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# Self-Disclosure on Social Networks: More Than a Rational Decision-Making Process

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## Abstract

*Although consequences of sharing personal information can be negative and severe (e.g., identity theft), individuals still engage in extensive self-disclosures on social networks. One commonly applied explanatory approach is the privacy calculus. Following this, self-disclosures can be conceptualized as rational choices resulting from a weighing of risks and benefits. However, this view misses the additional impulsive nature of decisions. The current study therefore takes the lens of dual-process theories and highlights that self-disclosure decisions can also be guided by an impulsive system. To test for the impact of descriptive social norms, a warning message, privacy-related decision-making styles, and perceived benefits and risks on individuals' self-disclosure decisions, the fictitious social network "AHOY!" was created. It enabled the measurement of participants' (N = 551; $M_{age}$ = 40.77, $SD_{age}$ = 13.93) actual self-disclosures on two decision stages: 1) whether or not a post was created, 2) how much information (on a psychological and informational dimension) was provided. Further, descriptive social norms (i.e., the extent of other users' self-disclosures) and the presence/absence of a warning message were varied. The remaining factors were measured using questionnaires. The results imply that cognitive and affective processes (expected to be triggered by the investigated factors) are involved differently in the two decision stages. While both the reflective and impulsive system may be involved in the first stage, with the reflective system also potentially taking a predominant role, the impulsive system may be predominant when deciding how much to disclose. This highlights the importance of exceeding common assumptions of rationality to better understand and support individuals' self-disclosure decisions.*

**Keywords:** self-disclosure; social media; norms; warning message; privacy, dual-process theory; experiment

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## Introduction

For people of any age, social networks became highly important for daily social interactions. Several features including (group) chats, personal "Walls", "Like" buttons, or the "Comment" function support communication processes and encourage users to disclose personal content. Thereby, immediate gratifications can be experienced and personal needs can be fulfilled (e.g., Scissors et al., 2016; Taddicken & Jers, 2011). However,

besides various rewards, disclosing personal information can also lead to several negative consequences in the short- and long-term, including dislike of others, harassment, or unwanted privacy intrusions (e.g., Aharony, 2016; Walrave et al., 2012). Thus, it is of great importance to better understand why individuals share large amounts of personal information on social networks although this can be accompanied with various negative consequences. A frequently applied theoretical framework explaining people's privacy-related decisions including self-disclosures is the so-called privacy calculus which argues that people weigh the perceived disclosure benefits and privacy costs/risks before disclosing personal data (e.g., Culnan & Armstrong, 1999). This approach, however, has been criticized as to not explicitly accounting for non-rational decision-making processes like heuristics or cognitive biases (e.g., Acquisti et al., 2015; Knijnenburg et al., 2017; Ostendorf et al., 2020). This is why in the present study, we draw on dual-process theories of decision making (e.g., Evans, 2003; Schiebener & Brand, 2015) and propose that self-disclosure decisions can be guided by both reflective/strategic and impulsive/affective processes.

Recent works also underline a (potentially predominant) involvement of impulsive/affective processes. For instance, immediate gratifications from disclosures can surpass future consequences (e.g., Acquisti, 2004; Acquisti et al., 2015). In line with this, individuals' perceptions of disclosure benefits were found to be more strongly related to disclosure than perceived risks/concerns (e.g., Dienlin & Metzger, 2016; Meier et al., 2021). This may indicate a predominant involvement of the impulsive system (and not necessarily a rational weighing of benefits and risks as proposed by the privacy calculus), given that online privacy risks may be too elusive and opaque (Masur, 2019) and impulsive/short-term oriented processes may often dominate over reflective/long-term oriented processes (e.g., Ostendorf et al., 2020).

It follows that people need support in their online privacy-related decisions and one way to do so is making the potential risks associated with self-disclosure more prominent, for instance, by warning messages. While warning cues may lead to more reasoned disclosure decisions, descriptive social norms (i.e., the self-disclosure behavior of other users) may, on the contrary, elicit less deliberate self-disclosure decisions (e.g., Díaz Ferreyra et al., 2020; Masur et al., 2021). On social networks, individuals are permanently confronted with other users' self-disclosures, but generally do not receive specific warnings regarding potential self-disclosure related risks. By experimentally manipulating descriptive social norms and information on possible negative consequences in the form of a warning message during self-disclosure decisions, this study aims at contributing to a better understanding of potentially involved cognitive and affective processes. In more detail, and by building upon dual-process theories of decision making (e.g., Evans, 2003; Schiebener & Brand, 2015), the present work examines the impact of social norms, an intuitive privacy-related decision-making style, and perceived benefits (expected to trigger impulsive/intuitive processes) as well as of a warning message, a rational privacy-related decision-making style, and perceived risks (expected to trigger reflective processes) on different decisional outcomes (i.e., *whether* to create a post *or not*, and if a post is created, *how much* information is shared on an informational and psychological dimension). To investigate the proposed links to self-disclosure, we developed a social networking site on which participants could disclose various personal information about themselves (i.e., informational dimension) and their feelings and daily life during the COVID-19 pandemic (i.e., psychological dimension). Hence, this study contributes to the scarce body of research investigating *actual* self-disclosures rather than behavioral intentions. Altogether, the results of the current study lead to a better understanding of cognitive and affective processes likely involved in individuals' self-disclosure decision making on social networks, which is necessary to improve future attempts that aim at supporting users in their privacy-related decisions online.

## Online Self-Disclosure

Self-disclosing online can be defined as providing/communicating personal information to others by using the Internet (Masur, 2019; Taddicken, 2014). Online self-disclosure can be assigned to three privacy-related dimensions: an informational, psychological, and social dimension (Burgoon, 1982; Dienlin & Trepte, 2015). In this study, we focus on the informational and psychological dimensions, since these address the concrete extent and content of self-disclosures. Thereby, the informational dimension encompasses the amount of rudimentary and personally identifying information, such as one's age and current workplace. The psychological dimension captures the amount of personal, emotion-related, and rather intimate information (here information on individuals' feelings and experiences in their daily life during the COVID-19 pandemic). So far, the separation of the informational and psychological dimension has only received little attention in empirical works (e.g., Dienlin & Trepte, 2015). However, since both are characterized by different depths of information revelation (i.e., more rudimentary information vs. more intimate information), it should be investigated whether these dimensions are

associated with the same factors (or not) in order to gain helpful insights into potentially involved cognitive and affective processes. For instance, it may be that risk perceptions are more strongly associated with the psychological dimension than with the informational dimension, given that a potential misuse of such information may be perceived as eminently detrimental. Further, it could also be that for one (or for both) dimensions perceived benefits play a greater role than perceived risks, indicating a potentially greater involvement of impulsive/affective processes than reflective processes. Thus, the present study will contribute to the understanding of psychological processes potentially involved in self-disclosure decision-making by taking into account different decision stages and different self-disclosure dimensions.

The outcomes of self-disclosure decisions can thereby be positive and negative. By creating posts or stories, individuals can share extensive information about themselves, providing space for the experience of various benefits. Such benefits or expected gratifications include relationship building and maintenance (e.g., Cheung et al., 2015), social capital (e.g., Ellison et al., 2011), and self-presentation (e.g., Krasnova & Veltri, 2010). In contrast, negative short-term consequences include, for instance, negative feedback, experiencing unwanted sexual contact by others online, or cybermobbing/cyberbullying, and long-term risks encompass identity theft and (commercial/criminal) exploitation (e.g., Aharony, 2016; Walrave et al., 2012). Especially on a vertical level (i.e., in reference to the platform itself or third parties; Bartsch & Dienlin, 2016; Quinn & Epstein, 2018), consequences can become very serious, since disclosed pieces of information may also be used for psychological targeting interfering with personal autonomy and decisional self-determination (Susser et al., 2019). Taking the perspective of dual-process approaches can help to better conceptualize and understand why individuals share lots of personal information on social networks despite potentially severe negative consequences, which is outlined in more detail in the next section.

### *A Dual-Process Perspective for Online Self-Disclosure*

Early works on human decision making noted that two cognitive/affective systems are involved when forming a decision. These two systems are known as the impulsive system (also termed system 1 or intuitive-experiential system) and the reflective system (also termed system 2 or rational-analytical system; Epstein et al., 1996; Kahneman, 2003). Following dual-process theories (e.g., Bechara, 2005; Evans, 2003), both are considerable when making decisions. The impulsive system is assumed to draw on past experiences and emotions, therefore enabling fast and parallel processing, while the reflective system functions cognitively controlled, slowly, serially, and rule-guided. The impulsive system is further assumed to process immediate gratification (and punishment), whereas the reflective system is important to exert cognitive control over impulsive responses for achieving higher long-term goals (Bechara, 2005). When making a decision, both systems are expected to interact, meaning that there can be shifts between both systems, whereby one system is assumed to be the predominant one. The extent to which both systems are involved in a pending decision is argued to depend especially on characteristics of the decision situation, individual attributes, and further situational features (e.g., Schiebener & Brand, 2015).

Referring to online self-disclosures, many researchers apply the privacy calculus approach (Culnan & Armstrong, 1999) and argue that such decisions are the result of trading off costs and benefits (e.g., Dienlin & Metzger, 2016; Krasnova et al., 2010; Lee et al., 2013). Since individuals are assumed to engage in self-disclosures if expected gains exceed potential risks, it is basically conceptualized as a rational choice. Consequently, this view lacks the additional impulsive nature of decisions, considering that human decision making can also be influenced by bounded rationality and related cognitive biases and heuristics (e.g., Acquisti & Grossklags, 2005, 2007; Kahneman & Tversky, 1979; Volz & Gigerenzer, 2012). Since social networks generally do not provide extensive information on possible negative consequences or do not help to make them more salient (e.g., Acquisti et al., 2015; Efroni et al., 2019) but even encourage self-disclosure through specific affordances (see Trepte, 2021), one can argue that self-disclosure decisions are oftentimes the result of impulsive rather than reflective processes (see Ostendorf et al., 2020). In more detail, the collection, analysis, and usage of individuals' data is oftentimes hardly visible and judgeable (Acquisti et al., 2015), for instance, due to long and complex privacy policies (see also Meier, Schäwel, & Krämer, 2020). On the contrary, social network services offer more salient features (such as the possibility to give and receive "Likes") and affordances (e.g., the option to edit a post), which can enhance the sharing of information and may indicate a certain level of (subjectively experienced) control (see Montag et al., 2019; Trepte, 2021). However, concrete and full knowledge about how personal information is used by others or the service provider and which consequences may occur is typically rarely available (Acquisti et al., 2015). So users may oftentimes need to decide based on gut feelings or heuristics and may primarily follow anticipated short-term rewards, which can be allocated to the impulsive system (see Bechara & Damasio, 2005; Schiebener & Brand,

2015). Furthermore, self-disclosing was found to provide immediate gratification and led to activations in neural regions associated with reward processing (Tamir & Mitchell, 2012), which also emphasizes the role of impulsive processes. Viewing self-disclosure as a purely rational decision therefore appears to be not sufficient and the theoretical lens of dual-process models can arguably be more adequate. Based on the assumption that variations within a decision situation, individual characteristics, and further situational features can contribute to the extent of both systems' involvement (e.g., Schiebener & Brand, 2015), we investigated the effects of norms and a warning message (representing variations of the decision situation), privacy-related decision-making styles (representing individual characteristics), and perceived benefits and risks (as specific situational perceptions) on individuals' actual self-disclosure decisions. The role of all variables is outlined in more detail in the following sections.

