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When You Share, You Should Care: Examining the Role of Perspective-Taking on Social Networking Sites

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WHEN YOU SHARE, YOU SHOULD CARE: EXAMINING THE ROLE OF PERSPECTIVE-TAKING ON SOCIAL NETWORKING SITES

Research paper

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Abstract

Despite good intentions of users who share updates on SNSs, there is mounting evidence that recipients of SNS content frequently perceive shared information as inappropriate, annoying, envy-inducing, and excessive. To examine this apparent gap, we draw on the communication theory and the perceptual congruence model to analyze perceptual differences with the help of dyadic data analysis. Our findings based on 90 sender-recipient pairs show significant perceptual differences between senders and corresponding recipients of content, with senders attaching greater value to their content and scoring both hedonic and utilitarian attributes higher. Additionally, we demonstrate the presence of "false consensus effect" in the SNS environment, meaning that senders anticipate perceptions of recipients to be more similar to their own, than they actually are. Our results provide evidence that sender's accuracy in predicting recipient's perceptions contributes to favorable outcomes for both parties, including recipient's satisfaction with the SNS relationship and positive feedback, desirable for senders. This highlights the importance of perspective-taking ability among senders of content. Implications for stakeholders in research and practice are discussed.

Keywords: Social Networking Sites, Perspective-Taking, Perceptual Congruence Model, Audience Awareness, Dyadic Study.

1 Introduction

In today's digital world, Social Networking Sites (SNS) are the marketplace where social interaction takes place. SNS users interact with each other by contributing and consuming user-generated content (Zeng and Wei 2013), taking on sender and recipient roles respectively. Every minute 293000 statuses are updated and 136000 photos are uploaded (Zephora 2015) by senders on Facebook and immediately seen by recipients who browse others' activities and content through the aggregated stream of news ("News Feed") (Burke et al. 2010).

Senders claim to carefully craft their own shared content (Sleeper et al. 2013), aiming to contribute to relationship maintenance (Chennamaneni and Taneja 2015; Krasnova et al. 2010; Maksl and Young 2013) and building (Krasnova et al. 2017), share relevant news (Krasnova and Kift 2012) as well as entertain themselves and others (Chennamaneni and Taneja 2015; Cheung et al. 2015; Kim et al. 2015; Utz 2015). Thereby, they seek to leave favorable impressions (Krämer and Winter 2008; Walther 2007).

Research evidences that senders of content get intrinsically rewarded by a feeling of social connectedness (Utz 2015) and extrinsically through the positive feedback in the form of 'likes' (Lee et al. 2016).

Despite these good intentions pursued by information senders, growing scientific evidence reports alarming experiences of recipients caused by the amount and type of content shared on the network, including information overload (Lee et al. 2016; Sasaki et al. 2016) and the need to manage inappropriate as well as annoying content (Fox and Moreland 2015; Peña and Brody 2014). Recent survey among adults in South Korea has shown that 69.4% are tired of their SNS, specifying needless information (27.7%) as the main reason (Korea Bizwire 2017). Among other undesirable consequences of content consumption by recipients are feelings of envy (Krasnova et al. 2015; Tandoc et al. 2015), negative moods (Sagioglou and Greitemeyer 2014) and a decline in well-being and life satisfaction (Burke et al. 2010; Frison and Eggermont 2016). Altogether, it appears that ongoing SNS communication lacks efficiency: while senders are trying their best to leave good impressions, recipients do not seem to pick up on these intentions.

Drawing on the interpersonal communication theory and perceptual congruence model (Acitelli et al. 1993; White 1985), we argue that perceptual differences between communication parties coupled with the poor ability for perspective-taking account for the observed "sender-recipient" contradictions. Defined as one's ability to see things from another person's viewpoint (Galinsky et al. 2008), the importance of perspective-taking has been shown across a variety of communication contexts including business-IT alignment (Benlian and Haffke 2015), romantic relationships (Acitelli et al. 1993) as well as parent-children relationships (Fingerman 1995). Building on the results of the social and personal relationship research stream, this paper focuses on the role of perspective-taking as an overlooked aspect of SNS communication.

