

The Privacy Process Model

Tobias Dienlin

The following article develops a new model of privacy referred to as the Privacy Process Model (PPM). Drawing on extant literature on privacy, the PPM analyses the distinct conditions, mechanisms and regulations of privacy. First, it identifies an objective privacy context, which is subdivided into informational, social, psychological and physical dimensions. Second, it examines subjective privacy perceptions, which are divided into the same dimensions. Third, it observes privacy behaviour, which is the amount of self-disclosure people show. If either privacy perception or privacy behaviour differ from a desired status, people will engage in a privacy regulation, meaning that they will try to alter their privacy context or their privacy behaviour. Able to account for online as well as offline contexts, the PPM offers a novel and universal approach to understanding privacy.

Im folgenden Kapitel wird das Privatsphäre Prozess Modell (PPM), ein neues Modell zur Abbildung von Privatsphäre, entwickelt und präsentiert. Das PPM konzeptualisiert verschiedene Zustände, Mechanismen und Verhaltensweisen von Privatsphäre. An erster Stelle steht der objektive Privatsphärekontext, mit den vier Dimensionen der informationellen, sozialen, psychischen und physischen Privatsphäre. An zweiter die subjektive Privatsphäre wahrnehmung, mit den gleichen Dimensionen. An dritter das Privatsphäreverhalten, welches das Ausmaß an Selbstoffenbarung umfasst. Entsprechen der Ist-Zustand der Privatsphäre wahrnehmung und des Privatsphäreverhaltens nicht dem Soll-Zustand, nehmen Menschen eine Privatsphäre regulation vor: Sie passen nun entweder den Kontext oder das Verhalten an. Da sowohl offline als auch online Kontexte erfasst werden können, ermöglicht das PPM insgesamt ein neuartiges und umfassendes Verständnis von Privatsphäre.

1. Introduction

In recent years, privacy has become one of the most prevalent topics in public discourse. Individuals, political parties and private companies alike all ponder questions relating to the phenomenon privacy. The more people analyse privacy, the more approaches to privacy there are. These approaches can vary substantially – for example, some concentrate on technical issues such as the security of data online, others to psycho-social aspects such as the seemingly preposterous acts of self-disclosure on Social Network Sites (SNSs).

Because privacy is often talked about, the impression arises that the

meaning of the term is established. But this is not the case – even in scientific contexts, people display very distinct understandings of privacy. Numerous definitions of privacy have been developed (see e.g. Altman 1975; Burgoon 1982; Gavison 1980; Petronio 2002; Warren/Brandeis 1890; Westin 1967). Yet, as Helen Nissenbaum (2010) argues, none seems to be capable of grasping the entire truth. In the following, I address this problem by developing a new model of privacy, the Privacy Process Model (PPM). The PPM is conceptualized on the basis of a theoretical analysis of extant literature on privacy and privacy models, and on recent empirical studies. The PPM is designed to arrange existing definitions, mechanisms and effects in a single model. It thereby aims to integrate privacy's most important aspects, but also takes into account that all variables are interdependent. I start by giving an overview of already existing models and definitions of privacy; afterwards, I outline the PPM. I then present a possible application of the PPM in the field of new media in order to illustrate the use of the PPM and conclude by discussing the strengths and limitations of the PPM.

2. Theories of privacy

The fact that so many publications explicitly deal with privacy shows at least one thing: the definition of privacy is not self-evident. Extant definitions lead to a heterogeneous and sometimes inconsistent scientific depiction of privacy (Margulis 2011). Nissenbaum describes the situation with the following words: “One point on which there seems to be near-unanimous agreement is that privacy is a messy and complex subject” (2010: 67). I will therefore start with addressing the literal meaning of the term privacy. Subsequently, I will present the core elements of three essential works on privacy. These are Alan Westin's *Privacy and Freedom* (1967), which argues that privacy must be treated as a particular condition or status; Irwin Altman's *The Environment and Social Behaviour: Privacy, Personal Space, Territory, Crowding* (1975), which highlights the importance of the regulatory aspects of privacy; and Judee Burgoon's *Privacy and communication* (1982), which elaborates different dimensions of privacy.

When dealing with privacy and the different depictions of it, it is helpful to look at its original meaning. The word ‘private’ derives from the Latin word *privatus*, which literally means ‘deprived’, and more extensively ‘robbed, free, personal’. A private thing thus reflects something that is separate, not

attainable for everybody and belonging to a particular person. The term privacy accordingly measures the extent to which somebody or something is detached from the influence of others. Though this might seem trivial, it is important to note – in some definitions, privacy is defined as the control over the degree of detachment (see e.g. Burgoon 1982). If this was the case, however, a lonely wanderer would be as private as a person on the dance floor of a nightclub: both are in equal control of all possible aspects of their privacy. Hence, in order to be able to account for this apparent difference, privacy should always be a measure of the degree of a certain type of detachment.