## Norms

On social networks, individuals are constantly confronted with other users' behaviors. They can keep track of what others like, comment on, and whom they are following. Also, they see what others post and self-disclose. The resulting social norms are descriptive, covering what others do and how they behave. Social norms are situation- and context-specific and also encompass injunctive norms, which cover what others expect or approve/disapprove (Cialdini et al., 1991). Descriptive and injunctive norms have previously been found to influence online self-disclosures, privacy protection intentions, and protection behaviors on social networks (e.g., Saeri et al., 2014; Spottswood & Hancock, 2017; Zlatolas et al., 2015). Moreover, especially descriptive norms predicted adolescents' risky online behaviors including searching for people to talk about sex and sending personal information to others only known online (Baumgartner et al., 2011). In line with this, a recent study found that being confronted with an increasing amount of posts revealing other users' faces increases both one's intention to self-disclose and the likelihood to actually share a picture of oneself (Masur et al., 2021). Following that individuals do not have all relevant information (especially regarding potential negative consequences) when making decisions online, users may need to follow heuristics and their hunches on what is "good". Seeing what others are doing may contribute to the decision-making process by triggering some kind of *herding effect*, following that Acquisti et al. (2012) found that participants were more willing to disclose sensitive information when being told that previous participants did alike. They argue that users may conform to the norm of disclosure because they expect that if others are doing so, there should be no great risk in following that behavior. L. Wang et al. (2020) refer to this by terming it *social proof heuristic* and found that the intended and actual disclosure of friends was positively related to the participants' intention to self-disclose and weakened the negative relationship between privacy concern and disclosure intention.

Following this, especially descriptive norms could trigger the impulsive system, resulting in rather automatic self-disclosure decisions. By systematically varying the norms of disclosure (sharing much information = high-disclosure norm; sharing few information = low-disclosure norm; sharing no information = no disclosure norm), we investigate the impact of descriptive social norms on actual self-disclosure decisions in this study. We expect that with an increasing amount of others' self-disclosures, individuals decide less reflectively and show self-disclosure decisions that can increase the risk of experiencing negative consequences including privacy breaches. More precisely, we expect the following:

**H1**: With increasing information shared by others (i.e., descriptive norms of disclosure), a) the likelihood that individuals decide to create a post (rather than not to create a post) increases, b) the amount of shared information on an informational dimension increases, and c) the amount of shared information on a psychological dimension increases.

## Warning Message

Specific other decision-situation-related stimuli may elicit more reflective cognitive processes. As argued earlier, indications promoting long-term oriented decisions (e.g., concrete information on potential risks) are lacking when using social networks, thus likely increasing space for impulsive processes. From a dual-process perspective, explicit information on potential negative consequences may trigger reflective processes, resulting in more deliberate self-disclosure decisions. A few studies already investigated the effect of warning messages on online self-disclosure intentions, but revealed inconsistent results (e.g., Díaz Ferreyra et al., 2020; LaRose & Rifon, 2007; Meier, Schäwel, Kyewski, et al., 2020). Showing warning messages and subsequently only assessing intentions may reduce potential effects since individuals' actual behaviors are not investigated. Even though studies revealed that

intentions can result in accompanying behaviors (e.g., Dienlin & Trepte, 2015), recent research in the context of online privacy-related behaviors highlighted the occurrence of intention-behavior gaps (Risius et al., 2020), so that a warning message may especially be helpful when deciding about *actually* disclosing personal information. This argument is also supported by another empirical study showing that privacy nudges can encourage users to change relevant privacy settings before posting (Y. Wang et al., 2013). Since the warning message may act as a buffering factor probably triggering reflective processes, we assume the following:

**H2**: Being confronted with a warning message a) decreases the likelihood that a post is created, b) reduces the amount of shared information on an informational dimension, and c) reduces the amount of shared information on a psychological dimension.

## Privacy-Related Decision-Making Styles

Individual attributes can also influence decision making. Individual decision styles, as a facet of cognitive styles, capture tendencies for specific decision-making processes (Hamilton et al., 2016; Kozhevnikov, 2007). A rational decision style in general covers thorough evaluation, collecting information, and thinking about alternatives, while an intuitive decision-making style encompasses quick and shortsighted decisions and the involvement of feelings (Dane & Pratt, 2007; Hamilton et al., 2016; Shafir & LeBoeuf, 2002). The individual decision-making style is assumed to influence the likelihood for the impulsive or reflective system being triggered as the leading processing mode (Schiebener & Brand, 2015). Further, it was also argued that research needs to closer examine the situational specificity of decision-making styles (Hamilton et al., 2016).

In the context of online information sharing, only very few studies investigated decision-making or thinking styles. One study by Kehr et al. (2015) examined the constructs faith in intuition (FI) and need for cognition (NFC) as possible indicators for intuitive and reflective processing. They found that individuals scoring high on FI appeared to overleap rational considerations and those scoring high on NFC likely reflected more on risks and benefits. However, following Hamilton et al. (2016), various measures, including the one applied by Kehr et al. (2015), can be critically questioned regarding their suitability for covering respective conceptualizations. We therefore draw on the measure by Hamilton et al. (2016) that concretely addresses rational and intuitive decision-making styles and, in order to fulfill situational specificity, we focus on the disclosure of personal information online. In the current study, we thus investigate the impact of rational and intuitive privacy-related decision-making styles on individuals' online self-disclosure decisions and assume that rational tendencies trigger the reflective system, leading to less risky self-disclosure decisions, while intuitive decision-making tendencies may trigger the impulsive system, resulting in more risk promoting self-disclosure decisions. More precisely, we expect the following:

**H3**: With an increasing rational privacy-related decision-making style, a) the probability for creating a post decreases, b) the amount of shared information on an informational dimension decreases, and c) the amount of shared information on a psychological dimension decreases.

**H4**: With an increasing intuitive privacy-related decision-making style, a) the probability for creating a post increases, b) the amount of shared information on an informational dimension increases, and c) the amount of shared information on a psychological dimension increases.

## Perceived Benefits and Risks

Following the privacy calculus approach, perceived risks and benefits are important when making decisions online (e.g., Dienlin & Metzger, 2016; Krasnova et al., 2010). From a dual-process perspective, the expected *rational weighing* of perceived risks/costs and anticipated benefits can be allocated to the reflective system. However, it can be critically questioned whether individuals always deliberately weigh potential risks and benefits. Alongside, many studies focus on single relationships between risks/benefits and self-disclosure, which not concretely represents a weighing process (e.g., Dienlin et al., 2020; Knijnenburg et al., 2017). Further, previous studies demonstrated that benefits and risks/costs can impact self-disclosure *intentions* in different contexts (e.g., Bol et al., 2018; Krasnova et al., 2009), but a recent study found that only perceived benefits were significantly related to *actual* self-disclosures, while perceived risk likelihood was unrelated to participants' disclosure decisions (Meier, Schäwel, & Krämer, 2020).

Following that benefits and risks were previously inconsistently related to intentions and *actual* disclosures and given that these results do not automatically support a rational weighing process, they may rather imply that either

reflective or impulsive processes can predominantly be triggered, based on the salience of—or individual susceptibility to—possible risks and benefits. In other words, and referring to dual-process assumptions, both perceived risks and benefits may impact actual self-disclosing decisions by influencing individuals' inner decision-making processes in terms of triggering reflective and impulsive processes, respectively, whereby one system may then predominantly lead to the final decision. We therefore also investigate the impact of these key constructs of the privacy calculus approach on individuals' actual self-disclosure decisions and assume that situational risk perceptions may result in self-disclosure decisions that reduce the likelihood of experiencing negative consequences, while the perception of benefits may lead to self-disclosure decisions that increase the possibility of such consequences. In more detail, we expect the following:

**H5**: With increasing perceived risks, a) the likelihood that a post is created decreases, b) the amount of shared information on an informational dimension decreases, and c) the amount of information on a psychological dimension decreases.

**H6**: With increasing perceived benefits, a) the probability for creating a post increases, b) the amount of shared information on an informational dimension increases, and c) the amount of information on a psychological dimension increases.

### The Present Study

In order to measure participants' actual self-disclosure decisions (i.e., *whether* they decide to create a post *or not*, and if they create a post, *how much* information on an informational and psychological dimension they actually disclose about themselves), we developed a fictitious social network called "AHOY!". This enabled us to avoid the intention-behavior gap (see Risius et al., 2020) and to gain deeper insights into the relevance of the aforementioned factors. Further, since the disclosure of personal information as a precondition for participating in a study can lead to a selection bias (see Meier, Schäwel, & Krämer, 2020), the option to create a post (or not) was left to the participants and therefore represented the first self-disclosure decision stage in this study. Moreover, the social network enabled us to create six experimental conditions to systematically vary the descriptive norms of disclosure (i.e., the extent of other users' self-disclosures on three levels: high-disclosure norm, low-disclosure norm, and no disclosure norm) and the presence/absence of a warning message while participants make their self-disclosure decisions. This provides important and more systematic insights into the effects of norms and warning messages on individuals' self-disclosures. By also taking the additional effects of individual characteristics (i.e., intuitive and rational privacy-related decision-making styles) and situational perceptions (i.e., perceived benefits and risks) into account, the current study helps to better understand underlying psychological processes that are potentially involved in online self-disclosure decisions.