We started from the premise that technology-related properties of the SNS communication such as reduced number of available social cues (Walther 1996), heterogeneous audience (Acquisiti and Gross 2006) and asynchronicity in the communication loop, challenges efficient communication in accordance with sender's goals and recipient's interests. Against this background, we argue that perspective-taking can be used to explain communication misperceptions which lead to negative effects on the recipient side. Methodologically, our study extends past SNS research which has mainly followed a one-sided approach examining either the determinants of content-sharing from sender's perspective (Hollenbaugh and Ferris 2014; Krasnova et al. 2010) or the outcomes of content consumption from recipient's perspective (Burke et al. 2010; Krasnova et al. 2015). We accentuate that communication involves at least two parties and success of social interaction in many ways is influenced by, if not dependent, on interpersonal processes. Based on a two-sided design, relying on dyadic data analysis, our study addresses the following research questions:

(1) Do information senders and recipients perceive shared content differently on SNSs?

(2) Are senders egocentric when predicting perceptions of recipients with regard to the shared content?

(3) How does perspective-taking ability of the sender affect recipient's satisfaction with the online relationship and further his or her content-related actions?

Disentangling intra- and interpersonal effects on the communicational outcomes, this paper makes several timely and scholarly contributions. First, significant perceptual differences between senders of the information and corresponding recipients are demonstrated, with senders attaching higher value to both hedonic and utilitarian attributes of the self-generated content. This supports the proposition that on SNS active usage of sharing functionalities is more beneficial than the passive consumption (Krasnova et al. 2015; Wenninger et al. 2016). Second, "false consensus effect" is confirmed meaning sender's delusion and overestimation of the actual opinion similarity with the recipient. Next, according to our theoretical model, the dyadic data analysis asserts the link between sender's ability for perspective-taking and important relational outcomes such as recipient's satisfaction with the online relationship, feedback valence and the intention to hide or ignore the content. For senders, these findings tip off that egocentric

content-sharing can backfire on them when recipients provide less positive feedback and in the worst case stop consuming future content. For SNS providers, our results hint at the possibility to introduce more sophisticated feedback mechanism and News Feed filtering mechanism to keep the feed relevant for the readers while sensitising senders that messages need to be constructed in accordance with their recipients' needs.

2 Conceptual Background and Hypotheses Development

In this section, we build on the interpersonal communication theory (Berlo 1960; Westley and MacLean Jr 1957) in order to describe how social interaction takes place on SNS. Thereby, we provide arguments why the concept of perceptual congruence (White 1985) and the underlying need for perspective-taking (Epley et al. 2004; Ross et al. 1977) in interpersonal communication is necessary. Based on this, we derive our hypotheses and formulate a theoretical model.

To describe the relationships between users on SNS, we adopt the "sender-recipient" model (Figure 1), originally proposed by Westley and MacLean Jr (1957) and later extended by (Berlo 1960). In general, it is assumed that a sender has an idea or content which he or she would like to share with a recipient through a certain medium. When the message has been received, the recipient can react on it and potentially provide feedback for the sender, thus closing the loop and making a single communication complete. In order to achieve efficient communication and thus a satisfying relationship, the recipient has to pick-up the idea of the sender. In other words, the message has to be understood by a recipient in a way anticipated by the sender (Westley and MacLean Jr 1957).

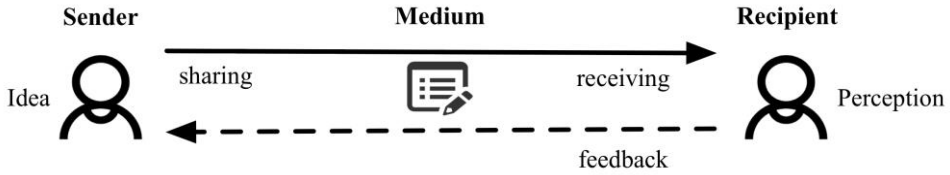

Figure 1. Sender-recipient relationship on SNSs.