According to Westin, privacy can be defined as “the voluntary and temporary withdrawal of a person from the general society through physical or psychological means” (1967: 7). Four different conditions arise as a result: solitude (freedom from presence and surveillance of others); intimacy (freedom to be able to hold relationships); anonymity (freedom from identification); and reserve (limitation of self-disclosure). Westin thus follows an approach that classifies different states of privacy. Altogether, it is important to note that privacy is understood as a proportionate withdrawal from social interactions.

Altman’s (1975) definition mirrors Westin’s to a great extent, but adds an important notion: taking a sociopsychological approach, Altman places more emphasis on the constant dialectic and dynamic regulation of privacy. He therefore stresses that there is no paramount condition of privacy that one should generally try to attain. On the contrary, desired levels of privacy fluctuate depending on the specific situation and the interaction that takes place. In order to achieve a desired level of privacy, people constantly adjust interpersonal boundaries. Privacy thus resembles a thermostat: first, the current level of privacy is perceived. If the perceived level differs from the desired level, the current status is appraised negatively. This negative appraisal results in an attempt to regulate the current status. If people perceive themselves as having too little or too much privacy, they will try to change their behaviour.

Altman’s assumptions have been tested in various studies. Vinsel, Brown, Altman and Foss (1980) were able to show that students who engaged in various forms of privacy boundary adjustments – for example, closing doors

when they need to study or consciously seeking company in the dorm when appropriate – showed an increased likelihood to successfully pass the first year and to advance to the next.

The next important progress in the definition of privacy was made by Judee Burgoon in 1982. In an analysis of the literature available at the time, Burgoon proposed that privacy and all associated regulations take place in four different dimensions: informational privacy; social privacy; psychological privacy; and physical privacy. Informational privacy measures how far people can decide what information is collected about themselves. Is behaviour recorded on a video-tape? Can the person be clearly identified? How much information about biography and personality is accessible? Social privacy reflects the extent to which people can decide whom they interact with, whom they share personal information with and who has access to them. Psychological privacy captures the degree to which people can control mental in- and outputs, what kind of information they are confronted with and what kind of information they are free to voice. Physical privacy defines the adjustment of factual physical borders: how close people are to one another or how thoroughly people are separated, for example by windows, fences or walls. According to Burgoon, privacy is very much about the controllability of these dimensions. Again, no general desirable condition of privacy is stated. Burgoon argues that when people are capable of adjusting the dimensions, privacy is high; when people are not in the position to do so, privacy is low. Burgoon's approach is empirically supported by the fact that people display different kinds of behaviours in each dimension. A longitudinal study has investigated whether people changed their privacy behaviour on Facebook after experiencing negative interactions after somebody left a hostile post on their Facebook wall (Trepte/Dienlin/Reinecke, in press). It was found that after such negative experiences, people did increase their informational privacy – for example by disguising their authentic names. Nevertheless, respondents did not change their social or psychological privacy behaviour.

In their attempt to define privacy, the aforementioned theories more or less claim to be comprehensive. Yet, each takes a different but at the same time viable viewpoint on privacy, leading to a somewhat diffuse and unsatisfactory theoretical definition. With the PPM, outlined below, I aim to conceptualize a model that integrates the presented definitions and adds

important new aspects.

3. The Privacy Process Model

If one regards the literal meaning of privacy together with the aforementioned theories, a broader picture of privacy can be seen. Privacy emerges as the degree of separation from others (the literal definition); as a separation that can be characterized by different conditions (Westin 1967); as being about a continuous adjustment of individual boundaries (Altman 1975); and as taking place in four different dimensions, namely the informational, the social, the psychological and the physical (Burgoon 1982).

3.1 Privacy context

The literal translation of the word privacy and the work by Westin (1967) suggest that privacy is first and foremost an objective condition people find themselves in: people are either alone or in company. The degree of privacy should thus be objectively measurable. This notion comprises the first factor of the PPM and shall be called the “privacy context”. It seems reasonable to further adhere to Burgoon (1982), who argues that there are four dimensions of privacy. Unlike Burgoon, I do not consider the dimensions as a degree of control over privacy, but – bearing in mind the literal translation of privacy – as a degree of individual detachment. The informational privacy context thus measures the amount of information collection taking place in a given situation. Are cameras in use? Is another person taking notes? Is there an active voice recorder? The social privacy context refers to the number and the kind of people present. The fewer people there are in one room and the more one is acquainted with them, the higher the social privacy context becomes. For the PPM, I propose measuring the dimension of psychological privacy somewhat differently to Burgoon (1982). Burgoon defines psychological privacy as the freedom of thought, a condition that in most cases can be regarded as warranted and as a whole somewhat difficult to operationalize. I thus propose that psychological privacy be taken as a measure of the extent to which people present in a situation engage in intimate and personal, or trivial and impersonal conversations. The more that people disclose intimate information, the higher the psychological privacy context. If people elaborate

on mundane topics like the weather, psychological privacy is regarded as low. Defining psychological privacy this way offers one benefit: it accounts for all the situations in which people are able to think as they please, but not speak as they like. Finally, the physical privacy context concerns the extent of the proximity of others. How close are other people? Can or are they touching me? Can they see me?

