predictor of Internet use. Expected outcomes, modeled according to SCT, explained variance, too. The authors used perceived addiction and habit synonymously because both are related to self-regulation and differ mainly by degree. The authors emphasized that these measures are important predictors of media behavior and distinct from intentional measures such as outcome expectations (p. 409). LaRose, Lin, and Eastin (2003) addressed the relationship between addiction, habit, and deficient self-regulation in the context of students' Internet use. They used self-regulation items in order to measure addiction and, separately, explicitly worded direct measures of habit. Habit was found to be the strongest predictor of Internet use and strongly correlated with deficient self-regulation. Overall, their model explained 37% of variance. The authors, too, contended that habit may interact with deliberate dynamics but is a

"conceptually and empirically distinct variable" (p. 246). Based on a SCT model of media attendance, LaRose and Eastin (2004) have been able to explain variances of Internet use to the unprecedented level of 42%. They operationalized habit and deficient self-regulation separately, the former through items that focused on routine. Both factors were interrelated but also distinguishable. Habit was the second strongest predictor. Based on their findings the authors questioned the idea of the Internet as a medium that is predominantly used actively and instrumentally (p. 373). In a replication of LaRose and Eastin's (2004) study, Peters et al. (2006) investigated Internet use of Germans in order to test the validity of the model. Here, too, habit was found to be the strongest predictor. A factor analysis also confirmed the SCT model. Deficient self-regulation, however, was only conditionally reliable, did not predict Internet use, but correlated with habit. Furthermore, the authors explained only 19% of variance, considerably less than LaRose and Eastin (2004). Nevertheless, the authors concluded that the SCT model is superior to UG approaches, especially due to the conceptualization of habit as a distinct factor. Their findings showed that without this factor, the effect of intentional factors would have been overestimated. Schnauber and Wolf (2016), too, used an independent measure of habit that focused on automaticity and lack of awareness. As already discussed, they found that habit predicted which media platform German mobile Internet users select for informational uses (see also Chapter 2).

The above literature indicates that habit is an independent and influential determinant of media behavior.[9] This becomes apparent when habit is measured independently of intentional antecedents and in accordance with SCT and previously discussed habit concepts. Research cited in the pervious section and in Chapter 2 indicates that habit influences the use of online news, too. Therefore, the following is hypothesized:

H1a: Habit strength is a distinct antecedent of the use of online news.

H1b: Habit strength predicts overall online news usage.

Habitual Use of Online News and Deficient Self-Regulation

Previously it has been established that from an SCT approach, habit is based on self-regulation or rather *deficient* self-regulation. This conceptual premise has been empirically substantiated in the context of media behavior. Independent habit measures, for example, explicitly worded items, correlate with measures of deficient self-regulation (LaRose & Eastin, 2004; LaRose et al., 2003; Peters et al., 2006). Neal, Wood, and Drolet (2013) further showed that individuals fell back on habitual behavior particularly when their self-control resources were diminished due to parallel or previous self-control efforts. They found that habits had a stronger impact on the behavior of students, whose self-control resources had been depleted by exams, the use of their non-dominant hand

[9] In addition to the literature already cited, see, for example, Adams (2000) and Koch (2010) for TV-consumption; Peters (2007) for the use of mobile phones and Limayem, Hirt, and Cheung (2007) and Vitak, Crouse, and LaRose (2011) for Internet use.

for everyday tasks, or a task that involved describing the previous day without word repetitions.

Anecdotal evidence further corroborates the connection between self-regulation and habit: In a study by Yadamsuren and Erdelez (2011) respondents said that they were embarrassed by how often they checked earth quake websites. Although they disapproved of their own media behavior, they still continued it (p. 5). Despite this connection, habit and deficient self-regulation are not identical. Low self-regulation can also be part of impulsive, novel behavior, which has not been habituated through repetition. Socially deviant behavior may be based on deficient self-regulation, for example, because of stress or intoxication without necessarily being habitual (LaRose, 2010, p. 210). The distinction between self-regulation and habit has not been completely clarified (LaRose, 2010, p. 216). One approach has been to focus on differences in terms of self-regulatory subfunctions. Addicts, for example, might be highly aware of a certain detrimental behavior yet unable to stop it. Although they would therefore show deficient self-regulation, their awareness would not necessarily be diminished. In this vein, an emphasis on self-observation distinguishes habit from other behaviors related to deficient self-regulation such as addictions.[10] With a factor analysis, LaRose and Eastin (2004)

[10] Based on SCT, habit, deficient self-regulation, and addiction are closely related: They are all explained through self-regulatory subfunctions. Habit is characterized by low levels of self-observation whereas diminished judgmental processes and self-reaction are more characteristic of deficient self-regulation and addiction. The latter two differ merely in terms of strength. When deficient self-regulation

confirmed the distinction between self-observation on the one side and judgmental processes and self-reaction on the other side (p. 369). Therefore, habit seems to be particularly associated with the former component: self-observation (LaRose, 2010, p. 211). The following is hypothesized:

H2a: For the use of online news, habit is associated with diminished self-observation whereas deficient self-regulation is associated with other self-regulatory subfunctions.

H2b: For the use of online news, deficient self-regulation is related to habit strength.

Habitual Use of Online News and Self-Reactive Incentives

According to previous discussions and in line with SCT, human behavior is believed to be neither completely habitual, nor completely instrumental. Instead it moves along a continuum between the two poles (LaRose, 2010, p. 196). As a consequence, conscious and unconscious determinants of behavior interact. Various authors have addressed this interaction.[11] From a SCT perspective intentional media behavior is

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reaches extreme, pathological levels so that it has negative life consequences it can be described as addiction. See LaRose, Lin, and Eastin (2003) for a discussion of these concepts.

[11] For example, it has been theorized that intentions precede habits (LaRose, 2010, pp. 212–217; Newell, 2003, pp. 83–86), that intentions moderate and mediate habits (Hartmann, Jung, & Vorderer, 2012), that habits and intentions are antagonists with varying explanatory power depending on the context (Danner, Aarts, & De Vries, 2008; Ji & Wood, 2007; Ouellette & Wood, 1998), that habits are goal-directed (Aarts & Dijksterhuis, 2000; Verplanken & Aarts, 1999), that goals and habits can inhibit or

modeled based on outcome expectations connected to fundamental incentive categories. One of these categories consists of so-called *self-reactive* incentives (Bandura, 1986, pp. 232–240). They stand for the urge of humans to change situations that are perceived as negative. One example is mood management. When individuals become active to relieve boredom or stress, they follow self-reactive incentives (LaRose & Eastin, 2004, p. 361). In contrast to monetary or social-status incentives, this category addresses particularly internal dimensions. The media use literature indicates a strong connection between self-reactive incentives and habit. UG approaches frequently merged habit measures with pass time and boredom items (Abelman & Atkin, 2000; Bantz, 1982; Kaye, 1998; Papacharissi & Rubin, 2000; Rubin & Perse, 1987a, 1987b; Vincent & Basil, 1997). Furthermore, certain widespread media behaviors, which are not instrumental and often even counterintuitive and harmful, are strongly related to self-reactive outcomes, such as boredom relief, escapism, or stress relief. Examples are cyberloafing, cyberslacking, media multitasking, or media procrastination (Eastin, Glynn, & Griffiths, 2007; Meier, Reinecke, & Meltzer, 2016; Wang & Tchernev, 2012). Using online news seems to be a significant part of such behaviors (Costera Meijer & Groot Kormelink, 2015; Lim & Chen, 2012; Lim & Teo, 2005; Lim, Teo, & Loo, 2002; Yadamsuren & Erdelez, 2011).

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strengthen each other (Wood & Neal, 2007), that goals guide only moderately habitual behavior (Neal, Wood, Labrecque, & Lally, 2012), and that habitual behavior is still thoughtful to some degree (Wood, Quinn, & Kashy, 2002).

Various studies that draw on SCT substantiate this connection between self-reactive incentives and habit. They have found strong correlations between self-reactive outcome expectations and habit (Diddi & LaRose, 2006; LaRose & Eastin, 2004; LaRose et al., 2003; Newell, 2003; Peters et al., 2006). Deficient self-regulation emerges as a potential link. LaRose et al. (2003) conceptualized this as "hot link" that connects self-reactive incentives with habit via deficient self-regulation (p. 233). One explanation might be that dysphoric moods such as boredom or stress diminish self-regulatory capacities and therefore behavior becomes more automatic and habitual (LaRose, 2010, p. 211; LaRose et al., 2003, p. 244). A further explanation might be that certain media uses are motivated by self-reactive outcome expectations. Even if these expectations are not fulfilled the medium might be continually used while the mood worsens. As part of a vicious circle, the self-reactive incentive grows stronger and media attendance intensifies. Diddi and LaRose (2006) referred to this scenario as possible explanation for the "news junkie" phenomenon and suggested it might be particularly relevant for TV and online news (p. 206). Based on the preceding discussion the following is hypothesized:

H3: For the use of online news, self-reactive incentives are related to habit strength.

Habitual Use of Online News and Context

Although context seems to play a role for the formation and activation of habits, this role remains controversial (see Chapter 3). The question whether habits depend on contextual cues is particularly pertinent in the realm of media habits. Technology makes media consumption possible almost everywhere, at every time and therefore potentially

independent of contexts. Furthermore, LaRose (2010) suggested that media behavior depends strongly on mental and cultural associations and, therefore, is particularly complex (p. 200). As a result, compared with other habits such as brushing one's teeth, media habits may depend more strongly on internal and psychological cues. He hypothesized that the influence of context is particularly strong during the acquisition phase of habits and decreases once a habit is firmly established. Once a behavior is strongly habituated it becomes a cognitive structure that does not further depend on contextual cues and can be activated in different situations, he argued (p. 212).

Schnauber and Wolf (2016) found no strong influence of context stability on German mobile Internet users' selection of media platforms. They measured context stability through location, time, prior, and parallel activities. This factor did not contribute to the frequency of use of computer and mobile devices. It only weakly predicted the use of TV, radio, and newspapers. More importantly, the authors found no interaction between habit strength and context stability that improved the explanatory power of their model. Therefore, they concluded that "informational media platform habits may be regarded as general" (p. 120) and are activated independently of contextual factors. Similarly, Newell (2003) found only scant support for context stability as a moderator of habit strength. In his study on the use of different electronic media, context stability seemed to play a limited role only for TV-watching. Newell, however, acknowledged that his measure of context stability was "somewhat problematic in both design and execution" (p. 51). Due to inferior reliability, of the 15 items of his proposed scale, he included only one item in his analysis.

Other studies, however, indicate that context may have an influence on media habits, after all. Ji and Wood (2007) examined behaviors such as buying fast food, riding the bus, or watching TV. They found that when these behaviors were performed in stable contexts, the predictive power of intentions diminished and saw this as a potential sign of habituation. Interestingly, TV consumption as a media behavior was the only behavior for which an increase of each context stability measure (place, mood, time, and social setting) meant a decrease of the explanatory power of intentions. Wood et al. (2005) studied the potentially habit-disrupting effects of context changes. They analyzed how students exercised, watched TV, and read newspapers before and after they had changed colleges. They operationalized habit through past behavior frequency and context stability. Those behaviors that showed greater habit strength were more strongly affected by context changes. That is when respondents said the context of their behavior had changed significantly, this had a bigger impact on habituated than on less habituated behavior.

Research discussed in Chapter 2 suggests that online news behavior seems to be partly determined by mere availability (absence of costs, the possibility of multi-tasking, or the availability of Wi-Fi), strong routines (for example arriving at work), or specific situations (breaks, going to the bathroom, at the bus stop, Costera Meijer & Groot Kormelink, 2015; Nguyen, 2008; Yadamsuren & Erdelez, 2011). Furthermore, users frequently come across online news while doing something else on- or offline instead of purposively seeking out news content (Pew Research Center, 2016a, 2017). These phenomena indicate that context influences habitual online news behavior. New

technology might not only provide opportunities for context-independent behavior. The ubiquitous availability of content might also function as a contextual factor facilitating media habits. Some users feel actually "soaked in media" (Yadamsuren & Erdelez, 2011, p. 5). Furthermore, according to Larose's model of media habits, context plays an important role during the genesis of media habits. Therefore, even when habits become more context-independent over time, artifacts of this original influence should be measurable. Therefore the following is hypothesized:

H4a: For the use of online news, context stability is related to habit strength.

H4b: Context stability moderates the effect that habit strength has on usage of online news.[12]

Habit and Online News Behavior

In the introductory section, it has been argued that studying the antecedents of media use is relevant as a prerequisite for other questions. *Why* individuals use media has an impact on *how* they use media and, ultimately, to *what effect*. The literature provides

[12] A common rule in the literature holds that dependent variable and moderator must not be correlated. This would be violated by hypothesis H4a and H4b. The relationship of context stability and habit strength, however, has not been completely clarified. While context stability has been used as a measure of habit strength (this would make it a potential mediator), context stability could theoretically also moderate the effect of habit strength on usage. When behavior in stable context is particularly susceptible to habit then habit should gain explanatory power as a determinant in such situations. Hayes (2013) actually contended that a variable can be both, a mediator and a moderator (p. 9). Schnauber and Wolf (2016), too, modeled context stability as a moderator of habit strength.

ample support for this link. Rubin and Perse (1987a, 1987b) analyzed why students watched soap operas and TV news. They found two patterns: Instrumental watching was associated with higher intentionality, higher involvement, and higher postviewing cognition. Watching for pass time and habit gratifications, contrastingly, was associated with lower intentionality and involvement, more distraction, and lower postviewing cognition and discussion of the content. Pass time motivations are also associated with lower levels of selectivity (Abelman & Atkin, 2000; Rubin, 1983). Early UG studies therefore conceptualized two distinctive roots of TV consumption: One routine and pass time oriented root, with a focus on the medium instead of the content characterized by low involvement. The other root was believed to be instrumental, goal directed, focused on information, and content and characterized by higher involvement (Abelman & Atkin, 2000). Comparable distinctions for the Internet have been discussed in Chapter 2 as hedonic versus pragmatic uses (Diefenbach, Kolb, & Hassenzahl, 2014; O'Brien & Lebow, 2013) or process- versus content gratifications (Song, Larose, Eastin, & Lin, 2004). Empirical evidence indicates such a dualism also for online news behavior (Zhang & Zhang, 2013).[13] Song et al. (2004), however, were unable to clearly distinguish between a content- and a process-oriented factor of Internet use. They theorized that online, these two motivators might be inherently connected.

Even though there may not always be a clear-cut dichotomy, different motivations might still be associated with different media behaviors. This is empirically supported by

[13] For a more detailed discussion of these aspects see Chapter 2.

Sellen et al. (2002). They found that less goal-oriented use of the Internet was on average shorter, more routinized, and led to less information processing than more goal-oriented Internet use. As discussed in Chapter 2, Gibbs (2008), too, found that the purpose of online news behavior influenced the quality of the interaction itself. His evidence suggested that the less goal-oriented users seek information online, the more they get distracted, stick to homepages, and scroll. Other studies indicate that habitual online news behavior is particularly frequent but short (Costera Meijer & Groot Kormelink, 2015) and involves so-called checking cycles (Costera Meijer & Groot Kormelink, 2015; Yadamsuren & Erdelez, 2011). These cycles involve accessing a predefined list of online services in a certain order. Some studies have gone one step further. They examine not only motivations and media selection but also media effects. Vincent and Basil (1997) found the motivations of students to use news media to be predictive not only of media choice, but also political knowledge: Surveillance needs correlated with higher political knowledge. Furthermore, students who used news media due to boredom had a near significantly lower GPA than those who stated, for example, surveillance needs. Diddi and LaRose (2006) found that the use of online news correlated particularly strongly with habit, entertainment, and escapism needs but not with news knowledge. Contrastingly, newspaper reading did not correlate with escapism or pass time needs but with news knowledge. Based on the preceding discussion antecedents of online news behavior such as habit appear to influence how users interact with online news. Some authors, however, argued that habit merely influences the initialization of a certain media behavior but not

the performance itself (Koch, 2010, p. 37; Schnauber & Wolf, 2016). Therefore, the following question is formulated:

RQ: How does habit strength influence the interaction with online news?[14]

[14] Due to reasons of feasibility, this study will not address questions of media effects but instead only focus on the quality of online news behavior as a link to potential media effects.