In contrast to face-to-face interactions, technology-related properties of SNSs as a medium metamorphose the communication. As such, the limited number of social cues (e.g. unawareness of appearance, gestures or facial expression) and asynchronicity (communication with time lag) (Walther 1996) shifts the focus from the form (i.e. how a message is broadcasted) to the subject (i.e. what is broadcasted) and thus making the "*content is king*" claim (Gates 1996) especially relevant in the SNS environment.

Established SNS literature relying on the privacy calculus model (Culnan and Armstrong 1999; Dinev and Hart 2006) proposes that when making a decision whether to share a content, a sender as a creator and an initial owner of the content weighs potential benefits and costs of content disclosure (Krasnova et al. 2010). When the benefits of disclosure (e.g. relational benefits, enjoyment, need for self-presentation) outweigh the risks (e.g. privacy or audience concerns), users will publish the content online (Cheung et al. 2015; Krasnova et al. 2010). Hence, for the already published content it has been decided that benefits are higher than costs. Therefore we expect that the sender's valuation of the own content is relatively high. This assumption is supported by the concept of effort in marketing asserting that greater effort increases the perceived importance of the product (Cardozo 1965). In line with it, past research evidenced careful selection and content crafting among SNS users (Lyu 2016; Marwick and Boyd 2011; Sleeper et al. 2013). Examination of 3.9 million Facebook users revealed self-censorship in 71% of cases (Das and Kramer 2005) which hints at high diligence from the sender side and consequently significant appraisal of the own shared message.

Recipient as a consumer of content can form an attitude (Voss et al. 2003) towards the seen content and provide feedback. Based on Voss et al. (2003) we adopt a two-dimensional conceptualization of consumer attitudes differentiating between utilitarian and hedonic values. While utilitarian benefits refer to the informative character and relevance of the shared content, hedonic value reflects its appealing and

enjoyable nature (Brakemeier et al. 2016; Voss et al. 2003). In contrast to a purchase, on SNS recipients get the published content pushed through the News Feed and are thus exposed to forced content consumption. As such, not all items in the News Feed may be relevant and enjoyable to the recipients which decreases the subjective average value of the information received. Indeed, research demonstrate that there is a gap between the content that is liked to be shared and the content that is liked to be read on SNS (Gong et al. 2016). Therefore, we hypothesize:

H1a: On SNSs, sender's perception of the hedonic value of the content is higher than the recipient's perception of the hedonic value of the content on SNSs.

H1b: On SNSs, sender's perception of the utilitarian value of the content is higher than the recipient's perception of the utilitarian value of the content on SNSs.

2.1 Perceptual Congruence and Perspective-taking

Originally stemming from social cognition theory (Bandura 1986), perceptual congruence model describes the fit between two perceptions of the same social stimulus (Srull and Wyer 1988). Social cognition theory has been widely used in communication research in order to study how communicators behave and learn in social interactions (Bandura 2002). According to this approach, individuals initially evaluate their own perception of the stimulus (the shared content in the SNS context) and then subsequently anticipate how others might perceive it (Epley et al. 2004). High perceptual congruence implies a high degree of alignment within social connections, whereas low congruence signifies perceptual differences. To achieve congruence, perspective-taking should take place, which involves examining perceptions of the stimulus from the viewpoint of another person (Ross 1977). This process is referred to as the ability to relate to others. As such, perspective-taking has been recognized as an important precondition to successful social communication (Epley et al. 2004; Schlenker and Leary 1982, Dunning et al. 2001). Indeed, assessing perspectives of others adequately leads to greater understanding in interpersonal communication and thus effective relationship management (Morrison and Bellack 1981). For example, importance of perspective-taking has been exemplified in studies between husbands and wives, demonstrating that a common understanding of each other drives marriage satisfaction (Acitelli et al. 1993; Schröder-Abé and Schütz 2011). At the same time, insufficient perspective-taking has been linked to enmity (Dunning et al. 2001), misunderstanding (Kruger et al. 2005) and a lower level of team performance (Benlian 2014).
The perceptual congruence model suggests three measures to study relationships, differentiating between interpersonal and intrapersonal parameters (White 1985), as described in Table 1.