All four dimensions of the privacy context are independent and can differ from each other. For example, on the Christmas party of a large company, informational privacy is high (no observation and collection of personal data); social privacy is low (presence of several personally distant colleagues); psychological privacy might be high (a lot of personal, non-business related talk); and physical privacy moderate (for example, when being seated together at a table in a restaurant). Furthermore, the privacy context can be defined for different kinds of situations, ranging from offline contexts such as business meetings, cocktail parties or even confessions in a church to online contexts such as Facebook groups/wallposts, YouTube channels or public Internet platforms.

3.2 Privacy perception

The privacy context is the given situation that can be assessed and described objectively. That being said, it can be argued that the privacy context also needs to be perceived – research shows that people differ greatly in their perception of particular situations (see e.g. Haber et al. 2007). Especially in the case of online media use, people often perceive greater privacy than there actually is (Trepte; Reinecke 2011a). Barnes (2006) raises the point that users of Social Network Sites are often not aware of the fact that a substantial part of their conversations are not private but accessible for other users. In order to account for this difference, the factor “privacy perception” is included in the PPM. Again, the privacy perception is defined in the four dimensions regarding Burgoon (1982).

The following examples of the four dimensions of privacy perception show the importance of these distinctions. In terms of informational privacy, people tend to feel anonymous and unobserved in public spaces. Yet this assumption is not true: in Britain, on a busy day in an urban environment, a person will have their image captured by approximately 300 cameras on thirty

different CCTV systems (Norris/Armstrong 1998). In the entire country, more than 50,000 cameras monitor public places in 500 cities (Urbaneye 2004). Because of the discrepancy of context and perception, it is mandatory to install signs with notifications when CCTV is in use (see e.g. Urbaneye 2004). Facebook, on the other hand, serves as a perfect example of false social privacy perception. It can be shown that people are not fully aware of their entire audience when posting messages on their timeline (boyd 2008a). This phenomenon has been termed the context collapse – meaning that users address several distinct groups of persons at once, without being able to find the appropriate level of self-disclosure (boyd 2008a). Hence, it can be stated that the people's perception of their social privacy exceeds the factual social privacy context.

The same discrepancy can be assumed for psychological privacy perception: again, some Facebook users perceive a very pronounced psychological privacy and assume that a lot of private information is being shared online and that it is generally appropriate to behave similarly (Trepte/Reinecke 2011a). All the same, studies show that a substantial part of SNS users do not disclose information online and remain so-called “lurkers” (Metzger 2012). People generally seem to overestimate the amount and the intimacy of information being shared online. The discrepancy between physical privacy perception and context is probably the least pronounced. Only in few situations are people incapable of assessing who shares their presence and who is how close. This being said, people differ in their estimate of physical privacy: for some people, being touched by somebody during a conversation might be very usual and not be considered to reduce physical privacy. People in other cultures, however, would consider this as an intrusion and as a significant reduction of their physical privacy (see e.g. Hall 1966). Again, all four dimensions are distinct and hence judged independently.

At this point in the discussion, the most important aspects of privacy have been covered. Yet, arguably the most intriguing question regarding privacy has been omitted: how does privacy influence human behaviour?

3.3 Privacy behaviour

Depending on contexts and privacy perceptions, people will engage in different kind of privacy behaviours (see e.g. Margulis 2003). If people feel

they are in a private situation, they are willing to talk about different things compared to less private contexts (Westin 1967; Trepte 2012). I therefore include the factor “privacy behaviour” as the third major element of the PPM. One question remains: what exactly is privacy behaviour? In the PPM, I define it as any behaviour that involves acts of self-disclosure. According to Wheelless and Grotz (1976) a “self-disclosure” is “any message about the self that a person communicates to another. Consequently, any messages or message unit may potentially vary in the degree of self-disclosure present depending upon the perception of the message by those involved” (338). In line with Wheelless and Grotz, numerous behaviours can be regarded as privacy-related: postings on Facebook, conversations among friends, talks in front of audiences, etc. For privacy behaviours, the four dimensions of Burgoon (1982) are not applicable. Instead, I will implement Taddicken’s (2011) approach, which differentiates self-disclosure into the dimensions of facts, thoughts, feelings and experiences. Depending on how people perceive their privacy, they are more or less willing to engage in acts of self-disclosure. If people feel that they are in a private situation, they are more willing to expose personal information, and to share intimate beliefs; they can be authentic, creative or imaginative (Margulis 2003; Trepte 2012). Derlega and Chaikin (1977) have pointed out that self-disclosure is a function of privacy. Thus, it can be concluded that people are best able to self-disclose in situations of high perceived privacy.