## Methods

### Participants and Procedure

Participants were recruited during December 2020 and January 2021 using a professional ISO 20252 certified online access panel provider in Germany. The agency invited its panel members by sending an email invitation and rewarded their participation depending on the chosen incentive model (on average, participants received between 360 points if their chosen incentive model was based on responses, which corresponds to an equivalent of € 0.72, and € 2.00 if their chosen incentive model was based on completes). As quotas we defined a balanced sex distribution and participants had to be users of social networks (at least of Facebook or Instagram), they needed to be between 16 and 69 years, and had to speak German fluently. Based on rather small to moderate effect sizes in other studies (see also Baruh et al., 2017), we also expect rather small effect sizes in the current study. Following Cohen (1988), a small to medium effect between two variables is considered to be between $r = .10$ and $r = .30$. A sample size between 500 and 600 was strived which can, following G*Power (v3.1.9.4), detect small effect sizes of $r = .14$ and $r = .13$, respectively, with a probability around 90% ($\alpha = .05$). With the current sample size of 551 participants, there is a 91% chance to detect an effect that is at least $r = .14$, and with a subsample of 414 participants (which is used for one main analysis, see Results), there is a 91% chance to detect an effect that is at least $r = .16$. The 551 respondents (280 females, 271 males) were between 16 and 69 years old ($M = 40.77$, $SD = 13.93$). Facebook was used by 89.3% of all participants, followed by Instagram (71%), Twitter (28.7%), Snapchat, and TikTok (22.3% each). On average (self-reported estimates), Facebook was used 59.41 min

(*SD* = 106.30) per day, Instagram 47.61 min (*SD* = 85.73), Twitter 13.82 min (*SD* = 78.33), Snapchat 6.90 min (*SD* = 22.35), and TikTok 15.62 min (*SD* = 57.75). The sample consisted of 312 (56.6%) employees, 49 (8.9%) students, 47 (8.5%) pensioners, 39 (7.1%) job seekers, 32 (5.8%) self-employed persons, 28 (5.1%) officials, 16 (2.9%) trainees, 13 (2.4%) pupils, and 10 (1.8%) reported "other" including homemaker and voluntary service, and 5 (0.9%) did not reveal information on their occupation. Regarding education, 4 (0.7%) were still at school when participating, 112 (20.3%) had the highest German school leaving certificate, 261 (47.4%) had one of three lower German school leaving certificates, 66 (12.0%) held a bachelor's degree, 99 (18.0%) a master's degree, and 7 (1.3%) a doctoral degree, while 2 (0.3%) did not reveal their educational level.

Participants received detailed information about the study's purpose and procedure and had to give their informed consent before starting the survey. Then, questions about sociodemographic characteristics and social networks usage were answered. Next, participants were forwarded to the fictitious social network "AHOY!" where they could create a post (or not). All participants were thereby randomly assigned to one of six experimental conditions. Afterwards, participants were returned to the survey and answered further questionnaires, followed by reading the debriefing. On average, participants needed 19.29 minutes (*SD* = 10.44) to complete the study. The study was conducted in accordance with the Declaration of Helsinki. The local ethics committee of the Department of Computer Science and Applied Cognitive Science at the University of Duisburg–Essen approved the study.

## Instruments

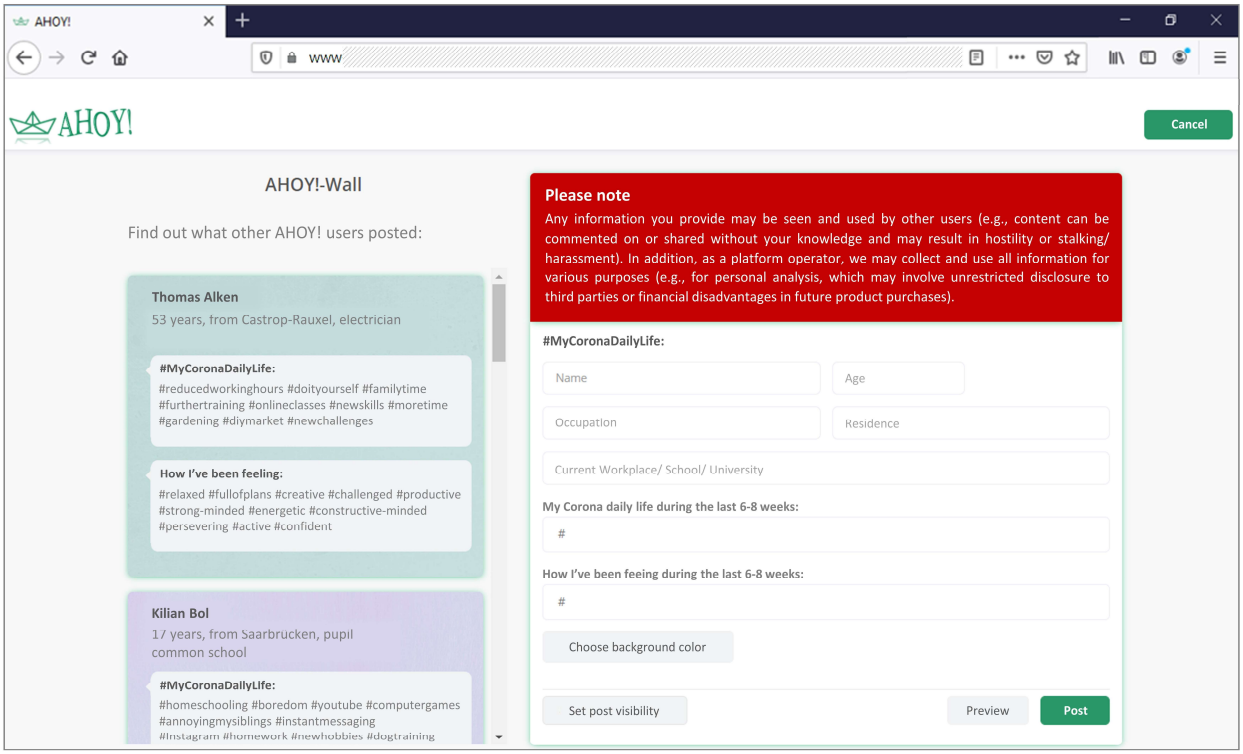
### *Fictitious Social Network "AHOY!"*

Participants were asked to imagine that there is a current throwback trend ("#MyCoronaDailyLife") in which users create posts, share how their daily routine during the last six to eight weeks of the pandemic looked like and how they have felt. Further, they had to imagine that they saw friends and acquaintances also sharing such posts and that they now would like to join in, therefore switching to their regularly used social network "AHOY!". After reading these instructions, participants were forwarded to one of six conditions presenting different versions of "AHOY!". In each condition, participants received identical brief explanations of the social network's main features. The input mask for creating a post was also the same for all conditions. However, two aspects have systematically been varied, resulting in a 3x2 between-design: a) example post of other users differed in order to vary descriptive norms of disclosure (variable: *norms*, comprising three variations *high-disclosure norm, low-disclosure norm,* and *no disclosure norm*) and b) whether a warning message was presented or not (variable: *warning message*, comprising two variations *with* and *without*). The six conditions were as follows: conditions one/two = *high-disclosure norm* (much information about others) *with/without* a warning, conditions three/four = *low-disclosure norm* (few information about others) *with/without* a warning, conditions five/six = *no disclosure norm* (no example posts) *with/without* a warning. Conditions one and four are exemplarily depicted in Figures 1 and 2, respectively.

The warning message itself was the same for conditions one, three, and five and was always presented above the input mask. It contained potential short- and long-term negative consequences on a horizontal (with respect to other users) and vertical level (with respect to the platform itself and third parties). It further always had a red background color and white font color. Nine randomly ordered example posts were provided in conditions one to four. To be classified as inducing *high-disclosure norm*, example posts had nine to twelve hashtags per hashtag field and the amount of given identifying information (e.g., name or occupation) varied systematically between three and five aspects. Example posts classified as inducing *low-disclosure norm* had one to three hashtags per hashtag field and the amount of given identifying information varied systematically between one and four aspects.

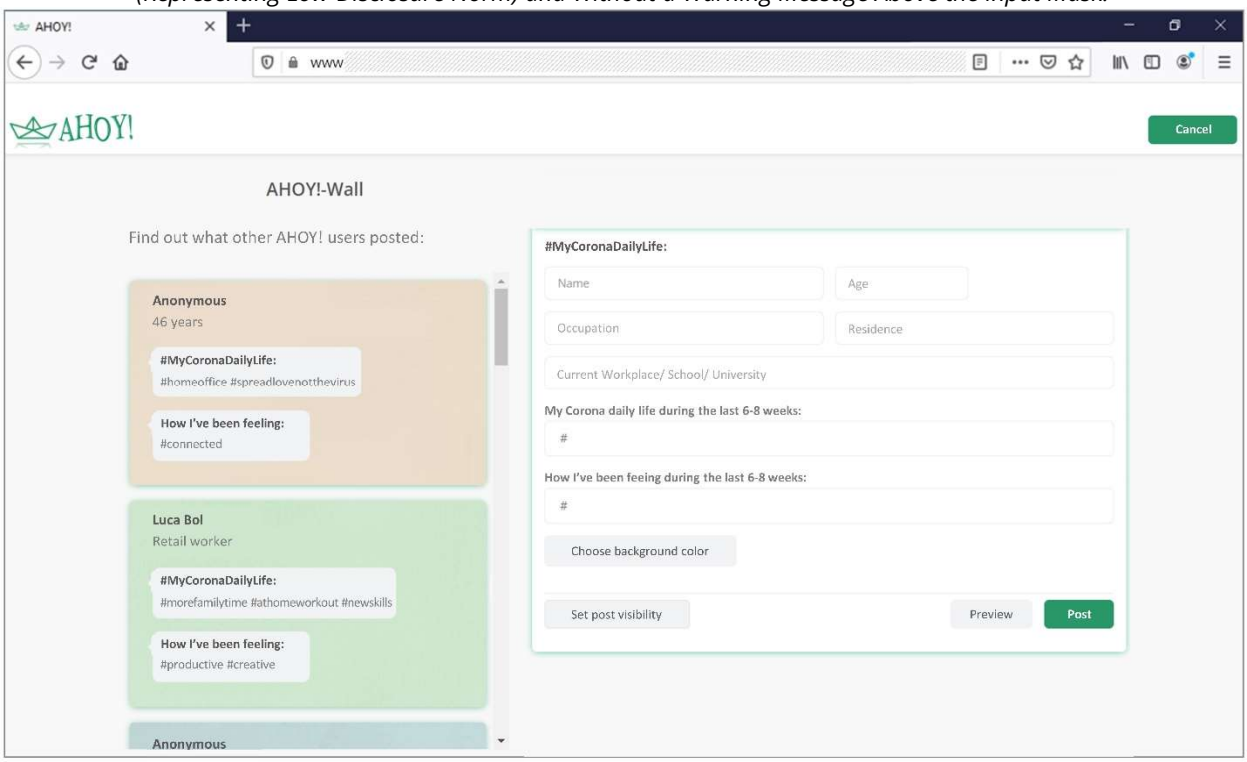
Participants were free to decide for or against creating a post (i.e., by clicking on "post" or "cancel"). When they decided to create a post, they needed to set the post visibility (either to "public", "friends", "friends of friends", or "only me"). Besides using hashtags to describe their daily life and how they have felt during the pandemic (psychological self-disclosure dimension), participants could provide rudimentary information (informational self-disclosure dimension): their name (only tracked as 1 = *stated* and 0 = *not stated*), age, occupation, residence, and current workplace/school/university. By clicking on "preview", their own post was presented on the left side (above the example posts). They could then make changes and click on "preview" as often as necessary. By clicking on "post" their content was directly posted and participants were returned to the survey.