Perceptual Congruence Measures	**Explanation (adapted from White 1985)**	**Examples from our study**
Actual Agreement	Congruence of the reported actual perceptions of senders and recipients [interpersonal].	S: "I find my post …interesting" R: "I find the post of my friend (S) …interesting"
Perceived Agreement	Congruence of the sender's reported perception and sender's anticipation of recipient's attitude/perception [intrapersonal].	S: "I find my post …interesting" S: "My friend (R) finds my post …interesting"
Sender's Understanding of the Recipient (also: Interpersonal Understanding)	Congruence of the sender's anticipation of recipient's attitude/perception and the recipient's actual attitude/perception [interpersonal].	S: "My friend (R) finds my post …interesting" R: "I find the post of my friend …interesting"

Table 1. Explanation of perceptual congruence measures (S- sender; R- recipient).

Agreement between senders and recipients on SNS
Applying the perceptual congruence model to SNS communication, we examine the individual attitudes of both members of a dyadic "sender-recipient" pair and sender's anticipation of recipient's opinion as

depicted in Figure 2. Comparing sender's opinion on the shared content with the recipient's opinion allows to assess the degree of actual congruence (Figure 2: '1-actual agreement'). The second measure, perceived agreement, compares the sender's assessment of the content with the sender's prediction of recipient's opinion. As such, it reveals how strongly senders believe the recipients have the same viewpoint on the posted content (Figure 2: '2-perceived agreement'). The third parameter, interpersonal understanding, contrasts sender's anticipation of recipient's assessment with the recipient's actual assessment, thus indicating sender's prediction accuracy (Figure 2: '3-sender's understanding of recipient'). Although originally perceptual congruence model is built around the concept of parity between partners and promotes the importance of mutual understanding (Acitelli et al. 1993), in our study perspective-taking ability of the senders are given a priority, as to the party empowered to commence the virtual conversation.

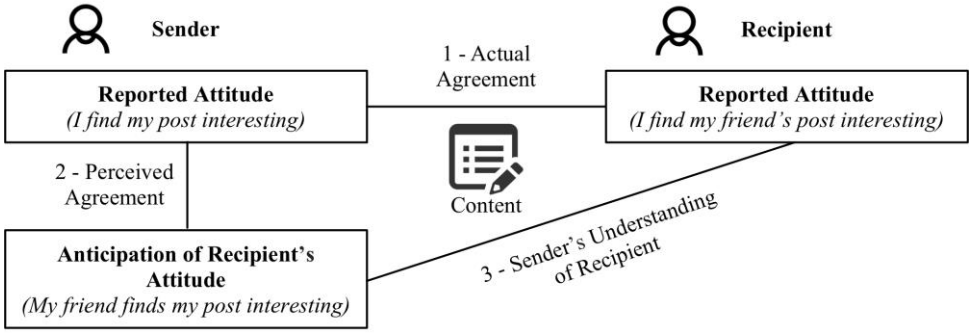

Figure 2. Perceptual congruence model of the shared content value.

Starting with perceived agreement (Figure 2 – left two boxes), extant research suggests, individuals use their own perceptions ('reported attitude') as an anchor to predict perceptions of others ('anticipation of recipient's attitude'). Since people tend to perceive others as being more similar than they actually are (Epley et al. 2004), the process of anticipating others' perception is assumed to be egocentric in nature. For example, studies among married couples have found empirical evidence that husbands and wives perceive each other as being similar and thus more aligned on their life plans than they actually are (Schröder-Abé and Schütz 2011). Even when perceptions of others are considered, individuals seem to be inclined towards their own perception, which is referred to as the false-consensus bias (Ross et al. 1977). Compared to offline interactions, the severity of false-consensus bias may be even more accentuated on SNSs. In fact, a study of Barasch and Berger (2014) has shown that on SNS senders seem to be self-focused while being unable to fully assess the needs of their audience. Senders may increasingly choose to rely on their own interests (Barasch and Berger 2014). This, in turn, gives rise to overestimate the closeness of another's attitude to one's own perception. Since the perceived agreement is biased in the direction of oneself, we expect it to be higher than the actual agreement. We hypothesize the following:

H2a: On SNSs, sender's perceived agreement regarding the hedonic value of the content is higher than the actual agreement regarding the hedonic value of the content.