CHAPTER 5: METHODS

Research Design and Procedure

Generally, empirical research can be categorized as quantitative or qualitative. The former addresses only a minute part of reality and examines a limited number of features. The relationships of these features are described in terms of statistical measures derived from an ideally large number of observations. Predefined and theory-based hypotheses guide the research. A qualitative approach does the opposite: It addresses high complexity based on few observations and only rudimentary preconceptions. (Brosius, Haas, & Koschel, 2012, pp. 3–4). The present study attempts the former.

In order to address the formulated hypotheses and research question, the following variables were measured for the use of online news: habit strength, usage, deficient self-regulation, self-reactive incentives, context stability, and online news behavior. The individual user was the unit of analysis. As in comparable studies,[15] variables were measured with a standardized survey. Such self-reflective and retrospective measurement includes potential weaknesses. Data quality depends on the respondents' ability to understand the questions, to self-assess, and to remember accurately their own behavior. Furthermore, it depends on their inclination to cooperate and provide factual answers. The potential impact of these factors has to be addressed

[15] See, for example, Diddi and LaRose, 2006; Hans-Bredow-Institut, 2017; LaRose and Eastin, 2004; LaRose, Lin, and Eastin, 2003; Papacharissi and Rubin, 2000; Peters, Rickes, Jöckel, Von Criegern, and Van Deursen, 2006; Pew Research Center, 2017; Schnauber and Wolf, 2016; and Vincent and Basil, 1997.

and can be minimized through a careful design (Schnell, 2012, pp. 35–66). The survey has established itself as the most developed and frequently used method in social sciences (Kromrey, 2002, p. 348). In recent years, online surveys have become more frequent (Maurer & Jandura, 2009, p. 61). The present study utilizes such an online survey. Online surveys involve low costs, reach a potentially large number of participants, and provide different (language) versions and interfaces for comfortable data processing. Furthermore, anonymous interaction reduces possible social effects on answers (Welker & Wünsch, 2010). On the downside, this anonymity might tempt respondents to provide non-factual answers. Despite this drawback Gosling, Vazire, Srivastava, and John (2004) found that results from online surveys were generally not less valid than analogously derived data. An online survey is also appropriate because this study is interested in online news behavior, which makes access to the Internet a selection criterion.

The link to the survey was disseminated through e-mail, instant messenger services, and social networks. Social and professional contacts were used as well as infrastructure of both Leipzig University in Germany and Ohio University in the United States. This approach can be described as snowball or convenience sample. It has to be remarked that although data was gathered largely in two countries, this study does not follow a comparative approach. Germany and the United States were used for recruitment merely due to availability. A comparison of the two countries would require the sample to represent a defined population. This representativeness cannot be achieved through an open online survey because the sample is self-selective and the population unknown (Kromrey, 2002, p. 272; Wagner & Hering, 2014, p. 665). Instead of describing or

comparing different populations, this study examines relationships between variables that are held to be consistent across populations. In such a case representativeness may not be a prerequisite (Maurer & Jandura, 2009, p. 70). In a study comparable to the present Peters et al. (2006) also used a self-selective sample. They argued: "Representativeness was not required as we followed a deductive research strategy. The model is considered universally valid for all Internet users and should therefore describe any subgroup too" (p. 284). The present study follows this rationale.

After clicking the link to the survey, participants were asked to choose a language (English or German). The next screen presented them with an informed consent form,[16] which described the project and explained potential risks and benefits. Candidates were further informed that participants could take part in the drawing of three 20-dollar gift cards for an online shop and that 1 Euro would be donated to UNICEF for every tenth participant. By continuing, participants confirmed that they were 18 years of age or older and agreed to the information provided in the form. Participants then reached the survey. After completion, participants had the opportunity to provide their e-mail address in order to participate in the drawing.

[16] See Appendices A and B for informed consent forms and questionnaires. The study has been approved by the Ohio University Office of Research Compliance under project number 17-E-206. Exempt approval under 45 CFR 46.101(b) has been granted and the requirement to include a signature on the informed consent form has been waived (see Appendix C for approval letter).

Operational Measures

The first screen of the questionnaire presented participants with a definition of online news. The operationalization of online news is based on the definition developed in Chapter 2 and served as reference for the rest of the questionnaire (most questions referred to the use of online news). The order of the questions followed the order of the hypotheses. Questions pertinent to Hypothesis 1 came first, those required for Hypotheses 2 came second and so on. This made sure that even when participants did not complete the whole survey, enough information was provided to test the main hypotheses. Usage was measured in terms of frequency and duration. Various studies suggested that habitual online news behavior is characteristically frequent but short (Costera Meijer & Groot Kormelink, 2015; Sellen et al., 2002). Therefore, habit strength should correlate stronger with frequency than duration. Participants were first asked to provide frequency and duration for the preceding weekday. Afterward, they were asked to provide estimates for regular weekdays. For each dimension, both frequency and duration, the two measures have been combined. Individuals recall recent media behavior more accurately than distant behavior (Pew Research Center, 2017, p. 4).[17] The media behavior of the preceding day, however, may not be typical of the individual. Therefore a combination of the two measures serves as compromise between accuracy and representativeness. Previous research has used this approach (LaRose et al., 2003; Rubin

[17] In order to increase accuracy, it was further suggested to participants that they could consult their browser history in order to get an overview over their usage.

& Perse, 1987b) and supported its reliability (Rubin, 1983, p. 42). Overall, it is not the primary objective here to determine exact levels of usage. Instead, the main goal is to measure differences between the participants.

The habit strength measure used in the present study was based on the SRHI.[18] Reliability and validity of the SRHI have been tested (Verplanken & Orbell, 2003). It fits the habit concept underlying this study (see Chapter 3) and has previously been used (Newell, 2003; Schnauber & Wolf, 2016). However, for reasons discussed in Chapter 3, the present study focused on automaticity. Items related to frequency and identity that were part of the original SRHI are excluded. The final index consisted of six items. Internal reliability was confirmed by a pretest.[19]

The measure of deficient self-regulation was based on previous SCT studies on media behavior (LaRose & Eastin, 2004; LaRose et al., 2003; Peters et al., 2006). Based on the pretest, the index was refined for understandability and internal reliability.[20] The items of the finalized scale addressed negative evaluations of one's online news behavior

[18] All pre-existing indices used in this study had to be translated into German. They were further adjusted to increase naturalness in German while minimizing the differences between the German and the English version.

[19] A pretest was conducted with 11 participants (five German and six English) for preliminary assessment of reliability. Furthermore, testers were asked to provide commentary on usability and understandability of the survey. Based on this feedback and reliability tests, the questionnaire and individual measures have been revised. SRHI: $\alpha = .73$.

[20] $\alpha = .47$ initially and .68 for revised scale.

combined with the inability to adjust the behavior. Measures of self-reactive incentives were derived from SCT studies on media behavior (Diddi & LaRose, 2006; Jers, 2012; LaRose & Eastin, 2004; LaRose et al., 2003; Peters et al., 2006). According to SCT, intentional media is determined by dynamic and situation-specific outcome expectations. This model has been more successful in explaining variance in media behavior than other theories (see Chapter 4). Therefore, the following formulations regarding expectations were used: "Using online news, how likely are you to…?" The six items addressed pass time, companionship, and escapism motivations as well as boredom and stress relief. Internal reliability was tentatively confirmed by the pretest.[21] Following previous studies, the first three measures used 7-point Likert scales that either measured agree- or disagreement to different statements (habit strength and deficient self-regulation) or likelihood (self-reactive incentives). These measures were introspective. Contrastingly, the following measures addressed manifest behavior in terms of frequency. As participants may not know exactly but rather estimate these frequencies, only 5-point Likert Scales were used.

Based on the literature (Danner et al., 2008; Ji & Wood, 2007; Ouellette & Wood, 1998; Schnauber & Wolf, 2016; Wood et al., 2005), context stability was operationalized in terms of location, time of day, situation, preceding and following activity, and mood. Thus participants were asked how often they used online news in the same location, at the

[21] $\alpha = .65$.

same time of day, and so on. In order to increase clarity, examples were provided. Internal reliability was confirmed by the pretest.[22]

Finally, it was the goal to examine how habit influences online news behavior qualitatively. To the best of the author's knowledge there is no readymade scale for online news behavior. A review of the relevant literature yielded various dimensions that were used for operationalization. The differentiation between searching and browsing is a recurring theme in the literature (Beck, 2010, p. 196). Searching appears to be a more selective and conscious way of navigating the Internet than browsing (Beck, 2006, pp. 76–77). Presented with a directed task, online users tended to search more whereas they tended to browse more when their task was less specific (Gibbs, 2008). Users browse as a pass time activity and attribute low importance to this behavior (Sellen et al., 2002). It is associated with superficiality (Costera Meijer & Groot Kormelink, 2015) and potentially low involvement (O'Brien & Lebow, 2013). The latter would fall in line with Rubin and Perse (1987a, 1987b), who operationalized selectivity as one dimension of audience activity. Browsing is characterized by scrolling, less linear navigation, gravitation towards start pages, clicking on images, and prominent content. Searching, in contrast, involves more directed navigation, less susceptibility to visual cuing, and the use of search engines and search functions (Costera Meijer & Groot Kormelink, 2015; Gibbs, 2008; O'Brien & Lebow, 2013). The searching-browsing dichotomy might also fall in line with the distinction between instrumental and ritualistic media behavior, identified

[22] $\alpha = .79$.

by early UG research, the former focusing on content and the latter on the medium (Abelman & Atkin, 2000; Bantz, 1982; Rubin, 1983; Rubin & Perse, 1987b; see also Chapter 4). Based on this contrast, two measures were constructed. Searching was measured through three and browsing through four items.

Various studies have identified in-depth reading as a motivation for the use of online news. Based on a factor analysis You, Lee, Lee, and Kang (2013) found that in-depth reading involved the assessment of the quality of news content and the search for additional sources. Accordingly, Nguyen (2008) associated it with the use of links leading to related content. Neijens and Voorveld (2016) identified the factor *perceived elaboration* of news content. Participants showing high elaboration reflected on the content and related it to other knowledge they had. This falls in line with Rubin and Perse's (1987a, 1987b) who measured cognitive involvement by asking participants to what degree they thought about media content. Based on these considerations elaboration was operationalized as three items that assessed how often users reflected on the quality of news content, used links to additional information, and related the content to their personal knowledge or experience.

Empirical evidence indicates that online news behavior is frequently performed parallel to other activities (Pew Research Center, 2017). In their studies on TV consumption, Rubin and Perse (1987a, 1987b) used a scale for coviewing distractions. They asked respondents how often they engaged in distractions while watching TV such as reading, preparing food, doing housework, talking, and daydreaming. This approach was followed and adjusted to online news. Distracting behavior was measured through

three questions that asked participants how often they did or thought about something else while using online news or distractions interrupted their use of online news.

The use of online news can lead to follow-up actions such as commenting, sharing, bookmarking, or printing. The antecedents of news consumption as well as the content itself seem to have an influence on this follow-up behavior (Pew Research Center, 2016a, 2017). Rubin and Perse (1987a, 1987b) used comparable behaviors after TV consumption as indicator of involvement. Sellen et al. (2002) found that browsing leads to less follow-up actions than searching. Follow-up behavior is an interesting component of online news behavior and was therefore measured through five items addressing different actions.

Diefenbach et al. (2014) theorized that visual cues belong to the hedonic appeal of the Internet (see Chapter 2). It is therefore interesting to what degree users attend to images, videos, and other visual content and whether this is influenced by habit strength. Participants were therefore asked how often they looked at image galleries, videos, or other multimedia content when using online news. These three items constitute one measure. Schnauber and Wolf (2016) found that habit strength predicted what platform users selected to satisfy their information needs. Furthermore, habitual use of online news seems to involve checking cycles (see Chapter 2, Costera Meijer & Groot Kormelink, 2015; Yadamsuren & Erdelez, 2011). To assess whether habit strength had an effect on platform repertoire, participants were asked how often they engaged in checking cycles. They were further asked how often they used the same platforms, how many platforms they used on a constant basis, and what share of their online news repertoire was made up

by platforms not used on a constant basis. These questions were combined into one measure. Finally, one item related to intentionality and audience activity (Rubin & Perse, 1987a, 1987b): Respondent were asked how often they paid for pay-walls.

In the questionnaire, the above 26 items were not organized in batteries but intermixed. This strategy was used to minimize social desirability bias. Participants would not see through the constructs as easily and be tempted to model themselves deliberately, for example, as particularly conscious users of online news. The original measures of online news behavior showed only very limited reliability in the pretest. As an exploratory attempt they were nevertheless retained after slight adjustments.

CHAPTER 6: RESULTS

Sample Description

After exclusion of unusable data[23] (cases with too many missing values, inconsistent data, no use of online news, and underage participants) 259 participants remained in the sample and served as basis for the data analysis.[24] Of all respondents 57.5% stated female (n = 149) and 37.1% male (n = 96) as their gender. Age ranged from 19 to 82 years (M = 28.97, SD = 10.53, Mdn = 25.50). The majority stated the United States as their current country of residence (57.92%, n = 150) followed by Germany (36.03%, n = 89). The remaining respondents currently lived in other countries (3.09%, n = 8) or did not provide information (4.63%, n = 12). The majority of the participants stated that they were students (53.7%, n = 139), employees (25.9%, n = 67), or going to school (6.9%, n = 18).[25] Remaining participants stated other occupations (8.11%, n = 21) or provided no information (5.41%, n = 14). Most of the participants have studied and received either a Bachelor's degree (23.75%, n = 90), a Master's degree or comparable (23.17%, n = 60), or a PhD or higher (6.18%, n = 16). Combined with those respondents,

[23] When not indicated differently, SPSS 23 was used for data analysis.

[24] Not all 259 participants filled out every field so that the number of cases can vary for individual analyses.

[25] According to remarks in an open comments section, not all participants understood the difference between „student" and „going to school." Therefore, more of the participants might actually be students (this falls in line with the relatively old age stated by some of the respondents who stated they were going to school).

who have attended college but not received a degree (18.15%, $n = 47$), the group of somewhat college-educated participants accounted for 82.24% ($n = 213$).

Overall, participants had a relatively high education, were predominantly female, currently students, living in the United States, and in their mid-twenties. This sample is particularly apt for a study on online news behavior because younger adults with a college education are particularly likely to use online news (Pew Research Center, 2016a, p. 19). Usage data was available for all 259 respondents. For both usage dimensions duration and frequency, the measures for the preceding weekday and typical weekdays correlated strongly.[26] For reasons explained in Chapter 5 they were combined into two means. The calculated duration of daily use of online news ranged from 1 to 332.5 minutes. The mean duration was 44.77 minutes ($SD = 44.83$) and the median 30 minutes. Thus, the distribution is right-skewed. Whereas 75% of the respondents used online news 60 minutes or less per day, 12 extreme values over 125 minutes skewed the distribution to the right. Daily frequency of use of online news ranged from 0.5 times per weekday (every second weekday) to 100 times. The mean was 9 ($SD = 13.16$) and the median 4.5 times. Again, the distribution was right skewed due to 23 extreme values over 22.5 times. Seventy-five percent of the respondents used online news 9.5 times per weekday or less.