**Figure 1.** *Fictitious Social Network "AHOY!" for the Experimental Condition One With Example Posts (Representing High-Disclosure Norm) and a Warning Message Above the Input Mask.*




*Note.* The text in this Figure has been translated into English. The original language of the fictitious social network "AHOY!" was German, given that this study was conducted with German participants.

**Figure 2.** *Fictitious Social Network "AHOY!" for the Experimental Condition Four With Example Posts (Representing Low-Disclosure Norm) and Without a Warning Message Above the Input Mask.*




*Note.* The text in this Figure has been translated into English. The original language of the fictitious social network "AHOY!" was German, given that this study was conducted with German participants.

### *Self-Disclosure on "AHOY!"*

To investigate the impact of the factors outlined in the Theoretical Background section, different variables representing participants' self-disclosure decisions are used. Creating a post or not served as first (dichotomous) dependent variable (*post*). The amount of information shared within posts was taken as second dependent

variable. Here, on the one hand, the number of filled fields that encompassed information about the participants was summed up. This score represents the informational self-disclosure dimension (variable: *self-disclosure*$_{info}$) and could range between zero and five (based on the five fields for name, age, occupation, residence, and current workplace/school/university). On the other hand, we rated the hashtags of each participant: two independent raters counted the overall amount of information content provided within both hashtag input fields. Regarding the inter-rater reliability, we calculated the intraclass correlation (ICC; Fisher, 1954; McGraw & Wong, 1996) based on the following selections: a two-way mixed-effects model, absolute agreement, and a mean-rating ($k$ = 2). The ICC estimate was .994 and its 95% confidence interval revealed a lower bound of .992 and an upper bound of .996, indicating an overall excellent reliability (Koo & Li, 2016). Then, the mean rating of both raters was calculated for each participant. The range of this score, which represents the psychological dimension by covering information on participants' daily life as well as their feelings during the pandemic (variable: *self-disclosure*$_{psy}$), starts at value one (at least one hashtag had to be provided in order to make it impossible to share an empty post) and has no defined upper limit. In this study, the score ranged between 1 and 41 for the total amount of information content provided within both hashtag fields.

### *Perceived Benefits and Risks*

Twelve items based on Bol et al. (2018) assessed participants' perceived risks, covering both perceived susceptibility to and perceived severity of privacy risks. Both aspects were also combined with a vertical and a horizontal privacy level (see Appendix, Table A1). Participants were instructed that all items refer to the previously shown social network "AHOY!". Those who did not create a post were asked to imagine that they had in order to rate the items. All items were answered on a 5-point Likert scale ranging from 1 = *strongly disagree* to 5 = *strongly agree*, with higher scores indicating higher perceived risks. A mean score (variable: *perceived risks*) was calculated. Cronbach's Alpha revealed a good internal consistency (α = .825).

To measure perceived benefits related to "AHOY!", we used 15 items based on previous work (Krasnova & Veltri, 2010; Krasnova et al., 2010) and self-development, which were also rated on a 5-point Likert scale ranging from 1 = *strongly disagree* to 5 = *strongly agree* (see Appendix, Table A2). We used an overall mean score (variable: *perceived benefits*), whereby higher scores indicate higher perceived benefits. Cronbach's Alpha revealed an excellent internal consistency (α = .952).

### *Privacy-Related Decision-Making Styles*

We applied the Rational and Intuitive Decision Styles Scale by Hamilton et al. (2016) and modified the items regarding online information disclosure. The rational and intuitive subscales consisted of five items each (see Appendix, Table A3). All items were answered on a 5-point Likert scale ranging from 1 = *strongly disagree* to 5 = *strongly agree*. A mean score was calculated for each subscale (variables: *rational style, intuitive style*) with higher scores indicating higher tendencies toward rational or intuitive privacy-related decision-making, respectively. The internal consistencies were good to excellent (*intuitive style*: α = .881; *rational style*: α = .919).

## Results

We used SPSS 27 for Windows to conduct the statistical analyses. To test for the impacts of the categorical and continuous factors on the first dependent variable *post*, which is dichotomous, we calculated a binary logistic regression. Regarding the categorical variable *norms*, the aggregated experimental conditions one and two represented *high-disclosure norm*, the conditions three and four represented *low-disclosure norm*, and conditions five and six *no disclosure norm*. For the categorical variable *warning message*, the aggregated conditions one, three, and five represented the setting *with* a warning message and the conditions two, four, and six represented the setting *without* a warning message. For our analyses, *high-disclosure norm* and *without* a warning message served as reference categories. To test for the factors' impacts on the continuous variables *self-disclosure*$_{info}$ and *self-disclosure*$_{psy}$, a multivariate analysis of covariance (MANCOVA) was calculated. Since self-disclosure decisions can also be influenced by sociodemographic characteristics (e.g., Bol et al., 2018; Masur et al., 2021), we included the commonly considered factors age, gender, and education as control variables in all analyses.

## Descriptive Statistics

Table 1 shows descriptive statistics of all key variables for the whole sample and subsamples (post created and no post created). Tables 2 and 3 present the descriptive statistics for the aggregated groups *high-disclosure*, *low-disclosure*, and *no disclosure norm* and for the aggregated groups *with* and *without* a warning message (regarding descriptive statistics for all six conditions please see Appendix, Table A4). Table 4 depicts Pearson correlation analyses between the measured variables. Overall, 414 participants created a post (137 did not), of which 124 participants (30.0%) chose the visibility "public", 159 (38.4%) chose "friends", 26 (6.3%) "friends of friends", and 105 (25.4%) "only me".

**Table 1.** *Descriptive Statistics of the Whole Sample and Separated for Those Who Created a Post and Those Who Did Not.*

| | Total sample ($N$ = 551) | | Post created ($n$ = 414) | | No post created ($n$ = 137) | |
|---|---|---|---|---|---|---|
| Variable | *M (SD)* | Range | *M (SD)* | Range | *M (SD)* | Range |
| **Self-Disclosure** | | | | | | |
| Self-disclosure$_{info}$ | 3.00 (2.08) | 0.00–5.00 | 3.99 (1.33) | 0.00–5.00 | 0.00 (0.00) | 0.00 |
| Self-disclosure$_{psy}$ | 4.41 (4.59) | 0.00–41.00 | 5.87 (4.41) | 1.00–41.00 | 0.00 (0.00) | 0.00 |
| **Privacy-Related Decision-Making Styles** | | | | | | |
| Rational style | 3.74 (0.82) | 1.00–5.00 | 3.64 (0.84) | 1.00–5.00 | 4.03 (0.71) | 1.40–5.00 |
| Intuitive style | 3.17 (0.85) | 1.00–5.00 | 3.23 (0.81) | 1.00–5.00 | 2.96 (0.94) | 1.00–5.00 |
| **Perceived Consequences** | | | | | | |
| Perceived risks | 3.80 (0.59) | 1.67–5.00 | 3.74 (0.59) | 1.67–5.00 | 4.00 (0.57) | 1.83–5.00 |
| Perceived benefits | 2.97 (0.86) | 1.00–5.00 | 3.12 (0.76) | 1.00–5.00 | 2.54 (0.98) | 1.00–4.60 |

**Table 2.** *Descriptive Statistics Separated for the Aggregated Experimental Conditions Representing High-Disclosure, Low-Disclosure, and No Disclosure Norm*.

| | High-disclosure norm (including with and without a warning message) ($n$ = 145) | | Low-disclosure norm (including with and without a warning message) ($n$ = 130) | | No disclosure norm (including with and without a warning message) ($n$ = 139) | |
|---|---|---|---|---|---|---|
| Variable | *M (SD)* | Range | *M* (*SD)* | Range | *M* (*SD)* | Range |
| **Self-Disclosure** | | | | | | |
| Self-disclosure$_{info}$ | 4.15 (1.23) | 0.00–5.00 | 3.58 (1.51) | 0.00–5.00 | 4.20 (1.18) | 0.00–5.00 |
| Self-disclosure$_{psy}$ | 7.75 (5.69) | 1.00–41.00 | 4.97 (3.06) | 1.00–19.00 | 4.76 (3.15) | 1.00–16.00 |
| **Privacy-Related Decision-Making Styles** | | | | | | |
| Rational style | 3.61 (0.86) | 1.00–5.00 | 3.69 (0.76) | 1.00–5.00 | 3.62 (0.88) | 1.00–5.00 |
| Intuitive style | 3.27 (0.85) | 1.00–5.00 | 3.23 (0.77) | 1.00–4.80 | 3.19 (0.81) | 1.00–5.00 |
| **Perceived Consequences** | | | | | | |
| Perceived risks | 3.75 (0.59) | 1.67–5.00 | 3.67 (0.57) | 1.92–5.00 | 3.79 (0.61) | 2.08–5.00 |
| Perceived benefits | 3.21 (0.76) | 1.00–5.00 | 3.11 (0.72) | 1.00–5.00 | 3.12 (0.79) | 1.00–5.00 |

*Note.* Only those participants are depicted who created a post ($n$ = 414). Thus, 145 posts were created in the subsample high-disclosure norm (42 participants did not create a post), 130 posts were created in the low-disclosure norm subsample (49 participants did not post), and 139 posts were created in the no disclosure norm subsample (46 participants did not post).

**Table 3.** *Descriptive Statistics Separated for the Aggregated Experimental Conditions Representing With and Without a Warning Message*.

| | With a warning message (including high-disclosure, low-disclosure, and no disclosure norm) (*n* = 189) | | Without a warning message (including high-disclosure, low-disclosure, and no disclosure norm) (*n* = 225) | |
|---|---|---|---|---|
| Variable | *M* (*SD*) | Range | *M* (*SD*) | Range |
| **Self-Disclosure** | | | | |
| Self-disclosure$_{info}$ | 3.90 (1.40) | 0.00–5.00 | 4.06 (1.27) | 0.00–5.00 |
| Self-disclosure$_{psy}$ | 5.92 (4.92) | 1.00–41.00 | 5.83 (3.94) | 1.00–22.00 |
| **Privacy-Related Decision-Making Styles** | | | | |
| Rational style | 3.56 (0.91) | 1.00–5.00 | 3.71 (0.76) | 1.40–5.00 |
| Intuitive style | 3.40 (0.81) | 1.00–5.00 | 3.10 (0.79) | 1.00–5.00 |
| **Perceived Consequences** | | | | |
| Perceived risks | 3.74 (0.59) | 1.67–5.00 | 3.74 (0.58) | 1.92–5.00 |
| Perceived benefits | 3.15 (0.78) | 1.00–5.00 | 3.09 (0.75) | 1.00–5.00 |

*Note.* Only those participants are depicted who created a post (*n* = 414). Thus, 189 posts were created in the subsample with a warning message (80 participants did not create a post) and 225 posts were created subsample without a warning message (57 participants did not create a post).