3.4 The privacy regulation process and controllability

Altman (1975) makes the important point that people are constantly regulating their privacy. This finding appears to be a pivotal aspect of privacy, which is also implemented in the PPM. I propose that people cannot regulate their privacy perception. Nevertheless, people can obviously change their contexts as well as their behaviour. As a result, the current status of privacy perception and privacy behaviour are constantly compared to a corresponding desired state of privacy perception and a desired state of privacy behaviour. If the current and the desired state do not correspond with each other, people will feel dissatisfied and want to alter this imbalance – in order to do so, they will engage in a privacy regulation. Privacy regulation can be established by two means: either by changing the context or by changing the behaviour. Which

route people will chose depends on the controllability: if it is more convenient to change the context, people will do this – and vice versa.

In order to illustrate the process of privacy regulation, let us consider the following example: a man comes home from work and sits down to have dinner with his family. Since his oldest son is away, a seat next to his younger son is free. Due to the distance, the current status of the physical privacy perception is increased. Because he wants to be close to his family at this moment, his desired physical privacy perception is low. He might change the privacy context: he decides to leave his usual seat in order to sit next to his son. He thereby engages in a privacy regulation by deliberately reducing his own physical privacy context. Additionally, people also always monitor their privacy behaviour, that is the intimacy of their self-disclosure. Going back to our example, the man is now alone with his wife at the table. His desired level of self-disclosure is high, because he wants to talk about his bad feelings resulting from the difficult day at work. All the same, he realizes that they are still just talking about trivial things. Consequently, he shifts the topic and starts talking about his day and explains why he was not able to cope with the situation. He alters his privacy behaviour by augmenting the amount of self-disclosure.

In order to be able to regulate, people need to be actually capable of doing so. The more people are in control of their privacy context and privacy behaviour, the more they are able to adjust. This notion is not new; Burgoon (1982) was one of the first who stressed the importance of control for understanding privacy. Thus, in order for privacy regulation to take place, controllability needs to be granted. A prisoner, for example, is unable to determine whether he is being videotaped, whom to meet, or when to leave his cell. The mere presence of privacy is not the problem for him but the fact that he is unable to adjust it. A prisoner does not have controllability over his privacy. “Controllability” must therefore be the last factor in the PPM.

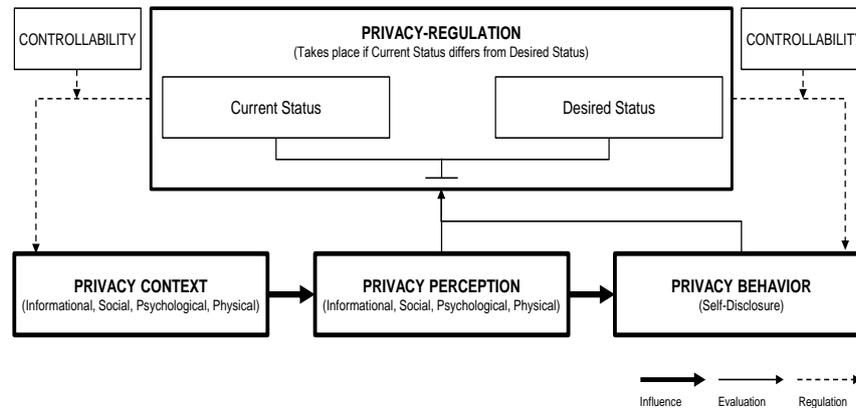


Figure 1: The Privacy Process Model

3.5 Integration of the Privacy Process Model

The aforementioned elements of the privacy context, the privacy perception and the privacy behaviour constitute the main frame of the PPM. Furthermore, the mechanism of privacy regulation and the factor of controllability complement the PPM. The entire model can be seen in fig. 1. The PPM is called a process model because it incorporates several sequential steps: people have a privacy perception, *because* they find themselves in a privacy context. People disclose certain pieces of information, *because* they feel private. First comes the situation, second its perception and third the behaviour. The fact that people constantly regulate their privacy context and privacy behaviour further exemplifies the dynamic features of privacy, which are considered in the PPM.