H2b: On SNSs, sender's perceived agreement regarding the utilitarian value of the content is higher than the actual agreement regarding the utilitarian value of the content.

Effects of sender's understanding on recipient's satisfaction and online behavior

In the next step, we move beyond the investigation of perceptual differences between senders and recipients towards examining consequences of (dis-)congruence between the sender's anticipation of the recipient's perception and the actual recipient's perception – a fact we refer to as the degree of interpersonal understanding (Figure 2: '3-sender's understanding of recipient').

In offline settings, a higher degree of interpersonal understanding has been linked to such positive relational outcomes as perceived collaboration quality (Benlian and Haffke 2015), marital satisfaction (Levinger and Breedlove 1966; Schröder-Abé and Schütz 2011), as well as improved team or employee

performance (Benlian 2014; Evans et al. 2003; Parker et al. 2017). Allen and Thompson (1984) find a direct association between wifes' understanding and husbands' satisfaction with the relationship. On SNS, a vital motive to share content is to stay connected with friends and thus building healthy relationships (for review see Abramova et al. 2017). The sender as the generator of shared content is supposed to understand the recipient in order to obtain relationship satisfaction indicated by the recipient. Clearly, the more accurate the senders predict the perception of their audience, the more likely they are to share information which corresponds to the needs of the recipients and in turn contribute to recipient's satisfaction with the online relationships. Based on this line of reasoning, we hypothesize that:

H3a: On SNSs, the degree of sender's interpersonal understanding of the hedonic value of the content is positively associated with recipient`s satisfaction with the online relationship.

H3b: On SNSs, the degree of sender's interpersonal understanding of the utilitarian value of the content is positively associated with recipient`s satisfaction with the online relationship.

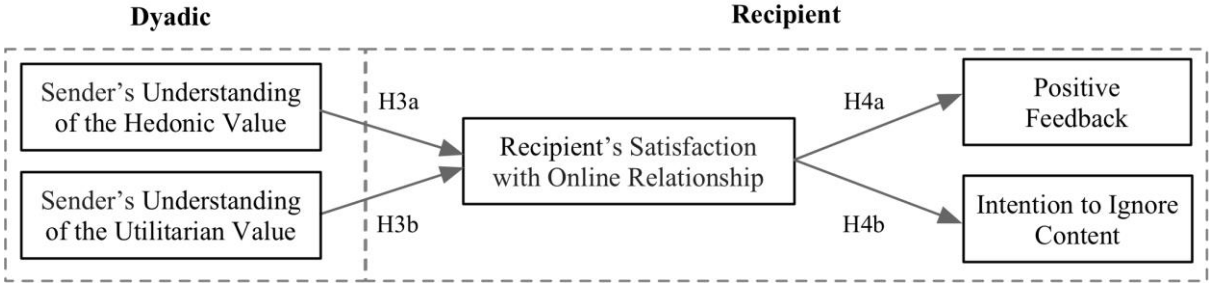

Figure 3. Research model on the effects of sender's understanding of the recipient.

Finally, to illustrate far-reaching implications of perceptual (dis-)congruence, we hypothesize that recipient's satisfaction with the online relationship with the sender impacts his or her behavioral outcomes directed to the content. Connecting recipient's satisfaction to behavioral implications is necessary since it highlights the criticality of the communication loop between sender's input (the shared content) and recipient's interpretation and reaction. Against the background of previous work (Christofides et al. 2012; Lee et al. 2016; Peña and Brody 2014), we differentiate between two proactive strategies a recipient can apply to the content displayed in the News Feed. First, when the recipient is satisfied with the content and thus with the relationship, he or she may choose to provide positive feedback by clicking on 'Like' as a form of overt approving (Pinkerton et al. 2017). By following this strategy recipients please senders and foster the mutual relationship (Lee et al. 2016). Second, as there is no 'dislike'-button available on dominant SNS platforms, when dissatisfied with the relationship, recipients may follow a neglecting strategy. Building on the established link between dissatisfaction and intentions to damage or terminate the relationship (Turel 2015), we argue that the recipient may choose to stop consuming the content of the sender. For instance, SNS provide functionalities to hide content to avoid getting to see future content from this sender, or recipients may simply proactively ignore the content from this sender when going through the News Feed. Indeed, Peña and Brody (2014) demonstrate that a relationship damage due to inappropriate content shared by others leads to recipient's intention to hide future content from this specific SNS connection. In line with these two proactive strategies, we hypothesize that:

H4a: On SNSs, recipient's satisfaction with the online relationship is positively associated with the positive feedback in the form of 'likes'.