**Table 4.** *Bivariate Correlations Between the Measured Variables.*

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|
| 1. Rational style | – | | | | | | | | |
| 2. Intuitive style | −.35*** | – | | | | | | | |
| 3. Perceived risks | .25*** | −.03 | – | | | | | | |
| 4. Perceived benefits | −.07 | .30*** | −.18*** | – | | | | | |
| 5. Age | .18*** | .01 | .11** | −.06 | – | | | | |
| 6. Gender[a] | −.07 | −.06 | −.07 | .01 | .01 | - | | | |
| 7. Education | −.08 | −.06 | −.09* | .05 | −.17*** | .06 | – | | |
| 8. Post[b] | −.21*** | .14** | −.19*** | .29*** | −.15*** | .03 | .17*** | – | – |
| 9. Self-disclosure$_{info}$[c] | −.08 | .07 | −.08 | .12* | −.09 | .10* | .13** | – | – |
| 10. Self-disclosure$_{psy}$[c] | −.10* | −.00 | .00 | .05 | −.20*** | −.20*** | .06 | – | .10* |

*Note*. [a]0 = female, 1 = male; [b]0 = no, 1 = yes; [c]*n* = 414; no correlations can be presented between the variable post and the variables self-disclosure$_{info}$/self-disclosure$_{psy}$ following the given study design. $^{*}p \leq .05$; $^{**}p < .01$; $^{***}p < .001$

## Main Analyses

### *Binary Logistic Regression*

To test part a) of the hypotheses H1 to H6, a binary logistic regression with the dichotomous variable *post* as dependent variable was calculated (*post created* and *no post*, with *no post* = 0 as reference category). The results and corresponding statistical values are depicted in Table 5.

Regarding the decision for or against creating a post, the overall binary logistic regression model was statistically significant (Nagelkerke's $R^2 = .230$, $\chi^2 = 92.84$, $p < .001$) and revealed an overall percentage correct prediction rate of 78.4%. On closer examination (Table 5), the results showed that the Wald-test for *age* and *gender* was not significant, but for *education*, indicating that with a one unit increase in *education*, the odds of creating a post rather than not creating a post increased by 22.6% (odds ratio = 1.226). Regarding the experimental manipulations, *norms* did not have a significant impact, leading to the rejection of H1a). However, the odds of creating a post (rather than not creating a post) was found to be 40.0% lower (i.e., increased by a factor of 0.600) for individuals in a condition *with* a warning message compared to individuals in a condition *without* a warning message, thus

supporting H2a). Further, with a one unit increase in the *rational style*, the probability that a post was created decreased by 34.7% (i.e., creating a post was 0.653 times more likely than not creating a post), supporting H3a). Also, with a one unit increase in the variable *perceived risks* the probability that a post was created decreased by 33.6% (odds ratio = 0.664), supporting H5a). On the contrary, the probability for a post increased by 100.7% (i.e., increased by a factor of 2.007) given a one unit increase in the variable *perceived benefits*, thus supporting H6a). For the variable *intuitive style*, the Wald-test revealed no statistically significant result, so H4a) was not supported.

**Table 5.** *Statistical Values of the Binary Logistic Regression Analysis Explaining Post Creation on "AHOY!".*

| | *B* | *SE(B)* | Wald | *df* | *p* | Odds Ratio [95% CI] |
|---|---|---|---|---|---|---|
| **Sociodemographics** | | | | | | |
| Age | -0.12 | 0.01 | 2.23 | 1 | .136 | 0.988 [0.973 – 1.004] |
| Gender | -0.53 | 0.22 | 0.06 | 1 | .811 | 0.948 [0.614 – 1.465] |
| Education | 0.20 | 0.07 | 9.35 | 1 | .002 | 1.226 [1.076 – 1.396] |
| **Experimental Manipulations** | | | | | | |
| Low-disclosure norm (compared to high-disclosure norm)* | -0.13 | 0.27 | 0.22 | 1 | .642 | 0.883 [0.521 – 1.494] |
| No disclosure norm (compared to high-disclosure norm) | 0.02 | 0.27 | 0.01 | 1 | .940 | 1.021 [0.601 – 1.734] |
| Warning message | -0.51 | 0.22 | 5.31 | 1 | **.021** | 0.600 [0.388 – 0.927] |
| **Privacy-Related Decision-Making Styles** | | | | | | |
| Rational style | -0.43 | 0.16 | 6.95 | 1 | **.008** | 0.653 [0.476 – 0.897] |
| Intuitive style | 0.12 | 0.14 | 0.76 | 1 | .383 | 1.130 [0.859 – 1.485] |
| **Perceived Consequences** | | | | | | |
| Perceived risks | -0.41 | 0.20 | 4.19 | 1 | **.041** | 0.664 [0.449 – 0.983] |
| Perceived benefits | 0.70 | 0.13 | 26.90 | 1 | **<.001** | 2.007 [1.542 – 2.611] |

*Note.* $N = 551$.
*Low-disclosure norm compared to no disclosure norm: $B = -0.15$, $SE(B) = 0.26$, Wald= 0.30, $df = 1$, $p = .582$, odds ratio = 0.865, 95% CI 0.516–1.451.

### *Multivariate Analysis of Covariance*

Subsequent to the binary logistic regression analysis, we calculated a multivariate analysis of covariance (MANCOVA) with *self-disclosure*$_{info}$ and *self-disclosure*$_{psy}$ as dependent variables to test parts b) and c) of the hypotheses H1 to H6. The results separated for both dependent variables are presented in Table 6.

Overall, the results revealed that the control variables *age* and *gender*, as well as *norms* had a significant effect on both dependent variables together, *age*: $F(2,400) = 6.88$, $p = .001$, $\eta^2 = .033$; *gender*: $F(2,400) = 14.68$, $p < .001$, $\eta^2 = .068$; *norms*: $F(4,800) = 15.17$, $p < .001$, $\eta^2 = .070$. The control variable *education*, $F(2,400) = 2.40$, $p = .092$, $\eta^2 = .012$, and the variables *rational style*, $F(2,400) = 1.92$, $p = .148$, $\eta^2 = .010$, *intuitive style,* $F(2,400) = 1.76$, $p = .173$, $\eta^2 = .009$, *perceived risks*, $F(2,400) = 0.97$, $p = .379$, $\eta^2 = .005$, *perceived benefits,* $F(2,400) = 2.19$, $p = .114$, $\eta^2 = .011$, and the *warning message*, $F(2,400) = 0.86$, $p = .425$, $\eta^2 = .004$, did not have a significant effect when taking both dependent variables together.

On closer examination (see Table 6), regarding the decision on *how much* to disclose on an informational dimension, the control variables *age* and *gender* did not have a significant effect, with $B = -0.01$, $SE(B) = 0.01$, $t = -1.35$, $p = .177$ for *age* and $B = 0.24$, $SE(B) = 0.13$, $t = 1.89$, $p = .059$ for *gender*, but with increasing *education*, the amount of shared rudimentary information also increased, $B = 0.08$, $SE(B) = 0.04$, $t = 2.17$, $p = .031$. Further, the variables *rational style*, *intuitive style*, *perceived risks*, and *perceived benefits* had no significant effect on self-disclosure on an informational dimension, with $B = -0.05$, $SE(B) = 0.09$, $t = -0.59$, $p = .556$ for *rational style*; $B = 0.10$, $SE(B) = 0.09$, $t = 1.15$, $p = .250$ for *intuitive style*; $B = -0.15$, $SE(B) = 0.11$, $t = -1.31$, $p = .191$ for *perceived risks*; and $B = 0.17$, $SE(B) = 0.09$, $t = 1.86$, $p = .063$ for *perceived benefits*. Regarding the experimental manipulations, we investigated pairwise post-hoc tests (Bonferroni), which revealed that individuals in a condition with *low-disclosure norm* ($M = 3.59$, $SD = 0.11$), disclosed significantly less on an informational level compared to individuals in a condition with *high-disclosure norm* ($M = 4.10$, $SD = 0.11$; 95% CI [−0.882, −0.127], $p = .004$). Further, individuals in a condition with *low-disclosure norm* also disclosed significantly less compared to those in a condition with *no disclosure norm* ($M = 4.23$, $SD = 0.11$; 95% CI [−1.017, −0.250], $p < .001$). There was no difference between *no disclosure norm* and *high-disclosure norm* (95% CI [−0.247, 0.504], $p = 1.000$). Also, no significant difference was

found comparing *with* a warning message (*M* = 3.89, *SD* = 0.10) and *without* a warning message (*M* = 4.05, *SD* = 0.09; 95% CI [−0.415, 0.100], *p* = .230).

With regard to the decision on *how much* to disclose on a psychological dimension, the results revealed significant effects for the control variables *age* and *gender*, and more precisely, individuals' disclosure on this dimension decreased with increasing age, *B* = −0.05, *SE(B)* = 0.02, *t* = −3.57, *p* < .001, and males disclosed significantly less emotion-related/intimate information than females, *B* = −1.96, *SE(B)* = 0.40, *t* = −4.90, *p* < .001. Further, the control variable *education* and the variables *rational style*, *intuitive style*, *perceived risks*, and *perceived benefits* had no significant effect on self-disclosure on a psychological dimension, with *B* = 0.06, *SE(B)* = 0.12, *t* = 0.52, *p* = .607 for *education*; *B* = −0.51, *SE(B)* = 0.27, *t* = −1.92, *p* = .056 for *rational style*; *B* = −0.39, *SE(B)* = 0.28, *t* = −1.38, *p* = .170 for *intuitive style*; *B* = 0.13, *SE(B)* = 0.35, *t* = 0.37, *p* = .715 for *perceived risks*; and *B* = 0.31, *SE(B)* = 0.28, *t* = 1.12, *p* = .265 for *perceived benefits*. We again investigated pairwise post-hoc tests (Bonferroni) for the experimental manipulations, revealing that individuals in a condition with *low-disclosure norm* (*M* = 5.03, *SD* = 0.36) and individuals in a condition with *no disclosure norm* (*M* = 4.78, *SD* = 0.35) disclosed significantly less information compared to individuals in a condition with *high-disclosure norm* (*M* = 7.71, *SD* = 0.34; 95% CI [−3.863, −1.497], *p* < .001 for *low-disclosure norm* compared to *high-disclosure norm*; and 95% CI [−4.107, −1.753], *p* < .001 for *no disclosure norm* compared to *high-disclosure norm*). There was no significant difference when comparing *low-disclosure norm* to *no disclosure norm* (95% CI [−0.952, 1.452], *p* = 1.000). Also, no significant difference was found between the conditions *with* a warning message (*M* = 5.92, *SD* = 0.30) and *without* a warning message (*M* = 5.75, *SD* = 0.27; 95% CI [−0.636, 0.977], *p* = .678).