The PPM builds on another important premise: all the different states of privacy context, privacy perception and privacy behaviour need to be regarded in a descriptive, i.e. in a neutral and value-free way. As Ruth Gavison writes:

First, we must have a neutral concept of privacy that will enable us to identify when a loss of privacy has occurred so that discussions of privacy and claims of privacy can be intelligible. Second, privacy must have coherence as a value, for claims of legal protection of privacy are compelling only if losses of privacy are

sometimes undesirable and if those losses are undesirable for similar reasons. (Gavison 1980: 423)

Two viewpoints – for example, on the desired status of the privacy context – are therefore possible. The descriptive viewpoint would be: “On Facebook, privacy decreases”. The normative one would be: “On Facebook, privacy is endangered!” In the prevailing media coverage a normative viewpoint is often adopted (Lindner, 2010). Generally, more privacy is deemed to equal better privacy. Margulis (2003) makes a strong point in saying that it is important to have privacy in order to reflect upon oneself, to promote creativity and to foster relationships. However, this does not imply that a constant state of privacy is desirable. On the contrary, studies show that people in constant need of privacy are less satisfied with their lives and show more negative affect (Trepte/Dienlin 2013). Furthermore, in the media, demands are often made for restrained and moderate behaviour online. Nevertheless, increased amounts of self-disclosure on SNSs can be shown to be associated with higher degrees of life satisfaction and positive affect. Also, in a 2-year longitudinal study with 327 respondents it was found that people get more informational support online than offline (Trepte; Dienlin; Reinecke). In order to take advantage of that support, people necessarily need to open their privacy context to a certain extent.

Taken together, this shows that privacy first needs to be regarded descriptively. Only afterwards, with support by scientific research, should normative assumptions be made. Since research on these aspects is still sparse, more work on how to find absolute criteria of advisable behaviours needs to be conducted. First studies show that the results might contradict public opinion.

To summarize the core implications of the PPM in seven axioms:

1. Any given situation (privacy context) leads to a particular sense of intimacy and confidentiality (privacy perception).
2. The higher the level of privacy perception, the more people will engage in a subsequent act of self-disclosure (privacy behaviour).
3. For the privacy context as well as for the privacy perception, the dimensions

of informational, social, psychological and physical privacy can be differentiated.

4. For the privacy perception as well as for the privacy behaviour, people perceive a current status of privacy, which they compare with a desired status of privacy.

5. If there is a discrepancy between current status and desired status, people engage automatically in a privacy regulation process. In the privacy regulation process, people aim to change either the privacy context or the privacy behaviour.

6. In order for a privacy regulation to be able to take place, the controllability of either privacy context or privacy behaviour needs to be warranted.

7. All elements shall be assessed not in a normative but in a descriptive heuristic.

4. The Privacy Process Model in the context of the media

Numerous social interactions – like the purchase of goods, the handling of financial transactions, or the fostering of social relationships – have been shifted into the Internet. Therefore, these interactions now take place in a different context with different characteristics. These new characteristics are defined by danah boyd (2008b) as follows: the Internet is persistent, searchable, replicable and scalable. This means that information will last longer, can be found more easily, can be recontextualized, and can be distributed and assessed on a large scale. All these points influence our own privacy: on account of the digital representation of ourselves, the form and the extent of access we grant to ourselves have been changed substantially. Because of this change, privacy in online contexts has become such an important topic. Even so, it is important to note that mechanisms pertaining to privacy establishment and regulation have not changed. Arguably, there is no such thing as “online privacy” that entails a new and different kind of privacy. On the contrary, the same mechanisms of privacy unfold, only in a substantially different context. Therefore, it is preferable instead to talk of

privacy in online contexts (cf. Trepte/Dienlin in press). The PPM considers this notion – i.e. that the privacy context can be defined for all possible situations. In the following, I advance a detailed, fictional example of how the PPM can be applied to a very common Internet process: communication on Facebook.

Stefan Mayer, 26 years old, is just about to finish his degree in medicine at a German university. If we regard the four different dimensions of his privacy context in Facebook, the following conditions can be found: (1) On Facebook, Stefan does not use his full name. Instead of naming his account “Stefan Mayer”, he calls himself “Ste Fan”. For his profile picture, Stefan uses a photo that clearly shows himself. He indicates his birthday, but not his postal address. Stefan does not have a public profile. For people who do not know Stefan, just a few pieces of information can be found. Nevertheless, friends of Stefan can access a lot of personal information about him online. Because Stefan also uses Facebook on his smartphone, Facebook can regularly retrieve his location. As a result, Stefan’s informational privacy on Facebook might be considered low to medium. Evidently, this evaluation is volitional from his standpoint. In order to be able to assess the absolute magnitude of privacy contexts, such evaluations would need to be compared with averages of representative samples. (2) Stefan has 350 friends and uses no friend lists. Among Stefan’s friends are his family, fellow students, current and old friends, people he used to go to school with, teammates of his football club, colleagues of his part-time job and a few acquaintances. He is not befriended with any professors or lecturers from university, nor with his boss. As a result, Stefan’s social privacy context can be regarded as being low. (3) Stefan’s Facebook friends most of the time post things like links to videos and music on the Internet, share photos or ask for ideas on what to do in the evening. The psychological privacy can be considered medium: his friends talk about interesting and relevant things, but not on Facebook. (4) Using Facebook does not affect his physical privacy, which is therefore high.