[26] Duration preceding weekday ($M = 49.70$, $SD = 69.27$) and duration regular weekday ($M = 39.59$, $SD = 38.18$): $r_S = .699$, $p < .001$; frequency preceding weekday ($M = 10.4$, $SD = 18.86$) and frequency regular weekday ($M = 7.58$, $SD = 10.51$): $r_S = .766$, $p < .001$; all variables are not normally distributed.

Hypotheses Testing

In order to examine the relationship of the hypothesized antecedents of online news behavior (habit strength, deficient self-regulation, and self-reactive incentives) a confirmatory factor analysis (CFA) was computed using the software AMOS 24. Factor analyses are used to verify latent variables that, other than manifest variables such as height or weight, cannot be measured directly (Field, 2009, pp. 628–629). Habit strength, for example, is such a latent variable. Instead of measuring it with a single item, for example, "this is a habit of mine," multiple explicit and implicit questions are used to increase reliability, validity, and take the complexity of the habit construct into account. To make sure that these items actually measure a common latent variable, CFA is used. In contrast to exploratory factor analysis (EFA), CFA is based on preexisting models derived from theory, EFA, or both. EFA on the other side is used to discover latent variables and develop models based on statistical data with no or limited prior assumptions. Because CFA takes the parameters of a predefined model into account, it is more capable of testing a model than EFA. It assesses the strength of a model more accurately, provides more information about relationships between variables, and indicates potential improvements (Brown, 2006, pp. 49–53). Based on the observed data, CFA provides multiple fit indices that indicate how well a model fits the actual data. The following indices are common:[27] The model chi-square (χ^2) tests whether the covariances predicted by the model fits the data. It becomes significant if it does not. It is, however,

[27] For a comprehensive discussion of CFA and fit indices see Brown, 2006.

sensitive to sample size and only limitedly reliable for large samples, according to Brown (2006, p.81). The Standardized Root Mean Square Residual (SRMR) and the Root Mean Square of Approximation (RMSEA) are standardized measures that compare correlations in the model with correlations actually observed. The comparative fit index (CFI) and the Tucker-Lewis index (TLI) test whether the hypothesized model explains the data better than the assumption that variables are not correlated at all (pp. 82–86). According to rules-of-thumb for a model with a good fit SRMR should be close to .08 or less, RMSEA close to .06 or less, and CFI and TLI close to .95 or greater (p. 87).

The internal consistencies for all antecedent items and for the subscales were good.[28] The initial solution (n = 249) modeled three factors anteceding online news behavior; habit strength, deficient self-regulation, and self-reactive incentives and included all items.[29] This model, however, showed poor fit: $\chi^2(116) = 470.76$, $p < .001$, SRMR = .09, RMSEA = .11 (90% CI [.10, .12]), TLI = .80, CFI = .83. Upon inspection three items with low factor loadings were identified: "something that I start doing before I realize I'm doing it" (.55), "kill time" (.54), and "relieve boredom" (.54). Modification indices showed a strong correlation between the last two items. Based on this strong correlation and the wording, it is hypothesized that they both measure an individual factor related to pass time motives. Adjustments of parameters should not be purely based on

[28] All 17 antecedent items: α = .88; habit strength: α = .87; deficient self-regulation: α = .86; self-reactive incentives α = .833.

[29] See Appendix D for initial solution.

modification indices but also theoretical considerations (Brown, 2006, pp. 122–124). In this case, however, a separate pass time factor that is independent of other self-reactive motives seems reasonable. Therefore, the last two items were combined as a new factor. The other item ("start doing without realizing") was excluded from further analysis. Modification indices also showed a strong correlation between "I use online news when I should actually pay attention to other things" and "distract yourself from stressful situations." This is problematic because these items belong to different factors. The first item was dropped from the self-regulation factor and the second retained as self-reactive incentive. The above adjustments resulted in a revised model (n = 249, see Figure 1).

Figure 1. Revised Confirmatory Factor Analysis (CFA) Model of Antecedents of Online News Behavior
Note. Items are abbreviated. See Appendix E for weights.

Two of the original items were excluded and a third factor (pass time motives) was added. The model showed significantly improved fit compared with the initial model: $\chi^2(84) = 201.20$, $p < .001$, SRMR = .07, RMSEA = .08 (90% CI [.06, .09]), TLI = .92, CFI = .93. Only one of these values meets the previously cited cut-off points. However, as Brown (2006) pointed out, these values are not strict and deliberately include the "close to" qualification. Based on the standards of other authors, the fit of the revised model can be interpreted as acceptable (p. 87). Therefore, and because it showed

significant improvement to the initial model, the revised model is retained. As a result, four factors were modeled as antecedents of online news behavior: habit strength, deficient self-regulation, self-reactive incentives, and pass time incentives; all of which showed acceptable or good reliability.[30] The CFA confirmed habit strength as a distinct antecedent of online news behavior. Therefore, Hypothesis H1a is accepted.

To test whether habit strength (M = 5.05, SD = 1.37) predicts the use of online news, regression analyses were conducted. For both, frequency (M = 9, SD = 13.16) and duration (M = 44.77, SD = 44.83) as dependent variables, regression models showed only very low explanatory power (R^2 = .09 for frequency and R^2 = .12 for duration). Furthermore, residuals showed strong heteroscedasticity. Studentized residuals plotted against standardized predicted values showed a clear funnel shape (see Appendix F). This means that residuals increase when the dependent variables increase. It was therefore assumed that the relationship between dependent and independent variable might not be linear. Consequently, frequency and duration scores were logarithmized and again entered into regression models. For frequency the results are shown in Table 1 and for duration in Table 2.

[30] Habit strength: α = .86, deficient self-regulation: a = .84, self-reactive incentives: a = .82, pass time incentives: α = .76.

Table 1

Predictors of Frequency of Online News Consumption (Logarithmized)

		Nonstdd.	Stdd.			95% CI for *B*	
Model	R^2_{adj}	*B (SE)*	*B*	*T*	Sig.	LL	UL
(Constant)		0.23 (.21)		1.13	.26	-0.17	0.64
Habit Strength	.17	0.28 (.04)	.41	7.2	.000	0.21	0.36

Note. Nonstdd. = nonstandardized. Stdd. = standardized. CI = confidence interval. LL = lower limit. UL = upper limit.

Table 2

Predictors of Duration of Online News Consumption (Logarithmized)

		Nonstdd.	Stdd.			95% CI for *B*	
Model	R^2_{adj}	*B (SE)*	*B*	*T*	Sig.	LL	UL
(Constant)		1.94 (.19)		10.51	.000	1.58	2.31
Habit Strength	.21	0.3 (.04)	.46	8.37	.000	0.23	0.37

Note. Nonstdd. = nonstandardized. Stdd. = standardized. CI = confidence interval. LL = lower limit. UL = upper limit.

After logarithmization, both models showed homogenously distributed residuals (see Appendix G). The model predicting frequency explained approximately 17% of the variation of the dependent variable, was significantly better than a zero-model, and was valid beyond the sample ($F(1, 257) = 51.82$, $p < .001$). *b* is .41 ($t = 7.2$, $p < .001$, 95% CI [0.21, 0.36]). Because the dependent variable has been logarithmized, this means that ceteris paribus frequency of use of online news increased by 41% with every added point on the habit strength scale.

The model predicting duration explained approximately 21% of the variation of the dependent variable, it was significantly better than a zero-model, and was valid beyond the sample ($F(1, 257) = 70.03$, $p < .001$). b is .46 ($t = 8.37$, $p < .001$, 95% CI [0.23, 0.37]). Due to the logarithmization this means that ceteris paribus with every point on the habit strength scale use of online news became 46% longer. Consequently, habit strength is a predictor of frequency and duration of online news behavior and Hypothesis 1b is accepted. While the literature indicates that habitual media behavior is particularly frequent and short (see, for example, Costera Meijer & Groot Kormelink, 2015), the evidence at hand did not support this. Habit strength seemingly had a stronger effect on duration than on frequency.

Table 3

Correlations Between Antecedents of Online News Consumption

Antecedent	1	2	3	4
1. Habit Strength	1	.37***	.24***	.27***
n	259	258	254	254
2. Deficient Self-Regulation		1	.33***	.17**
n		258	254	254
3. Self-Reactive Incentives			1	.52***
n			254	254
4. Pass Time Incentives				1
n				254

Note. Coefficients are non-parametric (Spearman-Rho).
**$p < .01$. ***$p < .001$.

Hypothesis H2a theorized that habit and deficient self-regulation differ in terms of the self-regulatory subfunctions that characterize the two constructs. The CFA confirmed ineffective self-reaction ("have tried unsuccessfully to cut down," "hard to keep under control") to behavior that is seen critically ("I spend too much time," "I spend more time than I intend") constitute one factor whereas lack of self-observation ("I do automatically," "I do without thinking") correlated with explicit habit items ("it's a habit," "belongs to my routines"). This would support Hypothesis H2a. Yet, both concepts are not clearly distinguishable. The self-control item "I would find hard no to do" aligned with the habit factor. Therefore, Hypothesis H2a is tentatively accepted. Of all other antecedents, habit strength correlates strongest with deficient self-regulation ($M = 2.69$, $SD = 1.35$, moderate correlation, see Table 3). Therefore, Hypothesis H2b is accepted.

Hypothesis 3 holds that habit strength is related to self-reactive incentives. This was supported by the data. Habit strength correlated moderately with self-reactive incentives ($M = 3.03$, $SD = 1.45$) and the pass time factor (*Mean* = 4.78, $SD = 1.54$, see Table 3). Therefore, Hypothesis 3 is accepted.

Hypothesis 4 holds that context stability and habit strength are related (4a) and that context stability moderates the effect of habit strength on usage (4b). The context stability index showed acceptable reliability ($\alpha = .78$) and correlated moderately with habit strength ($M = 3.46$, $SD = .76$, $r_s = .35$, $p < .001$). Therefore, Hypothesis 4a is accepted. In order to test Hypothesis 4b a hierarchical regression analysis was conducted. An interaction term of habit strength and context stability was entered as a second block into the regression models that predict usage.[31] The results are shown in Table 4 and 5.

Table 4

Hierarchical Multiple Regression Analyses Predicting Frequency of Online News Consumption (Logarithmized)

		Nonstdd.	Stdd.			95% CI for *B*	
Model	$\triangle R^2_{adj}$	*B (SE)*	*B*	*T*	Sig.	LL	UL
(Constant)		1.65 (.06)		29.08	.000	1.54	1.76
Habit Strength	.17	.29 (.04)	.42	7.26	.000	0.21	0.37
Habit Strength X Context Stability	.00	.03 (.05)	.04	0.71	.48	-0.06	0.12

Note. Nonstdd. = nonstandardized. Stdd. = standardized. CI = confidence interval. LL = lower limit. UL = upper limit.

[31] For easier interpretation, the independent variable and moderator have been mean-centered.

Table 5

Hierarchical Multiple Regression Analyses Predicting Duration of Online News Consumption (Logarithmized)

		Nonstdd.	Stdd.			95% CI for *B*	
Model	$\triangle R^2_{adj}$	*B (SE)*	*B*	*T*	Sig.	LL	UL
(Constant)		3.43 (.05)		66.33	.000	3.33	3.53
Habit Strength	.21	.30 (.04)	.46	8.14	.000	0.22	0.37
Habit Strength X Context Stability	.00	.01 (.04)	.00	0.13	.895	-0.08	0.09

Note. Nonstdd. = nonstandardized. Stdd. = standardized. CI = confidence interval. LL = lower limit. UL = upper limit.

Including interaction terms did not increase the explanatory power of the original models (frequency: $\triangle R^2 = .00$, duration: $\triangle R^2 < .00$**)**. Although the new models were statistically significant and better than the zero-model (frequency: $F(2, 251) = 26.47$, $p < .001$, duration $F(2, 251) = 33.78$, $p < .001$), Beta coefficients were small and statistically insignificant (see Table 4 and 5; frequency: $b = .04$, $t = 0.71$, $p = .479$, CI [-0.06, 0.12]; duration: $b = .01$, $t = 0.13$, $p = .895$, CI [-0.08, 0.09]). As a result Hypothesis 4b is rejected. Context stability did not moderate the effect of habit strength on usage.

The final research question asked how habit correlates with certain types of online news behavior. In order to answer this question 25 items have been included in the questionnaire addressing seven dimensions that have been developed based on the pertinent literature (and an individual question about pay-walls, see Chapter 4). In order to confirm these dimensions an exploratory factor analysis was conducted. Items included

in the factor analysis are based on 5-point scales and unidirectional.[32] Tests for normality indicated non-normal distributions for all variables. However, based on sample size the central limit theorem can be applied. Furthermore, normality is primarily a requirement when factor analysis is used to infer characteristics of a population from a sample (Field, 2009, p. 650; Leech, Barrett, & Morgan, 2005, p. 76), which is not the objective of the present analysis. Factors require a certain level of interitem correlation. Therefore a *R*-matrix was computed for all pertinent items (see Appendix H1). [33] The matrix showed low interitem correlations. Field (2009) recommended levels of .3 and higher (p. 657). Therefore, only items with at least one correlation higher than .3 were retained resulting in 17 items being included in the factor analysis. A principle component analysis (PCA) with orthogonal rotation (Varimax) was conducted. A score of .78 for the Kaiser–Meyer–Olkin measure of sampling adequacy (KMO) indicates a sufficient portion of common variance and therefore good suitability for factor analysis (p. 647). KMOs for the individual variables were also above the critical value of .5. The Bartlett's test of sphericity indicates sufficient inter-item correlation ($\chi^2(136) = 794.66, p < .001$). The

[32] Scores for the items "I use approximately _____ different online news platforms on a constant basis" and "Platforms that I do not use on a constant basis account approximately for _____ percent of my total use of online news" have been grouped into five approximately equally large groups. The items "I use the same platforms I always use" and "…it is part of a routine that consists of accessing certain online services in a row one after another (not all of them necessarily online news)" have been inverted in order to measure repertoire size and diversity.

[33] Because of non-normality Spearman-Rho was used.

scree plot shows a point of inflexion at the seventh data point (see Appendix H). This suggests the extraction of six factors. Furthermore, a six-factor solution had an eigenvalue greater than one meeting the Kaiser's criterion (pp. 640-641) and together explained 61.86% of variance. The solution is shown in Table 6.

Table 6

Factor Loadings for Exploratory Factor Analysis (EFA) with Varimax Rotation of Online News Behavior Items

Factor	Factor Loadings					
	1	2	3	4	5	6
1. Elaboration						
I think about the quality of the content.	**.80**	.10	-.02	.06	-.10	.11
I think about the content I have read.	**.78**	-.02	-.13	-.10	.18	.02
I try to connect it to other information.	**.68**	.08	.16	.25	.08	-.08
2. Searching						
I go directly to certain subject areas.	.08	**.74**	.03	-.05	.05	.34
I look for specific news items.	.10	**.71**	.20	.19	.13	-.09
I use search engines or search functions.	.01	**.60**	.14	.21	.29	.03
3. Distraction						
I do other things simultaneously.	.02	.13	**.77**	.14	.11	-.05
I think about other things.	-.00	.28	**.69**	.16	-.03	.15
4. Follow-Up Actions						
I comment on content.	.06	.07	.02	**.79**	.12	.04
I share news content.	-.04	.08	.29	**.58**	.29	.15
I bookmark or print content.	.22	.32	.22	**.55**	-.07	.13
5. Use of Visual Elements						
I click through galleries.	-.04	-.01	.39	-.25	**.71**	.11
I watch videos.	.07	.26	-.04	.23	**.71**	.05
I use multimedia formats.	.13	.14	-.03	.30	**.60**	.12
6. Clicking and Using Links						
I click on links such as "recommended."	-.05	.13	-.04	.21	.12	**.80**
I click on prominent stories.	-.03	-.18	**.52**	.00	.18	**.60**
I click on links for further information.	**.42**	.26	.11	.03	.03	**.58**
Eigenvalues	4.014	1.877	1.313	1.188	1.094	1.030
% of variance	23.61	11.04	7.72	6.99	6.44	6.06
α	.66	.61	.58	.60	.56	.57

Note. Factor loadings over .40 appear in bold. Items are abbreviated.