Overall, no significant interaction effects were found. Further, parts b) and c) of the hypotheses H2 to H6 were not supported by the results, whereas H1b) and H1c) were supported, given that individuals in a condition with *high-disclosure norm* disclosed more on both the informational and psychological dimension than individuals in a condition with *low-disclosure norm*. So with increasing information shared by others, the amount of shared information on both dimensions also increased. However, the patterns regarding the *no disclosure norm* condition differ depending on the self-disclosure dimension, which is discussed in more detail in the next section.

**Table 6.** *Results of the Mancova With the Dependent Variables Self-Disclosure$_{info}$ and Self-Disclosure$_{psy}$.*

| | Self-Disclosure$_{Info}$ | | | | Self-Disclosure$_{Psy}$ | | | |
|---|---|---|---|---|---|---|---|---|
| | *df* | *F* | *p* | $\eta^2$ | *df* | *F* | *p* | $\eta^2$ |
| **Sociodemographics** | | | | | | | | |
| Age | 1 | 1.83 | .177 | .005 | 1 | 12.72 | **<.001** | .031 |
| Gender | 1 | 3.58 | .059 | .009 | 1 | 23.98 | **<.001** | .056 |
| Education | 1 | 4.70 | **.031** | .012 | 1 | 0.27 | .607 | .001 |
| **Experimental Manipulations** | | | | | | | | |
| Norms | 2 | 8.82 | **<.001** | .042 | 2 | 22.21 | **<.001** | .100 |
| Warning message | 1 | 1.45 | .230 | .004 | 1 | 0.17 | .678 | .000 |
| **Privacy-Related Decision-Making Styles** | | | | | | | | |
| Rational style | 1 | 0.35 | .556 | .001 | 1 | 3.68 | .056 | .009 |
| Intuitive style | 1 | 1.33 | .250 | .003 | 1 | 1.89 | .170 | .005 |
| **Perceived Consequences** | | | | | | | | |
| Perceived risks | 1 | 1.72 | .191 | .004 | 1 | 0.13 | .715 | .000 |
| Perceived benefits | 1 | 3.47 | .063 | .009 | 1 | 1.25 | .265 | .003 |
| Error | 401 | | | | 401 | | | |

*Note*. *n* = 414; self-disclosure$_{info}$: Adj. $R^2$ = .072; self-disclosure$_{psy}$: Adj. $R^2$ = .165.

## Discussion

The study's aim was to provide a better understanding of individuals' privacy-related decisions on social networks. By taking a dual-process perspective, we postulated that self-disclosure decisions in online contexts cannot solely be considered a rational choice. Instead, we argue that such decisions can also be led by rather impulsive processes, since necessary information about potential negative consequences is usually not communicated (e.g., Efroni et al., 2019; Taddicken & Jers, 2011) and heuristics or cognitive biases are also an integral part of human decision making (e.g., Acquisti & Grossklags, 2005, 2007; Volz & Gigerenzer, 2012). In line with dual-process theories, we examined the effect of variations within the decision situation, individual attributes, and situational perceptions on individuals' online self-disclosure decisions. On the fictitious social network "AHOY!", participants had the choice to create a post or not. We manipulated both descriptive social norms and the presence/absence

of a warning message during post creation, further asked for individuals' privacy-related decision-making styles (*rational* and *intuitive style*), and let participants rate their *perceived benefits* and *risks* regarding "AHOY!".

Overall, the results revealed that the relevance of the investigated factors differs depending on the self-disclosure decision stage that is examined. Consequently, both rational as well as impulsive processes (likely triggered by these factors) can be involved, but possibly to different extents in different self-disclosure decision stages.

## Decision for or Against Creating a Post

When deciding *whether or not* to create a post, both the reflective and the impulsive system seem to be involved: the *warning message*, *rational style*, and *perceived risks* (expected to trigger reflective/rational decision-making processes) and *perceived benefits* (expected to trigger impulsive/intuitive processes) had a significant impact. Presenting a *warning message* was found to decrease the likelihood that an individual creates a post, supporting H2a). Similarly, with an increasing *rational* privacy-related decision-making *style* and with an increase in *perceived risks*, the probability of creating a post also decreases, supporting H3a) and H5a), respectively. Thus, reflective processes are likely involved which may prevent individuals from potentially negative consequences. These results are in line with previous research and assumptions. Even though previous studies revealed inconsistent results regarding the effect of warning messages on online self-disclosure intentions (e.g., LaRose & Rifon, 2007; Meier, Schäwel, Kyewski, et al., 2020), hinting users at potential risks appears helpful especially in the context of *actual* disclosing decisions (here, when deciding whether or not to disclose anything). Such an intervention appears thus promising to support users in an early self-disclosure decision stage by providing necessary information for a more deliberate decision. Further, in line with Kehr et al. (2015), individuals' cognitive styles can also play a considerable role. Following the significant effect of the *rational style*, especially the preference for a reflective processing appears relevant. Alongside, perceived risks have previously been demonstrated to reduce self-disclosure intentions (e.g., Krasnova et al., 2010), and the current results imply that *perceived risks* can also play a buffering role for *actual* self-disclosures, particularly in an early decision stage.

In contrast to these buffering factors, the current results also showed that the probability for creating a post can increase with increasing *perceived benefits*, thus supporting H6a). Although the perception of benefits may in some cases result in a rather reflective-driven decision (see privacy calculus), we argue, in line with dual-process theories (e.g., Bechara & Damasio, 2005; Schiebener & Brand, 2015), that the prospect of short-term rewards (e.g., experiencing fun and positive feelings) particularly triggers impulsive processes, resulting in the decision to create a post, which may increase the possibility for negative consequences. These results are in line with previous research demonstrating that perceived benefits are positively related to self-disclosure intentions and actual behaviors (e.g., Dienlin & Metzger, 2016; Krasnova et al., 2009, 2010; Meier, Schäwel, & Krämer, 2020). Thus, in this decision stage, both risks and benefits can play a role and based on dual-process assumptions it can be argued that depending on an individuals' susceptibility to (or the salience of) potential risks and expected benefits, both the reflective and the impulsive system may be triggered (with shifts between both systems), whereby the final decision for or against the creation of a post can then predominantly be led by one of the two systems (see also Bechara & Damasio, 2005; Schiebener & Brand, 2015). Thus, based on the effects of risks as well as benefits, a weighing process as proposed by the privacy calculus approach (see Culnan & Armstrong, 1999; Dienlin & Metzger, 2016) may take place, but such a rational weighing is not ensured, which is in line with researchers arguing to move away from a fully rational view and to interpret the privacy calculus as a probabilistic approach (e.g., Bol et al., 2018). Accordingly, the decision for or against creating a post may also be the result of rather impulsive processes due to, for instance, the greater salience of possible benefits or expected gratifications (which could be reflected in the fact that the odds of creating a post increased by a factor of 2.007). Regarding the *intuitive* privacy-related decision-making *style*, we found no considerable association, thus H4a) is not supported. Referring to Hamilton et al. (2016), the rational and the intuitive style may not be regarded as the endpoints of a continuum, but rather as orthogonal constructs. This would explain the asymmetry in the results, which show a significant association between the dependent variable *post* and the *rational style*, but not between *post* and the *intuitive style*. Thus, more research is necessary to understand the role of this decision-making style, especially in the context of self-disclosure decisions on social networks. Interestingly, descriptive social *norms* had no statistically significant relevance in this self-disclosure decision stage, so that H1a) is not supported. For the decision *whether or not* to create a post, it seems to be irrelevant what and how much other users post. Here, other factors seem to be more important, whereby *norms* become important in the subsequent self-disclosure decision stage. This will be discussed in the next sections. Taken together, it appears that the rational system could be involved to greater

extents in this first self-disclosure decision stage, although impulsive processes can also be triggered due to perceived benefits.

## Self-Disclosure on a Psychological Dimension

While we first investigated which factors were related to participants' decision to create a post or not, we then examined which factors were associated with the amount of disclosed information (on a psychological and informational dimension) among those who decided to create a post. Regarding the psychological dimension, results showed that descriptive social *norms* did have an impact (supporting H1c). More precisely, individuals in a condition with *low-disclosure norm* (example posts containing little information) as well as individuals in a condition with *no disclosure norm* (no example posts) disclosed significantly less information on the psychological dimension compared to individuals confronted with posts containing much information (*high-disclosure norm*). Further, no significant effect appeared when comparing *low-disclosure norm* to *no disclosure norm*. Here, it seems that individuals followed other users' behaviors, regardless of whether a warning message was presented or not. Referring back to Acquisti et al. (2012), a *herding effect* may have occurred, leading participants to conform to the prevailing norm of disclosure. Individuals may have, less reflectively and following available disclosure heuristics, decided how much intimate information content is "appropriate" to be disclosed (see also *social proof heuristic*; L. Wang et al., 2020). This is in line with early work arguing that descriptive norms can guide through unfamiliar situations or settings (e.g., Cialdini & Trost, 1998). The social network "AHOY!" was rather new and unfamiliar, even though participants were asked to imagine that they regularly use it and although it followed the style of other social networks. Here, particularly descriptive norms as a specific variation of the decision situation seem to play an important role, which implies that the decision on how much intimate information to disclose may especially be guided by the impulsive system. The only further factor showing a negative, but barely not significant relationship was the *rational style* (therefore, H3c has to be rejected). However, the correlation table reveals a small and negative relation between the *rational style* and self-disclosure on a psychological dimension. It may be that more statistical power is needed to detect such a small effect and that this relation was concealed in the MANCOVA due to effects of other variables (see also the findings regarding the control variables in the subsection Additional Results). Nevertheless, since the effect of the *rational style* was not significant in the MANCOVA, the impulsive system may predominantly be involved here due to specific situational conditions (i.e., descriptive social *norms*).