Let us now look at Stefan’s own privacy perception. (1) Stefan knows that Facebook collects various kind of data. He is aware of the fact that without any precautions, unacquainted people would be able to find a lot of personal information. He therefore decides to use a nickname and set the status of his profile to private. He now thinks that his informational privacy is somewhat

guaranteed, therefore probably medium. (2) Stefan knows that many people with whom he does not interact on a regular basis can read his messages. He tried to regulate the audience of his posts by not befriending any supervisors. People whom Stefan does not know cannot access his profile. All in all, he knows that he is not completely private, but thinks that his audience is familiar enough for him to be able to share some information with them without having to worry about being compromised. Hence, he estimates his social privacy as medium. (3) Stefan has the impression that on Facebook people sometimes post very intimate things, things he does not want to know. Nonetheless, he knows that for more sensitive issues, friends tend to send him a personal message. So he thinks that overall there is generally a medium to high level of psychological privacy on Facebook.

Moving on to different kind of privacy behaviours Stefan displays during the completion of his degree in medicine: (1) After he gets his exam results – he passes successfully – he leaves a happy status post saying that he is now officially a doctor and that it is the best feeling he has ever had. This post can be considered of medium intimacy: he informs people of an important event in his life, which is nothing trivial, yet does not include anything very intimate or self-revealing. (2) The day after he went to the graduation party, Stefan sends his best friend a picture of a girl he got to know, tells him about their evening and that he likes her very much. This behaviour can be regarded as being of high self-disclosure: he reveals to his friend very personal and intimate information, and asks for his opinion.

It is often argued that people perceive SNSs as more private than they actually are (Trepte; Reinecke 2011a), and that not the factual but the perceived privacy context determines one's subsequent behaviour. How, then, does the privacy context differ from the privacy perception in this fictional example? Whereas the informational context can be considered low to medium, Stefan perceives it to be medium. Whereas his social privacy can be estimated as low, Stefan regards it as medium. Again, the psychological privacy context was medium, whereas Stefan perceives it to be medium or even high. In our example, the privacy behaviour was first a status update and second a personal message. The status update mirrors Stefan's perceived privacy: he estimates his audience as sufficiently familiar to be willing to inform them that he obtained his university degree. One day later, he wants to share another

piece of information: that he got to know an interesting woman. This self-disclosure embodies much more intimacy, which he is not willing to share in the context of a public wall post. This shows that the current level of perceived privacy does not amount to his desired level of privacy. As a result, he engages in a privacy regulation by changing the privacy context: this information he shares privately with his best friend, thereby altering his social and psychological privacy context.

All different communication mechanisms available on Facebook enable privacy regulations: by choosing specific channels for particular self-disclosures, people regularly change their privacy context. Again, this shows that it is very important for people to be able to regulate contexts – some information is simply not meant for everybody. If this changing of contexts is not possible, people will need to change their privacy behaviour, meaning that they will disclose less personal information than desired. Since self-disclosure is an important sociopsychological factor for people (Trepte; Dienlin 2013), environments that provide a secure background for privacy behaviours are all the more important.

5. Discussion of the Privacy Process Model

In this article, I have developed a new privacy model, the Privacy Process Model. Several positive aspects are brought forward by the PPM. One of its major benefits is that the PPM includes the most important aspects of privacy in a single model. If one looks at existing definitions alone, the phenomenon of privacy cannot be fully understood. Privacy is not just a condition (Westin 1967), it is not just the readjustment of interpersonal boundaries (Altman 1975) and it is not just about being in control of these boundaries (Burgoon 1982) – it contains all these aspects and more. For example, until now, no model for capturing privacy has distinguished between factual privacy contexts and subjective privacy perceptions. Since this distinction is relevant for both offline and online contexts, its incorporation in a privacy model seems viable. Moreover, the notion of self-disclosure has not been conceptualized in existing privacy related models. In the PPM, people are considered to engage in self-disclosure depending on the level of privacy they perceive. Additionally, the PPM sets the aforementioned variables in a contiguous order: people first encounter a privacy context, out of this context a privacy perception arises,

which then determines the extent of people's self-disclosure. Also, in everyday contexts, people constantly regulate aspects of privacy (Altman 1975). The PPM is the first model that takes this notion into account: when the desired privacy differs from the desired privacy, people change either their privacy context or their level of self-disclosure.