The items that clustered on the same components suggest that Factor 1 represents elaboration, Factor 2 searching, Factor 3 distraction, Factor 4 follow-up actions, Factor 5 use of visual elements, and Factor 6 clicking or using links. Despite the last factor, these components confirm the hypothesized dimensions of online news behavior (see Chapter 4). However, not all of the hypothesized dimensions emerged from the EFA and those that could be found consisted of fewer items than expected. Most importantly, with alpha values around .6 (see Table 6), none of the factors reached acceptable reliability. Therefore, these factors are not used for further analysis.

Instead of factors, correlations[34] between individual items and habit strength were calculated in order to identify potential associations between habit strength and behavior (see Appendix I). Habit strength correlated with three of the four repertoire items: checking-cycles (moderate, $r_s = .35$, $p < .01$), number of constantly used platforms (moderate, $r_s = .269$, $p < .01$), and always using the same platforms (weak, $r_s = .20$, $p < .01$). Habit strength further correlated with follow-up actions: speaking with others about content (moderate, $r_s = .22$, $p < .01$), sharing content (weak, $r_s = .20$, $p < .01$), and thinking about content (weak, $r_s = .14$, $p < .05$). Habit strength also correlated with browsing items: clicking on prominent stories (moderate, $r_s = .21$, $p < .01$) and scrolling through homepages (weak, $r_s = .19$, $p < .01$) but also elaboration: thinking about quality of content (moderate, $r_s = .20$, $p < .01$) and connect with other knowledge (weak, $r_s = .14$,

[34] Coefficients have been rounded to two decimals. Labels such as „weak“ or „moderate“ refer to the exact values (see Appendix I).

$p < .05$). Other weak correlations existed for habit strength and searching items: looking for specific items ($r_s = .16$, $p < .05$) and going directly to specific sections ($r_s = .16$, $p < .05$); paying for pay-walls ($r_s = .15$, $p < .05$) and using multimedia content ($r_s = .13$, $p < .05$).

Discussion

Habit strength emerged as an independent factor with an influence on overall usage of online news. Five of the originally six habit items have been retained. Besides the explicit items ("a habit," "belongs to routines"), habit is characterized as automatic ("do automatically," "hard not to do") and lacking awareness ("do without thinking"). Such automatic behavior explained 17% of the variance in frequency and 21% of the variation in duration of online news consumption. Comparable studies usually explained only a fraction of the overall variance and left the larger part unexplained. LaRose and Eastin (2004) explained 42% of the variance of Internet usage, which is considered unprecedented. Peters et al. (2006) explained 17% of variance and UG studies usually explained even less variance (LaRose & Eastin, 2004, p. 359). In this context the portion of variance explained in the present study appears relatively large, particularly because only habit strength was used as a predictor. The aforementioned studies also included other, nonhabitual predictors. Overall, it seems that habit can explain a sizable portion of the use of online news.

Furthermore, habit seems to be related to other antecedents of the use of online news. Deficient self-regulation is one of them. It has been confirmed as a factor. Only one of the originally five items had to be dropped because it showed strong covariance

with another factor.[35] The remaining items depict deficient self-regulation as the inability to control a behavior that is perceived excessive or inappropriate in terms of quantity. Of all antecedents, deficient self-regulation correlated strongest with habit strength. This substantiates the conceptual connection between habit and self-regulation as formulated in SCT literature (see Chapter 4). The present model further substantiates the expected distinctions between habit and deficient self-regulation. Habit is associated with a lack of awareness ("do without thinking," "do automatically") whereas deficient self-regulation is associated with a lack of control ("tried unsuccessfully to cut down," "hard to control").

Another antecedent related to habit consisted of self-reactive incentives. Statistical analysis, however, indicated the need to adjust the initially proposed construct. Whereas all of the six original items could be retained, they have been assigned to two instead of one factor. The first of these factors combines stress relief, companionship, and escapism. The second factor includes exclusively pass time items. Both factors correlated strongly. The distinction into two separate factors may be due to situational differences. Users may access online news for stress relief or escapism during work or other activities whereas pass time incentives may be more relevant during free time. Furthermore, the items "to kill time" and "to relieve boredom" may be more similar than the other self-

[35] "I use online news when I should actually pay attention to other things" covaried strongly with the self-reactive incentive item "distract yourself from stressful situations." This is probably because both items are associated with similar situations, for example using online news during work.

reactive items and therefore covary particularly strongly. Both factors correlated moderately with habit strength confirming the theorized association. Interestingly, the "stress relief / escapism / companionship" factor correlated twice as strongly with deficient self-regulation as pass time. This may be explained by a "hot link" as proposed by LaRose et al. (2003, p. 244). Stress may deplete self-regulation capacities (as shown for example by Neal et al., 2013) and, therefore, indirectly lead to habituation. This would fall in line with the discussion in Chapter 4.

The necessary adjustments to the theorized model may be partly due to the translation of the instrument into German or slight changes that have been made compared with previous studies. Nevertheless, overall the results fall in line with the expectations and SCT literature. One difference, however, has to be acknowledged: Compared with other studies (LaRose & Eastin, 2004; LaRose et al., 2003; Newell, 2003) correlations among antecedents were weaker. The results at hand show lower correlations among habit strength, deficient self-regulation, and self-reactive incentives. As previous studies did not address specifically online news but Internet use in general or the use of electronic media, these differences could be a sign of the individual character of online news. Perhaps online news habits are less associated with deficient self-regulation or self-reactive incentives than general Internet habits and more related to other antecedents such as instrumental motives. After all, online news is only a specific, largely information-focused, service within the Internet. Thus it only seems reasonable that online news habits should be different from general Internet habits. Nevertheless, although lower, the

correlations confirm the hypothesized associations between habit, deficient self-regulation, and self-reactive incentives.

Lower model fits are another difference to comparable studies. Research focusing on the use of electronic media (Newell, 2003), Internet usage (LaRose & Eastin, 2004; Peters et al., 2006), or the use of mobile phones (Peters, 2007) showed superior model fits. Nevertheless, the present model is acceptable according to the guidelines of various authors (Brown, 2006, p. 87). To the best of the author's knowledge, the present study is the first to apply a SCT model of media attendance specifically to online news. Based on the results it is argued that SCT provides a viable framework for the modeling of online news consumption.

Although context stability correlated with habit strength, it did not moderate the effect of habit strength on usage. Users, who accessed online news particularly habitually seemed to do so in stabler contexts (time, place, social situation, preceding and following activity, and mood) than those, who used online news less out of habit. The influence of habit on overall use, however, did not increase with greater context stability. This contradicts Hypothesis 4b and part of the previously cited literature (Ji & Wood, 2007; Ouellette & Wood, 1998; Wood & Neal, 2007; Wood et al., 2005). The results support those authors, who contended that habits are context-independent (Aarts & Dijksterhuis, 2000; Schnauber & Wolf, 2016). As discussed in Chapter 3, media habits may depend more on internal, psychological than external, contextual conditions (LaRose, 2010). The permanent availability of online news via mobile Internet may add to this context-independency. The correlation between habit strength and context stability that has been

found and the simultaneous absence of a moderation effect fall in line with previous studies (Schnauber & Wolf, 2016).

Finally, it was the goal of this study to assess the impact of habit on online news behavior. In a somewhat exploratory attempt, different dimensions of online news behavior were hypothesized. Although an exploratory factor analysis tentatively confirmed part of these dimensions, the resulting scales narrowly missed sufficient reliability. Correlations between habit strength and individual behavior items produced an inconclusive picture. Habit strength correlated negatively with repertoire size suggesting that habitual users gravitate towards the same sources. It correlated with browsing but also with elaboration and (weakly) with searching items. It also correlated with follow-up actions and weakly with other behaviors (multimedia use, paying for pay-walls). This inconclusive picture may be partly due to methodological shortcomings (see Chapter 7). It may also show that there is no uniform type of habitual engagement with online news. Instead it seems that habit mildly supports a variety of online news behaviors.

CHAPTER 7: CONCLUSION

The Internet has been frequently portrayed as a particularly interactive, empowering, and primarily informative medium (Kaye & Johnson, 2002; Ko, 2000; Papacharissi & Rubin, 2000; Van Eimeren et al., 2002). If such beliefs were realistic, online news should be a particularly good example of these qualities as it focuses on information rather than entertainment. Can growing traffic on news websites be explained purely by information needs and political interest?

This study set out to relativize such optimistic perspectives. It has focused on particular antecedents of media behavior: habit, deficient self-regulation, and self-reactive incentives. These drivers are different from instrumental and information-focused media uses. Especially habit has been traditionally overlooked, particularly in the realm of the Internet and news and particularly by UG approaches (LaRose, 2010). The present study analyzed these antecedents in the context of online news partly because here they might be least expected (in contrast to cat videos on YouTube or online gaming for example). A literature review challenges *prima facie* expectations. The use of online news appears to be a complex phenomenon not only determined by the affordances of technology and media but also by social practices. These practices go beyond information needs and instrumentality. They depend on routines, coincidences, contexts, user experience, pass time, and escapism needs, to name just some factors (see Chapter 2).

The results of the present study fit in with this complex image. Habit as an antecedent of media behavior characterized particularly by automaticity has been confirmed as a distinguishable and influential factor for the use of online news. It has also

been shown that this factor is associated with deficient self-regulation and self-reactive incentives. The former association supports the conceptual link between self-regulation, or rather a lack thereof, and habit (LaRose, 2010). It is probably no coincidence that in everyday language the word *habit* is also being used for addictions such as alcoholism. Both deficient self-regulation and habit stand for behavior that is partly un- or even counter-intentional. But there are differences, too. In line with the literature (LaRose, 2010; LaRose & Eastin, 2004) the evidence at hand supports the idea that habit is characterized particularly by low awareness and self-observation whereas deficient self-regulation features poor self-reaction and self-control.

The link between habit and self-reactive incentives suggests that pass time, stress relief, and escapism needs may indeed support habit formation. Correlations among habit, deficient self-regulation, and self-reactive incentives were, however, weaker than in other studies, for example, on general Internet use (LaRose & Eastin, 2004; LaRose et al., 2003). This could mean that online news habits are qualitatively different from general Internet habits. They may be more connected to information and instrumental uses after all. For the future it would be interesting to analyze these potential relationships.

Another hypothesized connection that has been partly confirmed is the link between habit and context stability. In habit theory, repeated behavior in stable contexts is seen as a precondition for habituation (Bargh & Chartrand, 1999, p. 469; Verplanken, 2006, p. 639; Wood & Neal, 2007, p. 843). The results at hand fall in line with this theory. For online news consumption, habit strength correlated with context stability. This highlights another important feature of habit. Compared with other types of

behavior, habitual behavior depends less on internal factors such as intention and more on external factors such as context. As previously suggested, this may be particularly true for early stages of media habit formation (LaRose, 2010). Once such habits are established they may become more context-independent. The findings at hand support this, too. Context stability did not moderate the effect of habit strength on overall usage of online news. Once a media habit is formed it may be general rather than specific as theorized by Schnauber and Wolf (2016) and depend more on internal and psychological rather than external, contextual conditions as proposed by LaRose (2010). The constant availability of online news through mobile Internet, independent of time and place, may add to the context-independence of established online news habits.

It has to be asked whether habitual use of online news is qualitatively different from more intentional media behavior? This general questions goes beyond the feasibility of the present study as it spans antecedents of media behavior as well as media effects. However, in an attempt to tentatively approach this question, it has been investigated whether habit is associated with certain types of online news behavior. Following a somewhat exploratory approach, different dimensions of online news behavior such as searching, browsing, distractive behavior, elaboration, and the use of multimedia content among others have been developed. An exploratory factor analysis tentatively supported the validity of these dimensions. The measures, however, lacked internal reliability. Therefore, only single items could be used and the overall image remains inconclusive. No clear pattern of habitual online news behavior emerged. As could be expected, habitual online news behavior seems to be more restricted in terms of platform repertoire.

Beyond this relationship, habit seems to correlate with a variety of behaviors such as browsing, follow-up actions, searching, and elaboration. Correlations were mostly weak or moderate. Despite these problems, future research should investigate the effect of habit on media behavior. Evidence in the literature suggests that motivations and antecedents of media consumption influence the interaction with media and, ultimately, the outcome (Abelman & Atkin, 2000; Diddi & LaRose, 2006; Gibbs, 2008; Rubin & Perse, 1987a, 1987b; Vincent & Basil, 1997). The dimensions of online news behavior that have been identified in the present study could serve as a basis for future work. The insufficient reliability may be due to too few and too different items and the inclusion of additional control questions might remedy this. Part of the problem may also be the unit of analysis of the present study. All scores have been aggregated per participant. This may confound non-habitual and habitual behaviors. It is thinkable that differences exist not only between users but also between individual instances of online news uses. This may explain why habit strength did not correlate particularly with one specific behavior but rather mildly with a variety of behaviors. Participants may sometimes access online news out of habit and sometimes with a specific goal in mind. In each instance they may behave differently but these potential differences could not be measured in the present study. For the future it would be interesting to analyze and compare individual instances of online news behavior. In a laboratory setting interactions could be measured much more accurately. Such approach poses, however, another difficult question: How to manipulate levels of habit in a controlled setting? If research can find an answer to this question, the effects of habit could be analyzed much more closely. The study at hand

provides only an overview of habit. Future research should concentrate on the nuances. Are there different types of media habits such as goal-directed versus context-dependent habits or habits associated with information needs versus habits more closely linked to self-reactive incentives? Do different types of habit align with different behaviors and media effects? These are worthwhile questions.

Methodological limitations also stem from the choice of instrument. Questionnaires that include retrospective self-assessment necessarily come with limitations. They have been discussed and, as far as possible, their potential effects have been limited through careful design and realization of the study. Many authors dismiss open online surveys such as the one that has been used in the present study as inappropriate for academic research (Kromrey, 2002, p. 272; Wagner & Hering, 2014, p. 665). Their main arguments are the unknown population and the self-selecting sample. Such criticism applies for studies that apply sample-based results to a specific population. This was not the case in this study. The relationships examined here are assumed to apply across populations and groups. Therefore, the nature of the sample should have no major influence (Maurer & Jandura, 2009, p. 70; Peters et al., 2006, p. 284). A preliminary analysis of the data at hand shows that the main results apply indeed to subgroups of the sample. For example, gender, age, and language had no effect on the fundamental relationships between habit strength and usage or the correlations among antecedents (see Appendix J). One exception, however, was the relationship between habit strength and self-reactive incentives. For male participants and for participants, whose age was over the median of the sample, habit strength did not correlate significantly with self-reactive

incentives. This divergence deserves further investigation. The rest of the findings, however, applied to all subgroups equally even though the strength of the relationships varied. This supports the suitability of the chosen research design.