Regarding the second investigated situational variation, the variable *warning message* did not have an effect anymore, implying that once the decision to create a post has been made, other situational aspects than a warning message may predominantly guide individuals' self-disclosure decision making. At least the way this warning message has been designed and presented seems not to be as helpful as expected to reduce the amount of shared intimate information, thus H2c) has to be rejected. However, there may be more effective warning approaches, for instance, by repeatedly hinting at possible risks rather than only once. Also, warnings could be presented more dynamically, for instance, by reflecting the user's actual risk level based on the information planned to be posted (see also Díaz Ferreyra et al., 2019).

Besides, key constructs of the privacy calculus approach (*perceived benefits* and *perceived risks*) also revealed no significant effects regarding the psychological self-disclosure dimension, leading to the rejection of H5c) and H6c). For this decision stage, it seems that specific situational variations, namely descriptive social *norms*, appear particularly relevant and both *perceived benefits* and *risks* are not necessarily further important contributors. Even though studies oftentimes highlighted the role of these constructs for individuals' self-disclosure decisions (see also Gerber et al., 2018), they may not always be as important as other factors. Similarly, the individual attribute *intuitive style* was not significantly associated with the amount of shared intimate information, which leads to a rejection of H4c) and again underlines the important role of specific situational conditions. Thus, when deciding how much personal and intimate information to share, especially descriptive social *norms* appear to take a central role. Consequently, this role should be put more into focus and could be included more clearly in current theoretical conceptualizations of self-disclosure decision making (see also Masur et al., 2021).

## Self-Disclosure on an Informational Dimension

Of the investigated key constructs, only descriptive social *norms* showed a significant effect on the amount of rudimentary information provided (supporting H1b), whereby here the effect of *norms* was smaller than in the case of the psychological dimension. In more detail, individuals in a condition with *low-disclosure norm* disclosed

significantly less on an informational dimension compared to participants in a condition with *high-disclosure norm*. Here again, it seems that people strongly orient toward other persons' sharing behaviors on social networks (see also Acquisti et al., 2012; L. Wang et al., 2020). However, differently to the psychological dimension, individuals in the *no disclosure norm* condition did not also disclose significantly less information compared to those in the *high-disclosure norm* condition. It seems that for the informational dimension, being confronted with posts containing much information or seeing no posts can result in a similar amount of shared identifying information. Here, it could be argued that if indications of how much identifying information is "appropriate" to be disclosed are available, individuals follow these indications (or heuristics) rather unreflectively, but if no indications are in place, individuals may, even more, need to follow their hunches and gut feelings, leading to also high disclosures. However, since there was no difference on the psychological dimension when comparing *no disclosure norm* and *low-disclosure norm*, but here participants in the *low-disclosure norm* condition disclosed significantly less than those in the *no disclosure norm* condition, it may also be that participants were more familiar with providing personally identifying information than with sharing intimate information on their feelings and daily routines during the COVID-19 pandemic. Providing identifying information (e.g., name or age) is oftentimes an integral part of profile creation and therefore may have been done quite routinely or automatically (as a kind of *default* mode) even though no example posts were given. In contrast, sharing one's emotions due to the pandemic could be rather inconvenient. Thus, it could be that participants in general did not feel very comfortable or were not open to share their emotions, potentially explaining why there was no difference between the *low-disclosure* and the *no disclosure norm* groups on the psychological level, which, however, seemingly changed when being confronted with other users who extensively shared their feelings and experiences (*high-disclosure norm*). In both cases, on an informational and psychological dimension, seeing other users sharing much information (*high-disclosure norm*) likely leads individuals to follow the given "social rules" (Acquisti et al., 2012; L. Wang et al., 2020), thus likely leading to a decision based on heuristics, which would be attributed to the impulsive system. Since users are constantly confronted with the content and huge amount of information that other users share, less reflective and more impulsive or intuitive processes may thus predominantly guide their decisions on how much and what to disclose.

Regarding the remaining factors, neither the *warning message* (H2b) nor individual attributes (both the *rational* and *intuitive style*, H3b and H4b) nor situational perceptions (both *perceived risks* and *perceived benefits*, H5b and H6b) had a significant effect on self-disclosure on an informational dimension, thus the respective hypotheses were not supported. Again, future research should focus more on a systematic development and evaluation of warning messages to increase their effectiveness in different self-disclosure stages. Even though the warning used in this study directly informed about possible negative consequences on a horizontal and vertical level, it was probably not enough to let participants perceive necessary personal relevance. Biases such as an *optimistic bias* (see Cho et al., 2010) may not have been reduced by the current warning message. Repeatedly shown warnings with varying content could be promising for this decision stage. Integrating such interventions in research settings with real social networks (e.g., Instagram) could also provide more insightful findings. With regard to individual attributes and situational perceptions, both the *rational* and *intuitive style* as well as *perceived risks* and *perceived benefits* also did not show additional effects. Therefore, especially specific variations of the decision situation appear to be crucial determinants of individuals' decisions on how much information to share and should thus be examined more deeply in future studies. However, although the effect of *perceived benefits* on self-disclosure on an informational dimension was non-significant, an inspection of the correlation table shows that there is a small positive relation between the two constructs, which is in line with previous research (e.g., Dienlin & Metzger, 2016; Krasnova et al., 2009, 2010; Meier, Schäwel, & Krämer, 2020). Hence, the data are not completely unambiguous regarding this relation, but a connection between these two variables is still plausible. It is possible that the relation has been concealed in the MANCOVA due to the relations of the other variables (see also the next section on the effects of the control variables). Further, it might be that more statistical power is needed to detect small effects in this case, following that with the subsample of 414 participants effects smaller than $r = .16$ are detectable only with a chance of less than 91%. However, since *perceived benefits* also had no significant effect on the psychological dimension, it could also simply be that people align their decisions primarily to the behavior of others so that personal benefit perceptions only play a subordinate role. Nevertheless, the current results regarding descriptive *norms* point towards an involvement of the impulsive system in this second self-disclosure decision step.

## Additional Results

With regard to the control variables *age*, *gender*, and *education*, we found that *age* and *gender* were only partly relevant for the second decision step, while *education* was a significant predictor in the first and partly in the

second decision step. More precisely, with a higher educational level, the likelihood to create a post (rather than not to create a post) and the amount of disclosed information on the informational dimension increased. This is rather counterintuitive, since educational level has previously been found to be negatively associated with self-disclosure (e.g., Bol et al., 2018). However, an explanation could be that those with higher educational levels may be more familiar with providing rudimentary/personally identifying information due to progressive digitization strategies and the increasing usage of social media in the educational context (e.g., Facebook groups used for organizing courses in universities). Further, it could also be that with increasing educational levels, individuals become rather overconfident regarding their capability to control their information, resulting in more provided information.

Regarding age, the results indicate a negative association with the amount of disclosed information on the psychological dimension (but not on the informational dimension). These results are in line with research outlining a negative relationship between age and self-disclosure (e.g., Aharony, 2016; Taddicken, 2014). However, this relationship seems to hold true especially for more sensitive and intimate information. Regarding gender, the current results indicate that males disclosed less on a psychological dimension compared to females (while there was no significant association between gender and the informational dimension). This is also in line with other work indicating that females tend to disclose more sensitive/intimate information and a broader range of topics than males (Li et al., 2015).

## Implications and Future Research

The current findings provide important theoretical and practical implications. We found that self-disclosure decisions capture different steps and that these may be driven by psychological processes in different ways. It appears that the reflective as well as the impulsive system are involved in the decision whether or not to disclose something at all (with reflective processes also potentially taking a predominant role), while the decision on how much to disclose on an informational and psychological dimension appears to be guided especially by the impulsive system. The results further indicate that participants who may especially be driven by reflective processes and who were influenced by the warning message were "filtered out" in the first decision step, while more intuitively/impulsively driven users moved on to the second decision step (i.e., how much to disclose), which could additionally explain why rational factors did not play a crucial role in this decision step anymore. This underlines that the role of inner psychological processes involved in individuals' online self-disclosure decisions is, to date, not fully understood and needs closer examination. Since existing theoretical conceptualizations are lacking the explicit consideration of such processes or mainly highlight rational/reflective processes, an advanced theoretical model also integrating impulsive/intuitive processes is needed to enrich and guide future research in this context. Such a model should thereby integrate and structure different predictors, which can be expected to trigger respective inner psychological processes, and should consider different resulting self-disclosure decisions. In doing so, new hypotheses could systematically be derived in order to better understand individuals' self-disclosure decisions and potentially driving psychological processes. With regard to practical implications, the current study found that a warning message may be especially effective in an initial decision stage, thus *before* users have to decide on which or how much personal information to reveal. The results open the door for further research on different self-disclosure decision stages to confirm that initial stages could be shaped more rationally whereas later stages could follow more intuitive and affective processes. Nevertheless, other design approaches or different protective approaches beyond a warning message may also be helpful in later stages in order to strengthen the involvement of reflective processes. For instance, developing dynamic instead of static warnings may be a promising approach (see Díaz Ferreyra et al., 2019). Thus, the effectiveness of protective approaches such as warning messages needs to be examined more systematically taking into account different self-disclosure decisions and the potentially strong involvement of the impulsive system in specific decision situations.

## Limitations

Some limitations have to be mentioned. First, due to the cross-sectional design, causal conclusions cannot clearly be drawn. Although it is theoretically conclusive that self-disclosure is the outcome variable, it may also be that disclosure affected the subsequent survey results, because participants revealed personal information before answering the questionnaires. Besides, the relation between variations of the decision situation, individual characteristics, and situational perceptions should be investigated more explicitly in the future. Second, although participants could decide against disclosing information, the study still created an artificial situation. Hence, the

study may have high internal but potentially rather low external validity. Future studies should compare self-disclosure decisions on different social networks at once to increase the findings' generalizability. To create a more realistic setting, an ambulatory assessment approach integrating the usage of an application for several weeks could provide new and even more reliable insights. Third, it was not possible to determine whether the disclosed pieces of information were entirely true or not (although obviously false information was excluded) and whether the option to preview one's post may have additionally impacted one's self-disclosures. In addition, we proposed that creating a post constitutes a form of self-disclosure, since it involved the sharing of at least one hashtag. This assumption may be questioned in cases where only one hashtag was shared, depending on the hashtag itself. However, we argue that even one hashtag can have a certain depth and following that each hashtag had to be assigned to a concrete statement within the input mask/post preview (e.g., "How I've been feeling"), even rather simple hashtags can, in this context, be seen as a form of self-disclosure. Fourth, our results overall yielded rather small effect sizes. Recent studies also found rather small effect sizes for the relationship between, for instance, privacy risk perceptions and self-disclosure intentions, so that the effect sizes regarding actual decisions may even be smaller. Based on the sample size of this study, it could therefore be that we did not find smaller, but still considerable effects (for those non-significant variables) which may have been detected with a larger sample size. However, there are likely no large or medium sized effects for these variables. Finally, the findings are based on a non-representative sample. Even though we assessed social networks users between 16 and 69 years, especially the younger age group (16- to 24-year-olds) was underrepresented. Thus, the nature of the sample must be considered when interpreting the findings.