The model's distinction between the four dimensions of privacy (Burgoon 1982) is also useful. It is often claimed that privacy is over in the era of the Internet (Heller 2011; Jarchow 2011). With the more specified model of the PPM, however, it becomes apparent that even though the informational privacy is reduced online (Trepte; Reinecke, 2011a), this does not transfer to aspects of social, psychological and physical privacy. Here, users can decide with whom they want to share information and how intimate this information is. Besides, in Trepte's and Reinecke's book *Privacy Online* (2011b), none of the thirty-one researchers claim that the time of privacy is over. Finally, the PPM is not limited to online contexts. Every context can be assessed by the PPM in terms of the four dimensions of informational, social, psychological—and physical privacy. Thus, privacy behaviours relating to situations such as business meetings can be regarded as well as mechanisms taking place when users leave a post on their Facebook wall. Consequently, there is no need to refer to different models when trying to understand, replicate or predict privacy related behaviours.

5.1 Limitations

The PPM results from analyses of extant literature and new empirical findings – at this point, the model has not been validated empirically. Hence, the PPM is still a hypothesized model that needs to be examined in further empirical studies. The PPM builds upon a selection of theories and definitions of privacy. Other elaborate definitions – for example the communication privacy management theory by Petronio (2002) or the privacy in context approach by Nissenbaum (2010) – are not addressed explicitly here and encompass potential additional insights. Moreover, the four privacy dimensions need to be validated. Based on a theoretical analysis by Burgoon in 1982, their empirical foundation seems moderate. The first study trying to reproduce the four factor structure was unable to perfectly reproduce the four dimensions (Ruddigkeit/Penzel/Schneider 2013). Other variables such as cross-contextual

consistency, familiarity of context members or context replicability might be worth integrating. Regarding the privacy perception, it seems possible that people assess their own privacy according to a much more basic and simple heuristic. Thus, further empirical research needs to be conducted in order to establish what dimensions have to be included.

Finally, the aim of the PPM is not to explain self-disclosure behaviours as comprehensively as possible. If it was, variables such as the need to belong, impression management, anticipated self-disclosure gratifications or extraversion would have to be included (see e.g. Christofides et al. 2009; Krasnova et al. 2010).

5.2 Conclusion

The phenomenon of privacy cannot be regarded in a simplistic, uni-dimensional way. Because of the thorough changes induced by the rise of the Internet, it becomes all the more important to understand the dynamics inherent to privacy. The Privacy Process Model has been designed to capture the core variables and mechanisms of privacy in a model applicable to both offline and online contexts. With its reference to established definitions of privacy and the inclusion of current empirical studies, the PPM offers a comprehensive overview of the most pivotal aspects pertaining to privacy.

Bibliography

- Altman, I. (1975), *The Environment and Social Behaviour: Privacy, Personal Space, Territory, Crowding* (Monterey).
- Barnes, S. B. (2006), 'A privacy paradox: Social networking in the United States', in: *First Monday*, 11: 9.
- boyd, d. m. (2008a), 'Facebook's privacy trainwreck: Exposure, invasion, and social convergence', in: *Convergence: The International Journal of Research into New Media Technologies*, 14, 1: 13-20.
- boyd, d. m. (2008b), 'Taken out of context: American teen sociality in networked publics', PhD dissertation (Berkeley).
- Burgoon, J. K. (1982), 'Privacy and communication,' in: Burgoon, M. (ed.), *Communication Yearbook 6* (Beverly Hills).
- Christofides, E.; Muise, A.; Desmarais, S. (2009), 'Information disclosure and control on Facebook: Are they two sides of the same coin or two different processes?', in: *CyberPsychology & Behaviour*, 12, 3: 341-345.