Last but not least, what is the relevancy of this study? Firstly, it adds to a strand of research that goes beyond traditional UG approaches to media attendance. Media attendance, just as human actions in general, cannot be explained based purely on rational and conscious choices. Instead, as SCT proposes, behavioral and environmental factors also play a role (Bandura, 1986). Habit is part of this complexity. The fact that habit determines the use of online news, which has traditionally been associated with information-focused and instrumental uses (unlike for example Internet pornography or video games), emphasizes the general importance of behavioral determinants of media behavior. During the infancy of the World Wide Web, authors contended that it was being used more interactively and less routinized than, for example, television (Van Eimeren et al., 2002). This might not be the case anymore. A medium itself cannot revolutionize media behavior. Just because the Internet requires users to click on things, does not mean that it is being used more actively. The contrary might be the case. Ubiquitous availability at no costs and an increasingly digitalized environment "soaks" users in news (Yadamsuren & Erdelez, 2011, p. 6). This context may foster online news habits that are caused by an increase in supply and opportunity rather than actual needs and deliberate choices. To go out and buy a newspaper requires more intentionality than to click on a free push notification on a smart phone while checking one's messages. In this vein, the Internet actually diminishes rather than facilitates interactivity and

engagement. Therefore, like the video malaise, the Internet may produce its own malaise. But the Internet may do so more aggressively. The computer scientist and former Google employee Tristan Harris points out that user interfaces are especially designed in order to exploit the psychological weaknesses of users and engage them for as long as possible (Kreye, 2017).[36] Meier et al. (2016) even contended: "In fact, engaging in media use despite conflicts with other goals and tasks seems to be one of the most common forms of self-control failure in peoples' everyday lives" (p. 66). The authors suggested that such impulsive and unintentional media activities also exist for news websites (p. 74).

What is the takeaway for society? Growing traffic on news websites does not necessarily equal more informed and engaged users. As often is the case, quality trumps quantity. A democratic society needs meaningful interaction between audience and media. Even though it might be tempting for news organizations to exploit every technological means to grab the users' attention, for example click baits, this may lead to a point, where users perceive news merely as white noise in the background or react with fatigue, even rejection and avoidance (Yadamsuren & Erdelez, 2011, pp. 5–6). The audience, on the other side, should pay attention to what it pays attention to. Checking online news 20 times per hour (as reported in Costera Meijer & Groot Kormelink, 2015, p. 669) or around 100 times per day (as two participants in this study) may not necessarily be very informative, contribute to politically self-efficacy, or provide any

[36] After quitting his job at Google, Harris has founded the organization "Time Well Spent" that tries to help people to reduce the influence of social media on their time management (Kreye, 2017).

other benefit. Habit, deficient self-regulation, and self-reactive incentives may be antecedents of problematic media behaviors even for seemingly harmless media such as online news. They may even lead to news addictions or negative attitudes towards news in general (Diddi & LaRose, 2006, p. 196). It has to be remarked, however, that habit is not necessarily a bad thing. It makes behavior more efficient and frees up cognitive resources (LaRose, 2010). Neither is habitual behavior necessarily purposeless. The work of most individuals involves some kind of routines that are instrumental for reaching certain goals. Similarly, habitual media behavior does not have to be mindless. Reading the newspaper (or online news) every Sunday may be very informative and engaging. The introductory example of Donna Leon (radioeins, 2017) suggests, however, that media habits *can* be problematic. This seems to be the case particularly when habits become and end to themselves and when certain self-reactive motives are involved (in Leon's case: "I could not work"). To differentiate between these and more instrumental, productive kinds of media habits could be a task for future research. Ideally, news should provide some sort of utility and have an impact on the audience. When Donna Leon felt fatigued by news about Nicaragua maybe she should have turned to content with more immediate relevancy for her, for example local news. From time to time recipients have to actively select or dismiss media content. In short, creatures of habit or not, sometimes humans have to kick their habits if they want to live self-determined.

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APPENDIX A: INFORMED CONSENT FORM AND QUESTIONNAIRE (ENGLISH VERSION)

Online Consent Form

Title of Research: Online News Habits: Motivation, Context and Behavior
Researcher: Christopher Hirsch, B.A. (Ohio University / University of Leipzig, Germany)

You are being asked to participate in research. For you to be able to decide whether you want to participate in this project, you should understand what the project is about, as well as the possible risks and benefits in order to make an informed decision. This process is known as informed consent. This form describes the purpose, procedures, possible benefits, and risks. It also explains how your personal information will be used and protected. Once you have read this form and your questions about the study are answered, you will be asked to participate in this study. You may print a copy of this document to take with you.

Explanation of Study
This study is being done because I want to investigate how habit influences the use of online news.

If you agree to participate, you will be asked to participate in an online survey and answer questions about your use of online news along with some basic socio-demographic questions.

Your participation in the study will last approximately five to ten minutes.

Risks and Discomforts
No risks or discomforts are anticipated

Benefits
This study is important to science/society because in the light of increasing use of online news it is important to better understand why and how individuals use this medium.

You may not benefit, personally by participating in this study.

Confidentiality and Records
Your study information will be kept confidential as all information will be anonymized.

For maximum confidentiality, please clear your browser history and close the browser before leaving the computer.

Compensation
There will be no compensation for your participation but you have the chance to win one of three $20 Amazon gift cards.

If you want to take part in the drawing you have to enter your e-mail address at the end of the survey. It will be registered separately from your survey entries so that anonymity is maintained. Your e-mail address will be used for no other purpose than the drawing.

Furthermore, I will donate 1€ to UNICEF for every tenth participant in the study.

Contact Information
If you have any questions regarding this study, please contact the investigator, Christopher Hirsch, +49 (0)1575 892 49 35 or ch545516@ohio.edu; or the advisor, Prof. Michael Sweeney, +1 (740) 593-2589 or sweenem3@ohio.edu.

If you have any questions regarding your rights as a research participant, please contact Dr. Chris Hayhow, Director of Research Compliance, Ohio University, +1 (740) 593-0664 or hayhow@ohio.edu.

By agreeing to participate in this study, you are agreeing that:

- you have read this consent form (or it has been read to you) and have been given the opportunity to ask questions and have them answered;
- you have been informed of potential risks and they have been explained to your satisfaction;
- you understand Ohio University has no funds set aside for any injuries you might receive as a result of participating in this study;
- you are 18 years of age or older;
- your participation in this research is completely voluntary;
- you may leave the study at any time.

Version Date: 07/26/17

This study is interested in your use of online news.
What is meant by online news?

Online news is content on the Internet (text, images, audio or video) that informs concisely and timely about events that are relevant for society. It deals with different topics (politics, society, culture, economy, sports), is published periodically and directed towards the general public. Online news focuses on information.

Online news comes in different forms (e.g. as **websites, apps, on mobile and desktop devices**). Some examples are:

- Online services of established media organizations (local or national), such as newspapers **(nytimes.com, washingtonpost.com, economist.com)** or broadcasters **(cnn.com, foxnews.com, msnbc.com, espn.com)**
- Online-only media **(huffingtonpost.com, news.vice.com)**
- News sections of portals **(aol.com, yahoo.com, msn.com)**
- Weblogs **(dailykos.com, crooksandliars.com)**
- News community websites **(wikinews.org, reddit.com)**
- News aggregators **(news.google.com, digg.com)**

Online news can be reached through different pathways: **through social media, search engines, links in e-mails, push notifications, bookmarks, toolbars**, etc.. Online news also includes content from abroad.

Social media itself does not count as online news.

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1. **How long did you use online news overall on the preceding weekday?**
   If you are not sure, you can check your browser history to get an overview.

_____ minutes

2. **How often did you use online news overall on the preceding weekday?**
   Please count every contact with online news no matter how short.

   If you are not sure, you can check your **browser history** to get an overview. One **coherent contact** counts as one instance. Changes between subpages or different topics during one contact do not count as individual instances.

_____ times

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3. **How long do you use online news on average overall on a regular weekday?**
   If you are not sure, you can check your browser history to get an overview.

_____ minutes

4. **How often do you use online news on average overall on a regular weekday?** Please count every contact with online news no matter how short.

   If you are not sure, you can check your **browser history** to get an overview. One **coherent contact** counts as one instance. Changes between subpages or different topics during one contact do not count as individual instances.

_____ times

5. Using Online News is…							
	strongly disagree						strongly agree
something that I do automatically.	O	O	O	O	O	O	O
a habit I have gotten into.	O	O	O	O	O	O	O
something that I would find hard not to do.	O	O	O	O	O	O	O
something that I do without thinking.	O	O	O	O	O	O	O
something that belongs to my routines.	O	O	O	O	O	O	O
something that I start doing before I realize I'm doing it.	O	O	O	O	O	O	O

6. How much do you agree with the following statements?							
	strongly disagree						strongly agree
I spend too much time on online news.	O	O	O	O	O	O	O
I have tried unsuccessfully to cut down on the amount of time I spend on online news.	O	O	O	O	O	O	O
I use online news when I should actually pay attention to other things.	O	O	O	O	O	O	O
I have a hard time keeping my use of online news under control.	O	O	O	O	O	O	O
I often spend more time on online news than I intended to.	O	O	O	O	O	O	O

7. Using online news, how likely are you to…							
	very likely						very unlikely
relieve boredom.	O	O	O	O	O	O	O
distract yourself from stressful	O	O	O	O	O	O	O

situations.							
feel less lonely.	O	O	O	O	O	O	O
kill time.	O	O	O	O	O	O	O
get away from it all.	O	O	O	O	O	O	O
feel relaxed.	O	O	O	O	O	O	O

8. **How often do you use online news…**					
	almost never				almost always
at the same place (office, library, train, bed, café…)?	O	O	O	O	O
at the same time of day?	O	O	O	O	O
before the same activity (going to work, shutting down the computer, checking e-mails, studying, working, getting up…)?	O	O	O	O	O
in the same situation (work, seminar, lunch break, cueing…)?	O	O	O	O	O
after the same activity (having arrived at work, having started the computer, having checked e-mails, after studying, after working, after getting up…)?	O	O	O	O	O
in the same mood (tired, bored, stressed, awake, excited…)?	O	O	O	O	O

9. **When using online news,…**					
	never				almost always
I use search engines or search functions to find certain news.	O	O	O	O	O
I scroll through the homepage.	O	O	O	O	O
I use the same platforms I always use.	O	O	O	O	O
I pay for pay-walls.	O	O	O	O	O
I do other things simultaneously.	O	O	O	O	O
I click through galleries.	O	O	O	O	O
afterwards I think about the content I have read / seen.	O	O	O	O	O
it is part of a routine that consists of accessing certain online services in a row one after another (not all of them necessarily online news).	O	O	O	O	O

10. **When using online news,…**					
	never				almost always
I go directly to certain subject areas.	O	O	O	O	O
I click on links such as “recommended” or “most comments”.	O	O	O	O	O
I think about the quality of the content (sources, argument, structure).	O	O	O	O	O
I watch videos.	O	O	O	O	O
I share news content (via e-mail, social networks, etc.).	O	O	O	O	O
I look for specific news items.	O	O	O	O	O
I think about other things.	O	O	O	O	O
I only read the headlines and teasers of news items.	O	O	O	O	O

11. **When using online news,…**					
	never				almost always
I click on prominent stories (high up on the website, large headlines and teasers, large images).	O	O	O	O	O
I click on links within articles to access further information.	O	O	O	O	O
I stop right in the middle because something else distracts me.	O	O	O	O	O
I use multimedia formats (e.g. VR, panoramas, interactive stories, maps, illustrations).	O	O	O	O	O
I bookmark or print content.	O	O	O	O	O
I try to connect what I read / see to information from other sources or personal experiences.	O	O	O	O	O
I comment on content.	O	O	O	O	O
afterwards I speak with others about what I have read / seen.	O	O	O	O	O

12. I use approximately _____ different online news platforms on a constant basis.

13. Platforms that I do <u>not</u> use on a constant basis account approximately for _____ percent of my total use of online news.

14. What is your gender?

- ○ female
- ○ male
- ○ other
- ○ prefer not to say

15. How old are you?

_____ years

16. What is your current country of residence?

[dropdown with 207 options including "prefer not to say"; "United States of America" preselected for English version]

17. What is your current employment / educational status?

- ○ going to school
- ○ student
- ○ vocational training / working experience
- ○ employed
- ○ military, civil servant, public official
- ○ self-employed
- ○ fulfilling domestic tasks, job-seeking
- ○ retirement, permanently disabled
- ○ community service / AmeriCorps
- ○ other
- ○ prefer not to say

18. What is the highest level of school you have completed or the highest degree you have received?

- ○ no schooling completed
- ○ lower than High school
- ○ High school degree
- ○ some college but no degree
- ○ Associate degree / Bachelor degree
- ○ Graduate degree
- ○ Doctoral degree and higher
- ○ other
- ○ prefer not to say

19. **If you have questions or remarks regarding the survey, you can use the field below.**

[text area]

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20. **If you want to win one of three $20 Amazon gift cards, please enter your e-mail address below.**

    Wenn Sie an der Verlosung von drei Amazon-Gutscheinen im Wert von 20 € teilnehmen wollen, geben Sie bitte hier Ihre E-Mailadresse an.

    Your e-mail address will be registered separately from your entries in the questionnaire so that the entries will remain anonymous.

    Ihre E-Mailadresse wird unabhängig von den Eingaben im Fragebogen erfasst, sodass diese anonym bleiben.

Thank you for participating. If you have further questions or are interested in the results of the study, feel free to get in touch via the e-mail address below.

Vielen Dank für Ihre Teilnahme. Sollten Sie weitere Fragen haben oder sich für die Ergebnisse interessieren, stehe ich Ihnen gerne zur Verfügung:

christopher.hirsch@studserv.uni-leipzig.de

APPENDIX B: INFORMED CONSENT FORM AND QUESTIONNAIRE (GERMAN VERSION)

Online-Einwilligungserklärung

Titel der Studie: Online-Nachrichten und Gewohnheit: Motive, Kontext und Verhalten
Durchführung: Christopher Hirsch, B.A. (Universität Leipzig / Ohio University, U.S.)

Sie sind gebeten an einer Studie teilzunehmen. Um entscheiden zu können, ob Sie an diesem Projekt teilnehmen wollen, sollten Sie verstehen worum es in dieser Studie geht und die möglichen Nutzen und Risiken kennen, sodass Sie eine informierte Entscheidung treffen können. Dieser Prozess heißt „informierte Einwilligung". Dieses Formular beschreibt den Zweck, den Ablauf sowie mögliche Nutzen und Risiken dieser Studie. Es erklärt auch wie Ihre Daten genutzt und geschützt werden. Nachdem Sie das Formular gelesen haben und Ihre Fragen zur Studie beantwortet sind, wird um Ihre Teilnahme an der Studie gebeten. Sie können das Formular drucken, um es später zur Verfügung zu haben.

Erklärung der Studie
Die Studie wird durchgeführt, um herauszufinden wie Gewohnheit die Nutzung von Online-Nachrichten beeinflusst.

Wenn Sie einer Teilnahme zustimmen, werden Ihnen im Rahmen einer Online-Befragung Fragen zu Ihrer Nutzung von Online-Nachrichten sowie grundlegende sozio-demografische Fragen gestellt.

Die Befragung dauert in etwa 5 bis 10 Minuten.

Risiken und Unannehmlichkeiten
Es ist von keinen Risiken oder Unannehmlichkeiten auszugehen.

Nutzen
Diese Studie ist von Interesse für Wissenschaft/Gesellschaft, da es im Hinblick auf die wachsende Bedeutung von Online-Nachrichten wichtig ist, besser zu verstehen, warum und wie Online-Nachrichten genutzt werden.
Persönlich werden Sie von der Teilnahme voraussichtlich nicht profitieren.