## Conclusion

This study provides several novel insights into online privacy-related decision-making by taking a dual-process perspective that exceeds prevailing privacy calculus explanations. It appears highly important to separate the mere decision of *whether or not* to reveal something on social networks from the subsequent decision of *how much* information to reveal (on an informational and psychological dimension), since different psychological processes seem to be involved to different extents. Both the reflective and impulsive system may be involved in the decision *whether or not* to disclose something online, with the reflective system also potentially taking a predominant role. Here, the *warning message* was found to decrease the likelihood to create a post. Thus, warnings may especially be effective to guide individuals in an early decision stage by reminding them of, for instance, potential privacy threats. The role of the impulsive system, however, may become more important in the subsequent decision on *how much* information to reveal. For both the informational and psychological dimension, descriptive social *norms* as the second variation of the decision situation revealed a significant impact (while the warning had no effect), implying that people's choice of *how much* they disclose may be strongly driven by the behaviors of other users. Regarding individual attributes, the *rational* privacy-related decision-making *style* (but not the *intuitive style*) had an additional considerable impact, but only in the first decision stage (indicating the involvement of the reflective system). The key constructs of the privacy calculus approach, *perceived risks* and *benefits*, also only had a significant effect in the first decision stage (speaking for the involvement of the reflective and impulsive system, respectively), but not in the second decision step when deciding *how much* to disclose on an informational and psychological dimension. Thus, individual characteristics and situational perceptions can still play a considerable role, but this seems to depend on the respective self-disclosure decision stage.

Summed up, this study enlarges the picture of individuals' self-disclosures on social networks by considering both reflective/strategic and impulsive/intuitive processes. This lens does not exclude the assumption of rationality for self-disclosure decisions, it rather emphasizes that such decisions can also be determined by heuristics or cognitive biases complicating strategic and deliberate decisions. Especially variations of the decision situation should be investigated more closely in future studies, since privacy-related decisions are more complex than a mere weighing of privacy risks and disclosure benefits. Online self-disclosure decisions appear to be multilayered and different stages are likely associated with different factors and processes. The results strengthen the direction of providing more information and transparency to support users' decision making. However, concrete solutions in terms of warning messages or other privacy-supporting tools still need to be improved. By understanding self-disclosure decisions as being not purely rational, we are convinced that solutions can be optimized and that social networks users can be supported in a more effective way.

## Conflict of Interest

The authors do not have any conflicts of interest to report.

## Authors' Contribution

**Sina Ostendorf:** conceptualization, methodology, investigation, formal analysis, data curation, validation, visualization, writing – original draft, writing – review & editing. **Yannic Meier:** conceptualization, methodology, validation, writing – review & editing. **Matthias Brand:** conceptualization, methodology, supervision, writing – review & editing.

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# Appendix

**Table A1.** *Items Measuring Perceived Risks With Respect to the Fictitious Social Network "AHOY!".*

| Level | Item beginning | Items | Cronbach's Alpha |
|---|---|---|---|
| **Perceived Risks (Vertical Level)** | | | |
| Perceived ***susceptibility*** to privacy violations | I think it is ***likely*** that the ***social network***... | 1. ...shares information about me with third parties. | |
| | | 2. ...uses information about me for advertising and analysis purposes. | |
| | | 3. ...collects information about me. | .832 |
| Perceived ***severity*** of privacy violations | I find it ***severe*** if the ***social network***... | 1. ...shares information about me with third parties. | |
| | | 2. ...uses information about me for advertising and analysis purposes. | |
| | | 3. ...collects information about me. | .885 |
| **Perceived Risks (Horizontal Level)** | | | |
| Perceived ***susceptibility*** to privacy violations | I think it is ***likely*** that ***other users***... | 1. ...use the information I have disclosed on the social network without my knowledge. | |
| | | 2. ...use the information I have disclosed on the social network to stalk me. | |
| | | 3. ...insult me or treat me with hostility based on the information I have disclosed on the social network. | .785 |
| Perceived ***severity*** of privacy violations | I find it ***severe*** if ***other users***... | 1. ...use the information I have disclosed on the social network without my knowledge. | |
| | | 2. ...use the information I have disclosed on the social network to stalk me. | |
| | | 3. ...insult me or treat me with hostility based on the information I have disclosed on the social network. | .844 |

*Note*. Cronbach's Alpha overall: .825. Items are based on Bol et al. (2018) and were modified with respect to the fictitious social network "AHOY!".

**Table A2.** *Items Measuring Perceived Benefits With Respect to the Fictitious Social Network "AHOY!".*

| Item beginning | Dimension (based on Author(s)) | Items | Cronbach's Alpha |
|---|---|---|---|
| Disclosing information about myself on the social network AHOY! … | **Enjoyment** (Krasnova & Veltri, 2010) | 1. …was fun for me. | |
| | | 2. …gave me an enjoyable time. | |
| | | 3. …entertained me. | .921 |
| | **Self-Presentation** (Krasnova & Veltri, 2010) | 1. …enabled me to make a good impression on others. | |
| | | 2. …enabled me to present myself to others in a favorable manner. | |
| | | 3. …enabled me to present my life to others. | .846 |
| | **Relationship Building** (Krasnova et al., 2010) | 1. …enabled me to make contact with new people who share my interests. | |
| | | 2. …enabled me to expand my network. | |
| | | 3. …enabled me to meet new people. | .919 |
| | **Sense of Community** (self-developed) | 1. …enabled me to shape a current online trend. | |
| | | 2. …enabled me to be part of a community. | |
| | | 3. …gave me a sense of connection. | .855 |
| | **Emotions** (self-developed) | 1. …enabled me to express my feelings. | |
| | | 2. …gave me a positive feeling. | |
| | | 3. …reduced my negative feelings. | .839 |

*Note*. Cronbach's Alpha overall: .952.

**Table A3.** *Items Measuring Rational and Intuitive Privacy-Related Decision-Making Styles.*

| Dimension | Items | Cronbach's Alpha |
|---|---|---|
| **Rational Privacy-Related Decision-Making Style** | 1. I prefer to gather all the necessary information before disclosing personal information about myself on the Internet. | |
| | 2. I thoroughly evaluate decision alternatives before making a final decision whether or not to disclose information about myself on the Internet. | |
| | 3. Before deciding to disclose something about myself on the Internet, I take time to contemplate the pros and cons or risks and benefits of the situation. | |
| | 4. Investigating the facts is an important part of the decision-making process before disclosing personal information about myself online. | |
| | 5. I weigh a number of different factors before making the decision to disclose something about myself online. | .919 |
| **Intuitive Privacy-Related Decision-Making Style** | 1. When making the decision whether to disclose personal information about myself on the Internet, I rely mainly on my gut feelings. | |
| | 2. When deciding to disclose personal information about myself online, I generally follow my initial hunch. | |
| | 3. I make the decision to disclose or to not disclose something about myself on the Internet based on my intuition. | |
| | 4. I rely on my first impressions when making decisions to disclose information about myself online. | |
| | 5. When deciding whether or not to disclose personal information about myself online, feelings are more important to me than analysis of facts. | .881 |

*Note*. Items are based on Hamilton et al. (2016) and were modified with respect to online information disclosure.

**Table A4.** *Descriptive Statistics Separated for the Six Experimental Conditions.*

| Variable | Condition one (*n* = 70) | | Condition two (*n* = 75) | | Condition three (*n* = 63) | | Condition four (*n* = 67) | | Condition five (*n* = 56) | | Condition six (*n* = 83) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *M* *(SD)* | Range | *M* *(SD)* | Range | *M* *(SD)* | Range | *M* *(SD)* | Range | *M* *(SD)* | Range | *M* *(SD)* | Range |
| **Self-Disclosure** | | | | | | | | | | | | |
| Self-disclosure$_{info}$ | 4.17 (1.17) | 0.00 – 5.00 | 4.13 (1.29) | 0.00 – 5.00 | 3.49 (1.65) | 0.00 – 5.00 | 3.67 (1.38) | 0.00 – 5.00 | 4.04 (1.28) | 0.00 – 5.00 | 4.31 (1.10) | 0.00 – 5.00 |
| Self-disclosure$_{psy}$ | 7.97 (6.36) | 1.00 – 41.00 | 7.53 (5.01) | 1.00 – 22.00 | 4.67 (3.30) | 1.00 – 19.00 | 5.26 (2.82) | 2.00 – 15.00 | 4.78 (3.33) | 2.00 – 16.00 | 4.75 (3.05) | 1.00 – 16.00 |
| **Privacy-Related Decision-Making Styles** | | | | | | | | | | | | |
| Rational style | 3.56 (0.93) | 1.00 – 5.00 | 3.65 (0.79) | 1.40 – 5.00 | 3.66 (0.81) | 1.00 – 5.00 | 3.73 (0.72) | 2.00 – 5.00 | 3.43 (1.01) | 1.00 – 5.00 | 3.75 (0.76) | 1.40 – 5.00 |
| Intuitive style | 3.36 (0.84) | 1.00 – 5.00 | 3.19 (0.86) | 1.20 – 5.00 | 3.39 (0.76) | 1.00 – 4.80 | 3.08 (0.75) | 1.60 – 4.60 | 3.45 (0.83) | 1.60 – 5.00 | 3.02 (0.76) | 1.00 – 4.20 |
| **Perceived Consequences** | | | | | | | | | | | | |
| Perceived risks | 3.69 (0.62) | 1.67 – 5.00 | 3.80 (0.55) | 2.67 – 5.00 | 3.71 (0.54) | 2.17 – 4.83 | 3.64 (0.59) | 1.92 – 5.00 | 3.82 (0.63) | 2.17 – 5.00 | 3.77 (0.60) | 2.08 – 5.00 |
| Perceived benefits | 3.29 (0.85) | 1.07 – 5.00 | 3.13 (0.70) | 1.00 – 4.73 | 3.12 (0.68) | 1.73 – 4.40 | 3.11 (0.76) | 1.00 – 5.00 | 3.02 (0.79) | 1.00 – 5.00 | 3.03 (0.79) | 1.00 – 4.53 |

*Note*. Only those participants are depicted who decided to create a post (n = 414). Condition one = high-disclosure norm with a warning message, condition two = high-disclosure norm without a warning message, condition three = low-disclosure norm with a warning message, condition four = low-disclosure norm without a warning message, condition five = no disclosure norm with a warning message, condition six = no disclosure norm without a warning message.

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