- Derlega, V. J.; Chaikin, A. L. (1977), 'Privacy and self-disclosure in social relationships', in: *Journal of Social Issues*, 33, 3: 102-115.
- Gavison, R. (1980), 'Privacy and the limits of law', in: *The Yale Law Journal*, 89, 3: 421-471.
- Haber, M. G. (2007), 'The relationship between self-reported received and perceived social support: A meta-analytic review', in: *American Journal of Community Psychology*, 39, 1-2: 133-144.
- Hall, E. T. (2006), *The Hidden Dimension* (New York).
- Heller, C. (2011), *Post Privacy: Prima leben ohne Privatsphäre* [Post-Privacy: Easy Living Without Privacy] (Munich).
- Jarvis, J. (2011), *Public Parts: How Sharing In The Digital Age Improves The Way We Work And Live* (New York).
- Krasnova, H. et al. (2010), 'Online social networks: Why we disclose', in: *Journal of Information Technology*, 25, 2: 109-125.
- Lindner, R. (2010), 'Datenschutz: Umstrittene Privatsphäre à la Facebook' [Privacy protection: Controversial privacy Regulation à la Facebook. FAZ.], in: *FAZ*, available at <http://www.faz.net/aktuell/wirtschaft/unternehmen/datenschutz-umstrittene-privatsphaere-a-la-facebook-1983538.html>, accessed 17.09.2013.
- Margulis, S. T. (2003), 'Privacy as a social issue and behavioural concept', in: *Journal of Social Issues*, 59, 2: 243-261.
- Margulis, S. T. (2011), 'Three theories of privacy: An overview,' in: Trepte, S.; Reinecke, L. (eds.), *Privacy Online. Perspectives On Privacy And Self-Disclosure In The Social Web* (Berlin) 9-17.
- Metzger, M. J. et al. (2012), 'Invisible interactions: What latent social interaction can tell us about social relationships in social networking sites', in: Communello, F. (ed.): *Networked Sociability and Individualism: Technology for Personal and Professional Relationships* (Hershey), 9-17.
- Nissenbaum, H. (2010), *Privacy in Context: Technology, Policy, And The Integrity Of Social Life* (Stanford).
- Norris, C; Armstrong, G. (1999): *The Maximum Surveillance Society: The Rise of CCTV* (Oxford).
- Petronio, S. (2002): *Boundaries of Privacy: Dialectics of Disclosure* (Albany NY).
- Ruddigkeit, A.; Penzel, J.; Schneider, J. (2013), 'Dinge, die meine Eltern nicht sehen sollten: Strategien der Privacy-Regulierung unter deutschen Facebook-Nutzern' [Things my parents should not get to see: Strategies of privacy regulation by German Facebook users], in: *Publizistik*, 58: 305-325.
- Taddicken, M. (2011), 'Selbstoffenbarung im Social Web. Ergebnisse einer Internet-repräsentativen Analyse des Nutzerverhaltens in Deutschland' [Self-disclosure on the social web. Results of an Internet representative analysis of user behaviour in Germany], in: *Publizistik*, 56: 281-303.
- Trepte, S. (2012), 'Privatsphäre aus psychologischer Sicht', in: Schmidt J.; Weichert T. (eds.), *Datenschutz: Grundlagen, Entwicklungen und Kontroversen* (Bonn), 59-66.

- Trepte, S.; Dienlin, T. (2013), *Consequences and Correlates of Social Media Use: A Research Report* (Stuttgart).
- Trepte, S.; Dienlin, T. (forthcoming), 'Privatsphäre im Internet' [Privacy on the Internet], in: Pieschl, T.; Porsch, S. (eds.), *Neue Medien und deren Schatten* [New Media and Their Dark Sides] (Göttingen).
- Trepte, S.; Dienlin, T.; Reinecke, L. (forthcoming), *The Influence of Social Support Received in Online and Offline Contexts on Satisfaction With Social Support and Satisfaction With Life: A Longitudinal Study*.
- Trepte, S.; Dienlin, T.; Reinecke, L. (forthcoming), *Risky Behaviours – How Online Experiences Influence Privacy Behaviours*.
- Trepte, S.; Reinecke, L. (2011a), 'The social web as a shelter for privacy and authentic living', in: Trepte S.; Reinecke L. (eds.), *Privacy Online. Perspectives On Privacy And Self-Disclosure In The Social Web* (Berlin), 61-73.
- Trepte, S.; Reinecke, L. (eds) (2011b), *Privacy Online. Perspectives On Privacy And Self-Disclosure In The Social Web* (Berlin).
- Urbaneye (2004), *On the Threshold to Urban Panopticon? Analysing the Employment of CCTV in European Cities and Assessing its Social and Political Impacts – Final Report to the European Union* (Berlin).
- Vinsel, A. et al. (1980), 'Privacy regulation, territorial displays, and effectiveness of individual functioning', in: *Journal of Personality and Social Psychology*, 39, 6: 1104-1115.
- Warren, S. D.; Brandeis, L. D. (1890), 'The right to privacy', in: *Harvard Law Review*, 4, 5: 193-220.
- Westin, A. F. (1967), *Privacy and Freedom* (New York).
- Wheeless, L. R. (1976), 'Self-disclosure and interpersonal solidarity: Measurement, validation, and relationships', in: *Human Communication Research*, 3, 1: 47-61.