Vertraulichkeit und Datenschutz
Ihre Daten werden vertraulich behandelt und alle Informationen werden anonymisiert.

Für ein Höchstmaß an Vertraulichkeit löschen Sie bitte Ihren Browserverlauf und schließen Ihren Browser nach Beendigung der Umfrage.

Vergütung
Sie erhalten keine Vergütung für die Teilnahme, haben aber die Chance, einen von drei Amazon-Gutscheinen im Wert von 20 € zu gewinnen.
Wenn Sie an der Verlosung teilnehmen wollen, geben Sie bitte am Ende der Umfrage Ihre E-Mailadresse an, diese wird getrennt von Ihren Eingaben in der Umfrage erfasst, sodass Ihre Daten weiterhin anonym bleiben. Ihre E-Mailadresse wird ausschließlich für die Verlosung und zu keinem anderen Zweck benutzt.

Außerdem spende ich für jeden zehnten Teilnehmer dieser Studie 1 € an UNICEF.

Kontakt
Falls Sie Fragen bezüglich der Studie haben, wenden Sie sich bitte an den Durchführenden, Christopher Hirsch unter +49 (0)1575 892 49 35 oder christopher.hirsch@studserv.uni-leipzig.de oder den Betreuer, Prof. Michael Sweeney unter +1 (740) 593-2589 oder sweenem3@ohio.edu.

Falls Sie Fragen zu Ihren Rechten als Forschungsteilnehmende(r) haben, setzen Sie sich bitte mit dem Verantwortlichen für Forschungs-Compliance der Ohio University, Dr. Chris Hayhow, unter +1 (740) 593-0664 oder hayhow@ohio.edu in Kontakt.

Durch Ihre Zustimmung zur Teilnahme an dieser Studie, stimmen Sie dem Folgenden zu:

- Sie haben die Einwilligungserklärungen gelesen (oder sie wurde Ihnen vorgelesen) und hatten die Gelegenheit, Fragen zu stellen und auf diese eine Antwort zu bekommen;
- Sie wurden über mögliche Risiken in Kenntnis gesetzt und diese wurden zu Ihrer Zufriedenheit erklärt;
- Sie nehmen in Kenntnis, dass die Ohio University keine finanziellen Mittel für etwaige Schädigungen als Folge einer Teilnahme an dieser Studie vorhält
- Sie sind 18 Jahre alt oder älter;
- Ihre Teilnahme an dieser Studie ist vollkommen freiwillig;
- Sie können die Studie zu jeder Zeit beenden.

Letztmalige Änderung: 26/07/17

Diese Studie interessiert sich für Ihre Nutzung von Online-Nachrichten.
Was ist gemeint mit Online-Nachrichten?

Online-Nachrichten sind Inhalte im Internet (Text, Bild, Video oder Audio), die kompakt über aktuelle Ereignisse von gesellschaftlicher Relevanz informieren. Sie behandeln verschiedene Themen (Politik, Gesellschaft, Kultur, Sport, Wirtschaft), erscheinen regelmäßig und richten sich an die Öffentlichkeit. Ihr Fokus liegt auf Information.

Online-Nachrichten gibt es **als Websites, als Apps und auf mobilen oder stationären Endgeräten**. Beispiele sind:

- Online-Angebote von traditionellen Medien (lokal oder überregional) wie Zeitungen **(www.spiegel.de, focus.de, zeit.de, bild.de, nytimes.com)** und Rundfunkveranstalter **(n-tv.de, tagesschau.de, prosieben.de, ndr.de, bbc.co.uk)**
- Online-Medien **(huffingtonpost.com, news.vice.com)**
- Nachrichtenbereiche von Portalen **(t-online.de, msn.de, aol.com, yahoo.com)**
- Weblogs **(netzpolitik.org)**
- interaktive Nutzerplattformen **(wikinews.org, reddit.com)**
- Nachrichtenaggregatoren **(news.google.com, digg.com)**

Zu Online-Nachrichten gelangt man über verschiedene Wege: **aus sozialen Netzwerken heraus, durch Suchmaschinen, Links in E-Mails, Push-Nachrichten, Bookmarks, Tool-Bars,** etc. Auch Inhalte aus dem Ausland gehören zu Online-Nachrichten.

Soziale Netzwerke an sich zählen nicht zu Online-Nachrichten.

---

21. **Wie lange haben Sie am vorhergehenden Wochentag insgesamt Online-Nachrichten genutzt?**
    Wenn Sie sich nicht sicher sind, können Sie in Ihrem Browserverlauf nachschauen, um sich einen Überblick zu verschaffen.

_____ Minuten

22. **Wie häufig haben Sie am vorhergehenden Wochentag insgesamt Online-Nachrichten genutzt?**
    Bitte zählen Sie jeden Kontakt mit Online-Nachrichten, egal wie kurz.

    Wenn Sie sich nicht sicher sind, können Sie in Ihrem **Browserverlauf** nachschauen, um sich einen Überblick zu verschaffen. Gezählt werden einzelne **zusammenhängende Kontakte**. Wechsel zwischen Unterseiten oder verschiedenen Themen während eines Kontaktes werden nicht einzeln gezählt.

_____ mal

23. **Wie lange nutzen Sie im Durchschnitt an einem normalen Wochentag insgesamt Online-Nachrichten?**
Wenn Sie sich nicht sicher sind, können Sie in Ihrem Browserverlauf nachschauen, um sich einen Überblick zu verschaffen.

_____ Minuten

24. **Wie häufig nutzen Sie im Durchschnitt an einem normalen Wochentag insgesamt Online-Nachrichten?**
Bitte zählen Sie jeden Kontakt mit Online-Nachrichten, egal wie kurz.

Wenn Sie sich nicht sicher sind, können Sie in Ihrem **Browserverlauf** nachschauen, um sich einen Überblick zu verschaffen. Gezählt werden einzelne **zusammenhängende Kontakte**. Wechsel zwischen Unterseiten oder verschiedenen Themen während eines Kontaktes werden nicht einzeln gezählt.

_____ mal

25. Online-Nachrichten nutzen ist…							
	stimme überhaupt nicht zu						Stimme vollkommen zu
etwas, das ich automatisch tue.	O	O	O	O	O	O	O
eine Angewohnheit, die ich entwickelt habe.	O	O	O	O	O	O	O
etwas, das mir schwer fallen würde nicht zu tun.	O	O	O	O	O	O	O
etwas, das ich tue ohne darüber nachzudenken.	O	O	O	O	O	O	O
etwas, das zu meinen Routinen gehört.	O	O	O	O	O	O	O
etwas, das ich beginne zu tun bevor ich es realisiere.	O	O	O	O	O	O	O

26. Wie sehr stimmen Sie den folgenden Aussagen zu?							
	stimme überhaupt nicht zu						Stimme vollkommen zu
Ich verbringe zu viel Zeit mit Online-Nachrichten.	O	O	O	O	O	O	O
Ich habe vergeblich versucht, die Zeit	O	O	O	O	O	O	O

zu reduzieren, die ich mit Online-Nachrichten verbringe.							
Ich nutze Online-Nachrichten, wenn ich meine Aufmerksamkeit eigentlich anderen Dingen widmen sollte.	O	O	O	O	O	O	O
Es fällt mir schwer, meine Nutzung von Online-Nachrichten unter Kontrolle zu halten.	O	O	O	O	O	O	O
Oft verbringe ich mehr Zeit mit Online-Nachrichten, als ich ursprünglich vorhatte.	O	O	O	O	O	O	O

27. Wenn Sie Online-Nachrichten nutzen, wie wahrscheinlich ist es, dass Sie…							
	sehr unwahrsch einlich						sehr wahrsch einlich
sich dadurch die Langeweile vertreiben.	O	O	O	O	O	O	O
sich dadurch von stressigen Situationen ablenken.	O	O	O	O	O	O	O
sich dadurch weniger allein fühlen.	O	O	O	O	O	O	O
dadurch Zeit totschlagen.	O	O	O	O	O	O	O
dadurch alles hinter sich lassen können.	O	O	O	O	O	O	O
sich dadurch entspannt fühlen.	O	O	O	O	O	O	O

28. **Wie oft nutzen Sie Online-Nachrichten…**					
	fast nie				fast immer
am selben Ort (Büro, Bibliothek, Bett, Café…)?	O	O	O	O	O
zur selben Tageszeit.	O	O	O	O	O
vor derselben Aktivität (Aufbruch zur Arbeit, Ausschalten des Computers, Überprüfen der E-Mails, lernen, arbeiten, aufstehen…)?	O	O	O	O	O
in derselben Situation (Arbeit, Seminar, Mittagspause, Schlange stehen…)?	O	O	O	O	O
nach derselben Aktivität (Ankunft auf	O	O	O	O	O

Arbeit, Hochfahren des Computers, Überprüfen der E-Mails, lernen, arbeiten, aufstehen…)?					
in derselben Stimmung (müde, gelangweilt, gestresst, wach, aufgeregt…)?	O	O	O	O	O

29. **Wenn ich Online-Nachrichten nutze,…**					
	niemals				fast immer
nutze ich Suchmaschinen oder Suchfunktionen, um bestimmte Online-Nachrichten zu finden.	O	O	O	O	O
scrolle ich durch die Startseite.	O	O	O	O	O
benutze ich dieselben Plattformen, die ich immer nutze.	O	O	O	O	O
zahle ich für Pay-Walls.	O	O	O	O	O
mache ich noch etwas anderes nebenbei.	O	O	O	O	O
klicke ich Bildergalerien durch.	O	O	O	O	O
denke ich danach über Inhalte nach, die ich gelesen / gesehen habe.	O	O	O	O	O
ist das Teil einer Routine während der ich bestimmte Online-Angebote nacheinander nutze (nicht alle davon müssen Online-Nachrichten sein).	O	O	O	O	O

30. **Wenn ich Online-Nachrichten nutze,…**					
	niemals				fast immer
gehe ich direkt zu bestimmten Themenbereichen.	O	O	O	O	O
klicke ich auf Links wie „empfohlen“ oder „meist kommentiert“.	O	O	O	O	O
denke ich über die Qualität des Inhaltes nach (Quellen, Argumente, Struktur).	O	O	O	O	O
schaue ich mir Videos an.	O	O	O	O	O
teile ich Inhalte (via E-Mail, soziale Netzwerke, etc.).	O	O	O	O	O
suche ich nach bestimmten Nachrichten.	O	O	O	O	O
denke ich über andere Dinge nach.	O	O	O	O	O
lese ich nur die Überschriften und Teaser von Artikeln.	O	O	O	O	O

31. **Wenn ich Online-Nachrichten nutze,…**					
	niemals				fast immer
klicke ich auf auffällige Nachrichten (weit oben, große Überschriften und Teaser, große Bilder).	O	O	O	O	O
klicke ich innerhalb eines Artikels auf Links zu weiteren Informationen.	O	O	O	O	O
höre ich mittendrin auf, weil mich etwas anderes ablenkt.	O	O	O	O	O
nutze ich Multimedia-Inhalte (z. B. VR, Panoramas, interaktive Geschichten, Karten, Illustrationen).	O	O	O	O	O
setze ich Lesezeichen oder drucke Inhalte aus.	O	O	O	O	O
versuche ich das, was ich lese / sehe mit Informationen von anderen Quellen oder persönlichen Erfahrungen zu verknüpfen.	O	O	O	O	O
kommentiere ich Inhalte.	O	O	O	O	O
spreche ich danach mit anderen über das, was ich gelesen / gesehen habe.	O	O	O	O	O

32. Ich nutze ungefähr _____ verschiedene Plattformen für Online-Nachrichten regelmäßig.

33. Plattformen, die ich <u>nicht</u> regelmäßig nutze, machen ungefähr _____ Prozent meiner gesamten Nutzung von Online-Nachrichten aus.

Welches Geschlecht haben Sie?

O weiblich
O männlich
O anderes
O keine Angabe

34. Wie alt sind Sie?

_____ Jahre

35. In welchem Land wohnen Sie zurzeit?

[Dropdown mit 207 Optionen inklusive “keine Angabe”; “Deutschland” ist für die deutsche Version vorausgewählt]

36. Welcher Tätigkeit gehen Sie zurzeit nach?

- O Schüler(in)
- O Student(in)
- O Auszubildende(r)
- O Angestellte(r)
- O Beamte(r) / Soldat(in)
- O Selbstständige(r)
- O Erwerbslos/ Hausfrau/ Hausmann
- O Rentner(in)/ Pensionär(in)/ arbeitsunfähig
- O Bundesfreiwilligendienst / Freiwilliges soziales Jahr
- O Sonstiges
- O Keine Angabe

37. Welches ist Ihr höchster beruflicher, Schul- oder Hochschulabschluss?

- O kein Schulabschluss
- O Volks- oder Hauptschulabschluss
- O Mittlere Reife / Realschulabschluss (bzw. POS)
- O Berufsausbildung
- O Abitur oder Fachabitur
- O studiert ohne Abschluss
- O Bachelor
- O Master / Diplom / Staatsexamen
- O Meister
- O Promotion und höher
- O andere
- O keine Angabe

---

38. Falls Sie Fragen oder Anmerkungen bezüglich der Umfrage haben, können Sie diese unten angeben.

[Textbereich]

39. If you want to win one of three $20 Amazon gift cards, please enter your e-mail address below.

Wenn Sie an der Verlosung von drei Amazon-Gutscheinen im Wert von 20 € teilnehmen wollen, geben Sie bitte hier Ihre E-Mailadresse an.

Your e-mail address will be registered separately from your entries in the questionnaire so that the entries will remain anonymous.

Ihre E-Mailadresse wird unabhängig von den Eingaben im Fragebogen erfasst, sodass diese anonym bleiben.

Thank you for participating. If you have further questions or are interested in the results of the study, feel free to get in touch via the e-mail address below.

Vielen Dank für Ihre Teilnahme. Sollten Sie weitere Fragen haben oder sich für die Ergebnisse interessieren, stehe ich Ihnen gerne zur Verfügung:

christopher.hirsch@studserv.uni-leipzig.de

APPENDIX C: OFFICE OF RESEARCH COMPLIANCE APPROVAL LETTER

Project Number	17-E-206
Project Status	APPROVED
Committee:	Office of Research Compliance
Compliance Contact:	Robin Stack (stack@ohio.edu)
Primary Investigator:	Christopher Hirsch
Project Title:	Online News Habits: Related Motives, Context, and Behavior
Level of Review:	EXEMPT

The Ohio University Office of Research Compliance reviewed and approved by exempt review the above referenced research. The Office of Research Compliance was able to provide exempt approval under 45 CFR 46.101(b) because the research meets the applicability criteria and one or more categories of research eligible for exempt review, as indicated below.

IRB Approval:	07/27/2017 2:34:06 PM
Review Category:	2

Waivers: Waiver of signature on consent document.

If applicable, informed consent (and HIPAA research authorization) must be obtained from subjects or their legally authorized representatives and documented prior to research involvement. In addition, FERPA, PPRA, and other authorizations must be obtained, if needed. The IRB-approved consent form and process must be used. Any changes in the research (e.g., recruitment procedures, advertisements, enrollment numbers, etc.) or informed consent process must be approved by the IRB before they are implemented (except where necessary to eliminate apparent immediate hazards to subjects).

It is the responsibility of all investigators and research staff to promptly report to the Office of Research Compliance / IRB any serious, unexpected and related adverse and potential unanticipated problems involving risks to subjects or others.

This approval is issued under the Ohio University OHRP Federalwide Assurance #00000095. Please feel free to contact the Office of Research Compliance staff contact listed above with any questions or concerns.

APPENDIX D: INITIAL CONFIRMATORY FACTOR ANALYSIS (CFA) MODEL OF ANTECEDENTS OF ONLINE NEWS BEHAVIOR

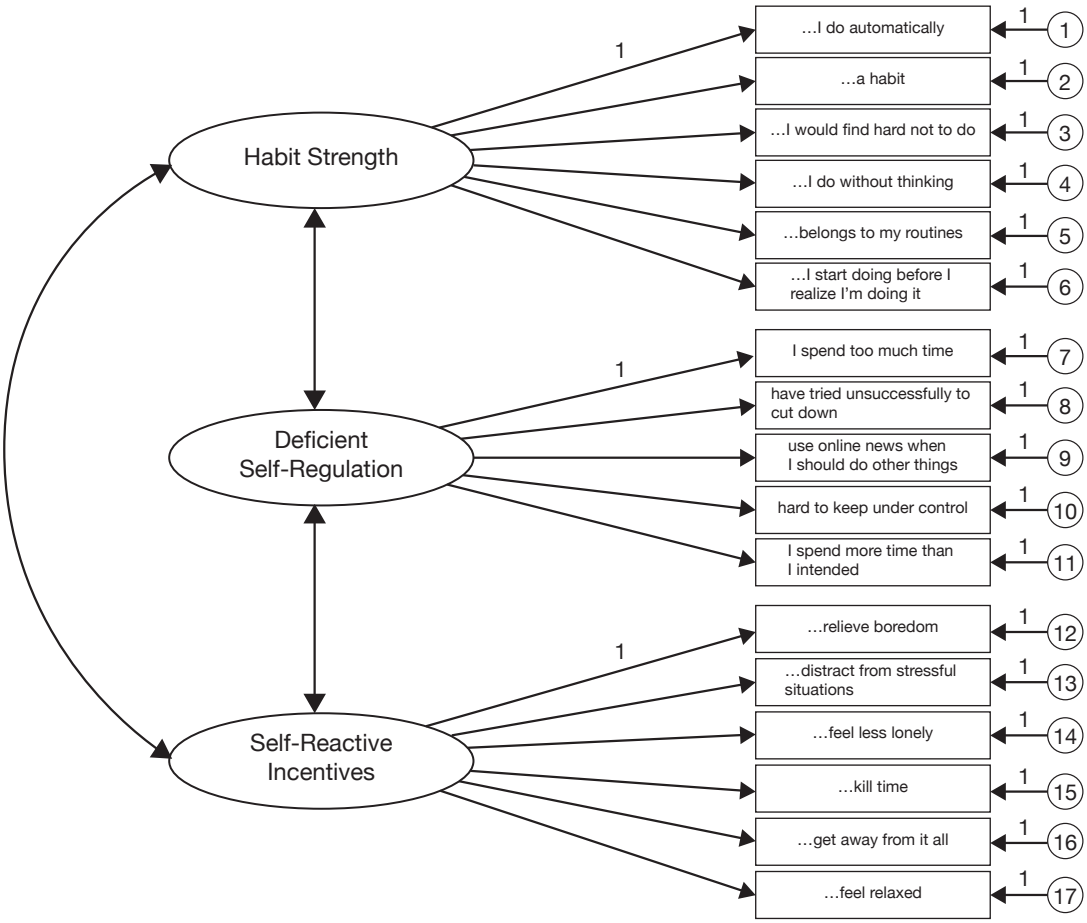

Figure 2. Initial Confirmatory Factor Analysis (CFA) Model of Antecedents of Online News Behavior
Note. Items are abbreviated.

APPENDIX E: STANDARDIZED REGRESSION WEIGHTS FOR CONFIRMATORY FACTOR ANALYSIS (CFA) OF ANTECEDENTS OF ONLINE NEWS BEHAVIOR

Table 7

Standardized Regression Weights for Confirmatory Factor Analysis (CFA) of Antecedents of Online News Behavior

Factor	Weight[a]
Habit Strength	
…belongs to my routines	.835
…I do automatically	.855
…a habit	.862
…I do without thinking	.605
…I would find hard not to do	.642
Deficient Self-Regulation	
I spend more time than I intended	.627
I spend too much time	.818
Have tried unsuccessfully to cut down	.796
Hard to keep under control	.792
Self-Reactive Incentives	
…distract from stressful situations	.694
…feel less lonely	.697
…feel relaxed	.671
…get away from it all	.870
Pass Time	
…kill time	.778
…relieve boredom	.786

Note. Items are abbreviated.
[a]Standardized Regression Weights.

APPENDIX F: RESIDUAL SCATTERPLOTS OF REGRESSION MODEL

PREDICTING USAGE OF ONLINE NEWS

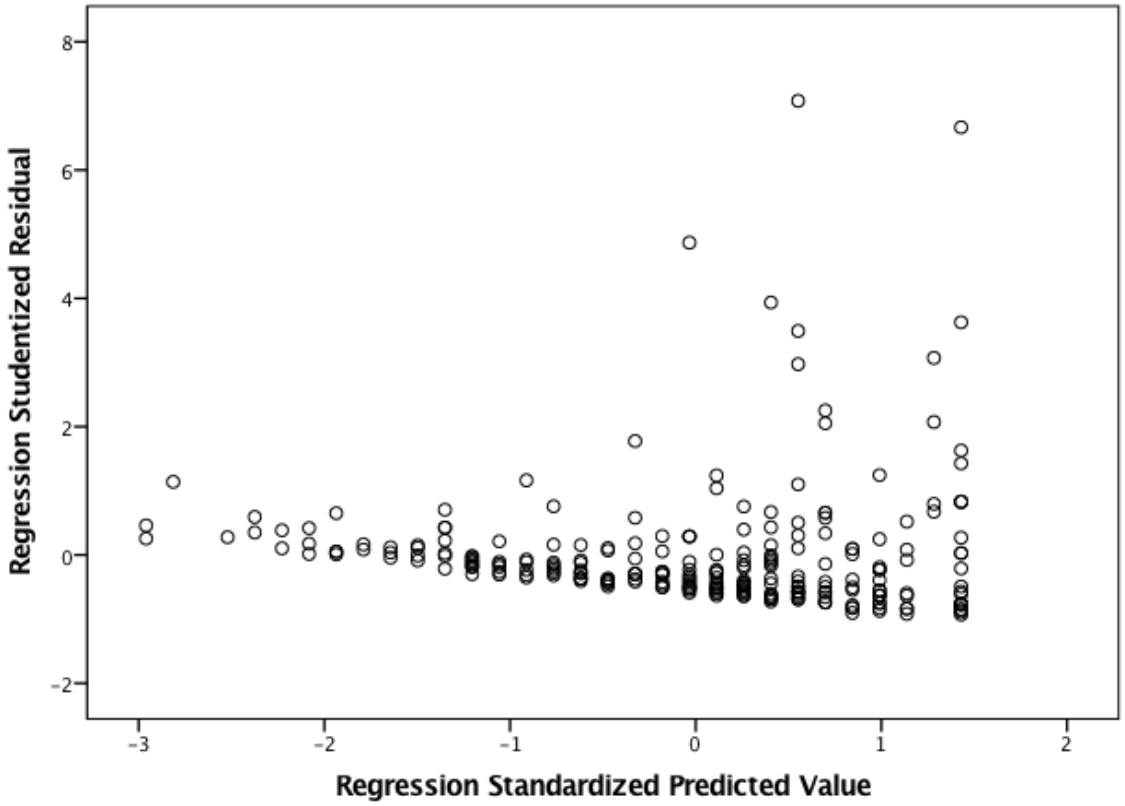

Figure 3. Scatterplot of Residuals of Regression Model Predicting Frequency of Online News Consumption by Habit Strength

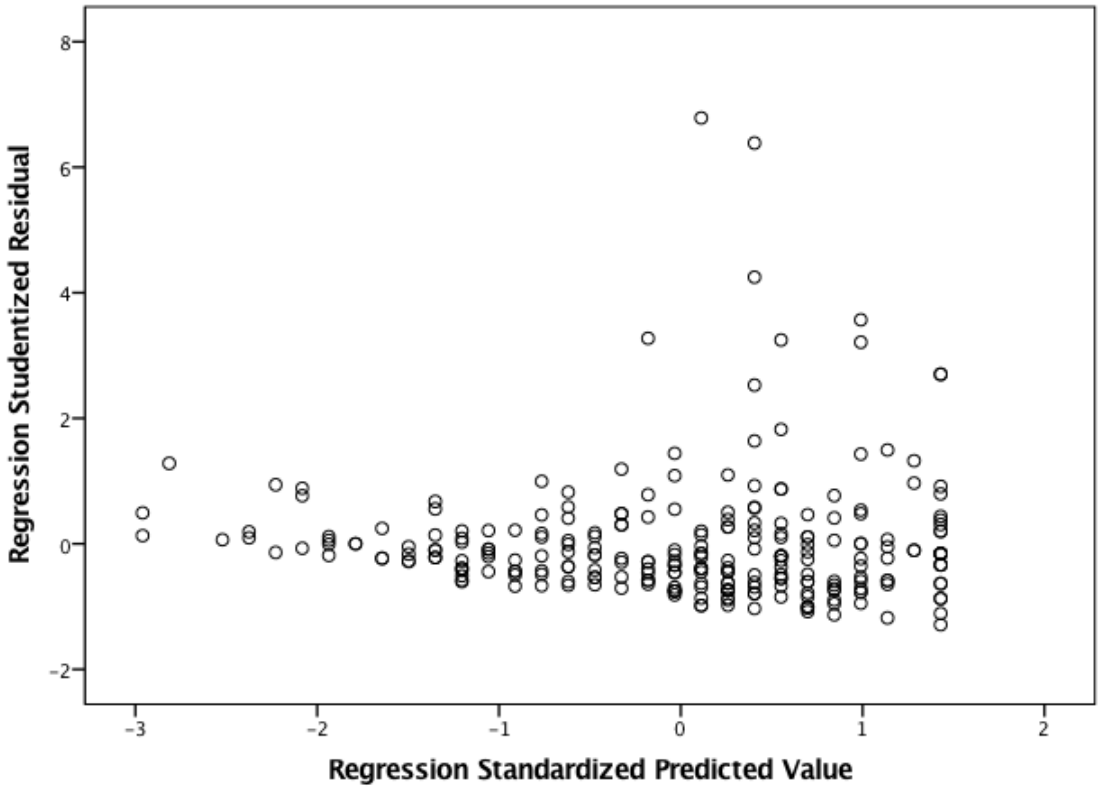

Figure 4. Scatterplot of Residuals of Regression Model Predicting Duration of Online News Consumption by Habit Strength

APPENDIX G: RESIDUAL SCATTERPLOTS OF REGRESSION MODEL

PREDICTING USAGE OF ONLINE NEWS (LOGARITHMIZED)

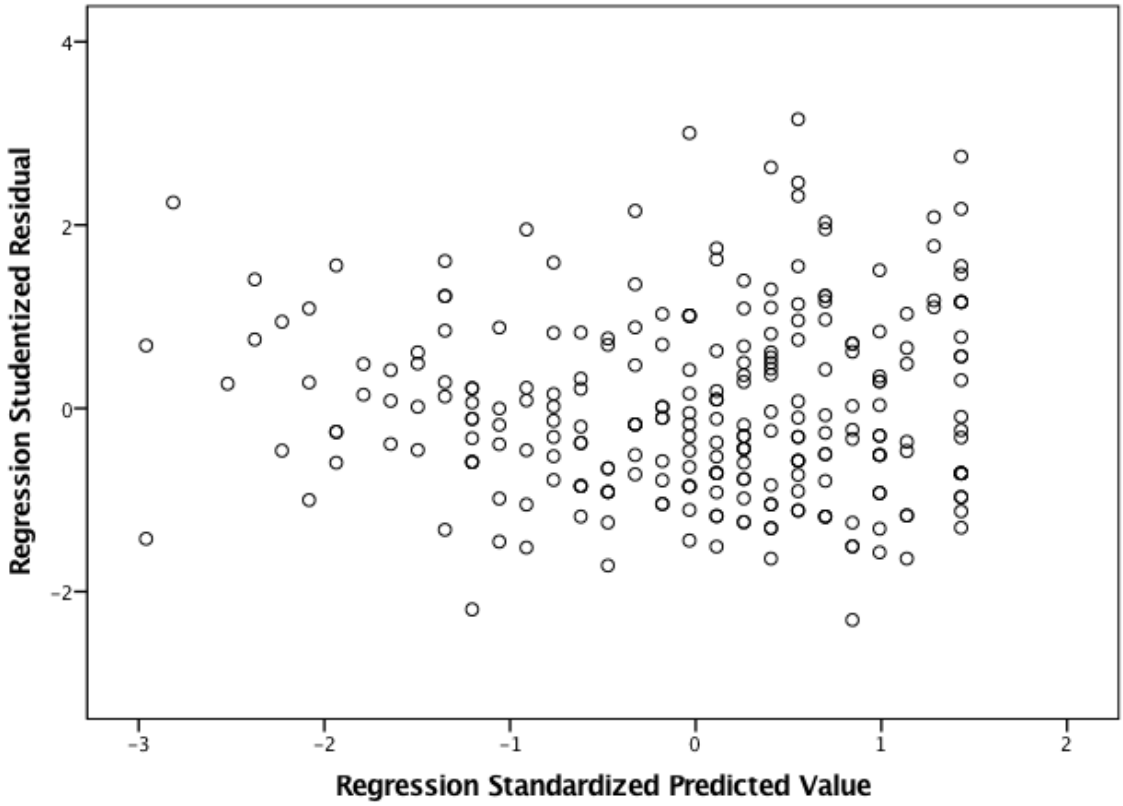

Figure 5. Scatterplot of Residuals of Regression Model Predicting Frequency of Online News Consumption (Logarithmized) by Habit Strength

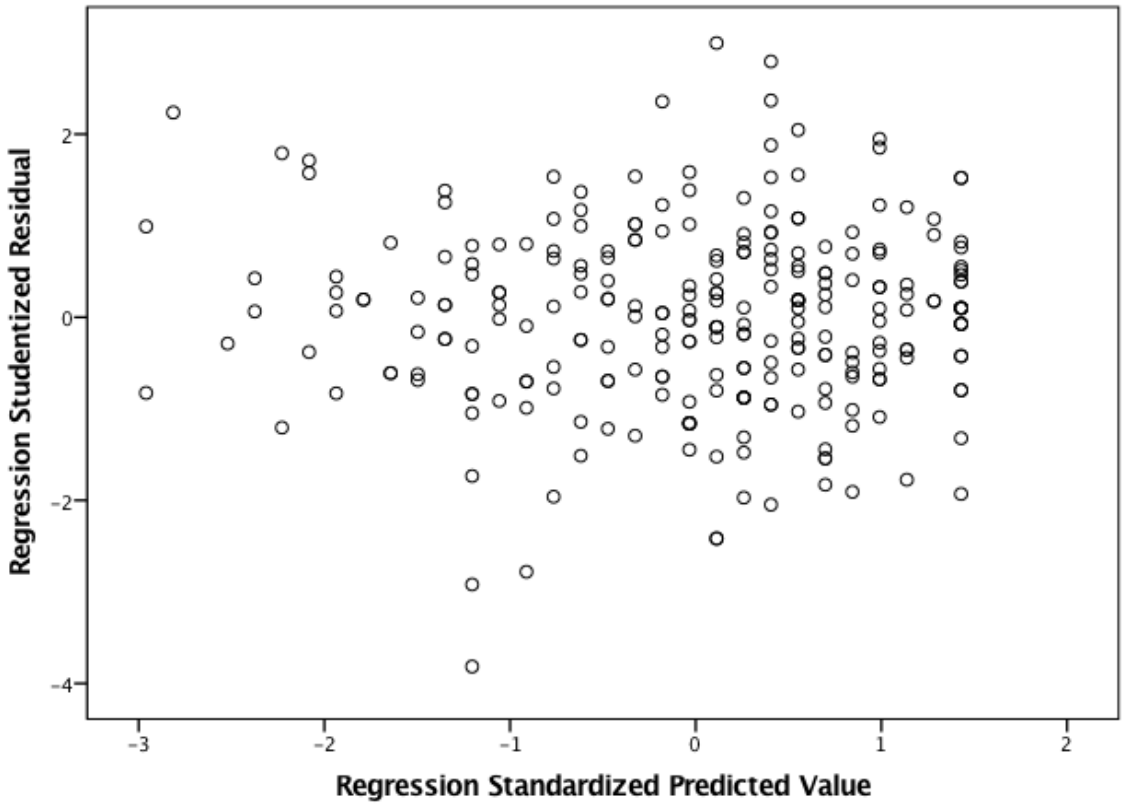

Figure 6. Scatterplot of Residuals of Regression Model Predicting Duration of Online News Consumption (Logarithmized) by Habit Strength

Table 8

Online News Behavior Correlation Matrix

	1. use search engines	2. scroll through home-page	3. pay for pay-walls	4. do other things	5. click through galle-ries	6. think about content	7. go directly to areas	8. click on "reco-mmen-ded"	9. think about quality	10. watch videos	11. share content	12. look for specific news	13. think about other things	14. only read head-lines	15. click on prom-inent news	16. links with further info	17. distra-ction stops me	18. use multi-media formats	19. book-mark/ print content	20. con-nect to know-ledge	21. com-ment on content	22. speak with others	23. regular plat-forms	24. other plat-forms	25. use same plat-forms[a]	26. chec-king cycles[a]
1.	1	-.004	.104	.267**	.166**	.093	.278**	.246**	.043	.296**	.237**	**.379****	.204**	-.075	.099	.202**	.127*	.237**	.280**	.184**	.186**	.009	.164*	.139*	.229**	-.152*
2.		1	-.015	.09	.206**	.164**	-.04	.075	.066	-.031	.005	-.039	-.028	.087	.275**	.061	.084	.021	-.037	-.004	-.084	.128*	-.093	.175**	.298**	-.127*
3.			1	.066	.063	.135*	.165**	.188**	.129*	.009	.118	.109	.161*	.064	.03	.197**	.198**	.146*	**.300****	.189**	.154*	.019	.145*	.071	-.005	-.102
4.				1	.245**	-.058	.144*	.09	.072	.170**	.283**	.189**	**.400****	.035	.260**	.147*	.216**	.144*	.186**	.093	.099	.208**	-.005	-.013	-.026	-.130*
5.					1	.036	.143*	.140*	-.062	**.314****	.154*	.09	.223**	.182**	**.322****	.124	.180**	.215**	.026	.025	.034	.08	-.112	-.082	-.038	-.151*
6.						1	.083	-.017	**.462****	.067	.012	.056	-.057	.222**	.004	**.302****	-.037	.104	.122	**.348****	-.019	.246**	.128*	-.081	.281**	.204**
7.							1	.236**	.195**	.221**	.146*	**.335****	.219**	-.024	.166**	.260**	.085	.139*	.245**	.072	.084	.011	.04	.028	.022	-.065
8.								1	.059	.171**	.181**	.086	.183**	-.024	**.322****	**.321****	.139*	.199**	.128*	.039	.176**	.061	-.059	.024	.181**	-.04
9.									1	.085	.037	.181**	.057	.220**	.054	.269**	.022	.049	.140*	**.417****	.046	.257**	.148*	.002	-.140*	-.092
10.										1	.288**	.226**	.146*	.042	.130*	.162*	.026	**.324****	.154*	.128*	.247**	.052	.022	.105	.019	-.038
11.											1	.259**	.230**	-.011	.274**	.142*	.127*	.291**	**.327****	.128*	**.310****	.210**	.12	.013	.05	-.102
12.												1	.267**	-.057	.089	.181**	.153*	.246**	.275**	.192**	.176**	.111	.230**	.165*	.128*	-.087
13.													1	.123	**.306****	.238**	.271**	.143*	.250**	.127*	.186**	.092	-.052	.107	.130*	-.052
14.														1	.059	-.089	.246**	.068	-.043	.235**	.008	-.044	-.003	-.081	-.013	-.125*
15.															1	**.304****	.171**	.103	.084	.063	.034	.181**	-.042	-.085	-.154*	-.146*
16.																1	.102	.186**	.235**	.249**	.075	.230**	.094	-.006	.011	-.044
17.																	1	.222**	.149*	.005	.1	.052	.084	.059	.019	.199**
18.																		1	.225**	.184**	.158*	.091	.145*	-.037	.071	-.091
19.																			1	.246**	**.343****	.058	.118	.056	.106	-.076
20.																				1	.145*	.260**	.219**	.035	-.075	-.075
21.																					1	.187**	.150*	.126	.123	-.055
22.																						1	.11	.05	-.073	.217**
23.																							1	.068	.033	.232**
24.																								1	.210**	.02
25.																									1	.075
26.																										1

Note. Coefficients are non-parametric (Spearman-Rho). Scores over .3 appear in bold. Items are abbreviated.
[a]Indices have been inverted so that high scores stand for large repertoire.
*$p < .05$. **$p < .01$.

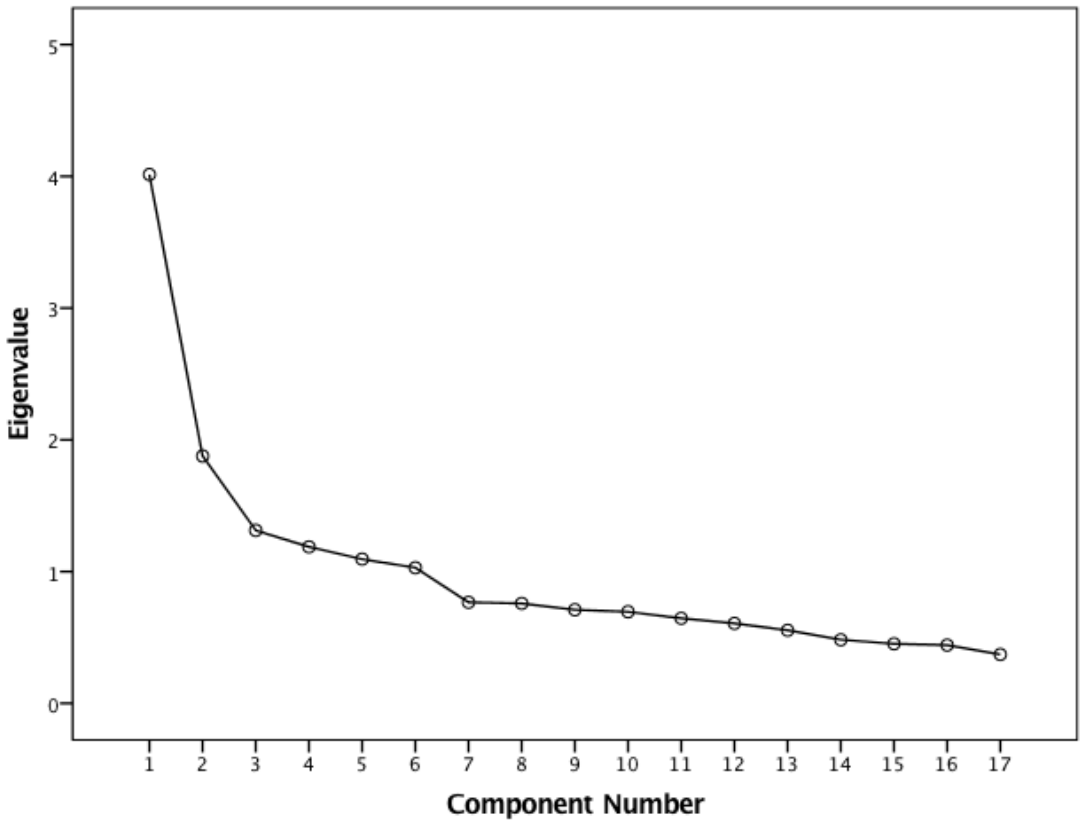

Figure 7. Screeplot, Exploratory Factor Analysis (EFA) of Online News Behavior

APPENDIX I: CORRELATIONS BETWEEN HABIT STRENGTH AND ONLINE NEWS BEHAVIOR

Table 9

Correlations Between Habit Strength and Online News Behavior

Online News Behavior	Habit Strength
I use search engines or search functions.	-.017
I scroll through the homepage.	.192**
I pay for pay-walls.	.151*
I do other things simultaneously.	.069
I click through galleries.	0
Afterwards I think about the content I have read.	.137*
I go directly to certain subject areas.	.156*
I click on links such as "recommended".	.066
I think about the quality of the content.	.200**
I watch videos.	-.048
I share news content.	.189**
I look for specific news items.	.161*
I think about other things.	-.013
I only read the headlines and teasers.	-.002
I click on prominent stories.	.211**
I click on links for further information.	.067
I stop because something distracts me.	.094
I use multimedia formats.	.132*
I bookmark or print content.	.105
I try to connect it to other information.	.143*
I comment on content.	.024
I speak with others about what I have read.	.222**
Constantly used platforms	.269**
Irregularly used platforms	-.088
I use the same platforms[a]	-.198**
Checking cycles[a]	-.348**

Note. Coefficients are non-parametric (Spearman-Rho). Items are abbreviated.
[a]Indices have been inverted so that high scores stand for large repertoire.
*$p < .05$. **$p < .01$.

APPENDIX J: PRELIMINARY HYPOTHESIS TESTING FOR SUBGROUPS

Table 10

Habit Strength Predicting Frequency of Online News Consumption (Logarithmized), Divided into Subgroups

						CI for *B*				
Subgroup	*n*	R^2_{adj}	B^a	*T*	*Sig. (B)*	LL	UL	*DF*	*F*	*Sig. (F)*
Age <= 25.5	123	.10	.32	3.71	.000	0.10	0.32	1, 121	13.77	.000
Age > 25.5	123	.24	.50	6.31	.000	0.24	0.47	1, 121	39.85	.000
Gender: Male	96	.17	.35	3.67	.000	0.11	0.36	1, 94	13.44	.000
Gender: Female	149	.18	.43	5.80	.000	0.20	0.40	1, 147	33.61	.000
Lang.: EN	158	.19	.44	6.16	.000	0.20	0.40	1, 156	37.97	.000
Lang.: DE	101	.11	.34	3.63	.000	0.11	0.39	1, 99	13.14	.000

Note. [a]Standardized coefficient. CI = 95% confidence interval. LL = lower limit. UL = upper limit.

Table 11

Habit Strength Predicting Duration of Online News Consumption (Logarithmized), Divided into Subgroups

						CI for *B*				
Subgroup	*n*	R^2_{adj}	B^a	*T*	*Sig. (B)*	LL	UL	*DF*	*F*	*Sig. (F)*
Age <= 25.5	123	.20	.46	5.64	.000	0.18	0.37	1, 121	31.77	.000
Age > 25.5	123	.18	.44	5.31	.000	0.18	0.40	1, 121	28.16	.000
Gender: Male	96	.13	.37	3.88	.000	0.12	0.37	1, 94	15.04	.000
Gender: Female	149	.23	.48	6.66	.000	0.21	0.39	1, 147	44.37	.000
Lang.: EN	158	.25	.51	7.36	.000	0.22	0.38	1, 156	54.21	.000
Lang.: DE	101	.15	.39	4.26	.000	0.16	0.43	1, 99	18.12	.000

Note. [a]Standardized coefficient. CI = 95% confidence interval. LL = lower limit. UL = upper limit.

Table 12

Correlations Between Antecedents of Online News Consumption and Context Stability for Participants Aged 25.5 Years or Younger

	1	2	3	4	5
1. Habit Strength	1	.29**	.34***	.34***	.32***
n	123	123	123	123	123
2. Deficient Self-Regulation		1	.38***	.13	.26***
n		123	123	123	123
3. Self-Reactive Incentives			1	.43***	.24**
n			123	123	123
4. Pass Time Incentives				1	.10
n				123	123
5. Context Stability					1
n					123

Note. Coefficients are non-parametric (Spearman-Rho).
*$p < .05$. **$p < .01$. ***$p < .001$.

Table 13

Correlations Between Antecedents of Online News Consumption and Context Stability for Participants Older than 25.5 Years

	1	2	3	4	5
1. Habit Strength	1	.40***	.18	.27**	.37***
n	123	123	123	123	123
2. Deficient Self-Regulation		1	.30**	.23**	.35***
n		123	123	123	123
3. Self-Reactive Incentives			1	.57***	.30**
n			123	123	123
4. Pass Time Incentives				1	.34***
n				123	123
5. Context Stability					1
n					123

Note. Coefficients are non-parametric (Spearman-Rho).
*$p < .05$. **$p < .01$. ***$p < .001$.

Table 14

Correlations Between Antecedents of Online News Consumption and Context Stability for Male Participants

	1	2	3	4	5
1. Habit Strength	1	.20*	.18	.33**	.24*
n	96	96	96	96	96
2. Deficient Self-Regulation		1	.22*	.23*	.28**
n		96	96	96	96
3. Self-Reactive Incentives			1	.58***	.16
n			96	96	96
4. Pass Time Incentives				1	.23*
n				96	96
5. Context Stability					1
n					96

Note. Coefficients are non-parametric (Spearman-Rho).
*$p < .05$. **$p < .01$. ***$p < .001$.

Table 15

Correlations Between Antecedents of Online News Consumption and Context Stability for Female Participants

	1	2	3	4	5
1. Habit Strength	1	.41***	.30***	.26**	.40***
n	149	149	149	149	149
2. Deficient Self-Regulation		1	.44***	.15	.31***
n		149	149	149	149
3. Self-Reactive Incentives			1	.48***	.33***
n			149	149	149
4. Pass Time Incentives				1	.20*
n				149	149
5. Context Stability					1
n					149

Note. Coefficients are non-parametric (Spearman-Rho).
*$p < .05$. **$p < .01$. ***$p < .001$.

Table 16

Correlations Between Antecedents of Online News Consumption and Context Stability for English-Speaking Participants

	1	2	3	4	5
1. Habit Strength	1	.31***	.26**	.33***	.41***
n	158	158	156	156	156
2. Deficient Self-Regulation		1	.32***	.15	.25**
n		158	156	156	156
3. Self-Reactive Incentives			1	.53***	.27**
n			156	156	156
4. Pass Time Incentives				1	.29***
n				156	156
5. Context Stability					1
n					156

Note. Coefficients are non-parametric (Spearman-Rho).
*$p < .05$. **$p < .01$. ***$p < .001$.

Table 17

Correlations Between Antecedents of Online News Consumption and Context Stability for German-Speaking Participants

	1	2	3	4	5
1. Habit Strength	1	.46***	.23*	.21*	.25*
n	101	100	98	98	98
2. Deficient Self-Regulation		1	.32**	.20*	.37***
n		100	98	98	98
3. Self-Reactive Incentives			1	.47***	.18
n			98	98	98
4. Pass Time Incentives				1	.05
n				98	98
5. Context Stability					1
n					98

Note. Coefficients are non-parametric (Spearman-Rho).
*$p < .05$. **$p < .01$. ***$p < .001$.

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