H4b: On SNSs, recipient's satisfaction with the online relationship is negatively associated with recipient's intention to ignore the content of the sender in their News Feed.

3 Research Method

To validate the proposed hypotheses, a dyadic survey has been designed and pre-tested by two researchers to check for understandability of the questions. The two surveys were then implemented in the form

of an online questionnaire - one for the sender and another one for the recipient. Participants were compensated with a €10 Amazon gift card for their participation. To avoid priming, participants were told that the study aimed at understanding user behavior on SNSs. Furthermore, we assured the participants that their answers will be treated anonymously and that there were neither wrong nor false answers, so they can answer all questions honestly. Thereby, we counteracted common method (Podsakoff et al. 2003) and social desirability biases (Reynolds 1982).

3.1 Procedure and Sample

Users of the two most popular SNSs, Facebook and Instagram (Statista 2017), were contacted with the offer to participate in the survey. To get dyadic data, participants were asked to randomly list up to three people (also referred to as network friends) from their contact list on SNS who probably would also like to participate in a survey. Once a proposed candidate has agreed, a pair (dyad) was formed. We assigned the first contacted person to the "sender" condition and the one who was suggested – to the "recipient" condition.

Before commencing with the online questionnaire, we first asked the sender to provide their most recent shared content in their own SNS account. Thereby, our study focuses on the contribution and consumption of user generated content on SNS typically expressed via self-expressive posts about thoughts or experiences (Burke et al. 2010). Thus, the following exclusion criteria were applied: (1) re-shared links, events and news, (2) re-shared information about the self initially published by another person; (3) re-shared photos copied from a third-party source. After that, the sender and the recipient received a link to the online survey, where they had to answer survey questions with regard to this specific post. The name of the corresponding dyadic partner was revealed to ensure each participant was thinking about a certain SNS connection while answering the questions. We used a unique identification number to match the dyads and to ensure anonymity within the dataset. A screenshot of the focal post was also sent by the sender to the team of researchers. In doing so, we were able to send it to the corresponding recipient in order to ensure that the recipient is answering all questions related to the exact same post.

A total of 189 responses were collected. Among them 9 responses came back without a matching partner and, hence, were removed from the dataset. The final set of 90 dyads (37 from Instagram and 53 from Facebook users) served as a basis for further analysis.

3.2 Measurement

Before testing our hypotheses we first continue with the presentation of measurements along with its validity testing to ensure convergent and discriminant validity of the applied measures.

The sender and the recipient treatment in the survey contained the same construct items to assess the hedonic and utilitarian value of the shared content, measured on a 7-point Likert scale (1=strongly disagree; 7=strongly agree). Following Wittenberg et al. (2014) and Voss et al. (2003), the scale items for reported attitude of the sender and the recipient equally (see Figure 2) included: "*I find this post "enjoyable", "appealing", "amusing"* to measure hedonic and *"informative", "relevant", "interesting"* to measure utilitarian value of the shared content. Reliability analysis based on inter-item correlations and Cronbach's alpha (CA) (Hair et al. 2014) revealed low values of inter-item correlations for the item *"amusing*" within the hedonic dimension. This is not surprising since the majority of posts in our sample were not particularly entertaining (e.g. $mean_{amusingS}$=4.29; $mean_{amusingR}$=3.69), but otherwise could be characterized as *"enjoyable"* or *"appealing"* (see Figure 5). Therefore, this item was dropped from the hedonic scale. Resulting CA values across scales were acceptable: $CA_{hedonic}$=0.791; $CA_{utalitarian}$=0.766 for senders; and $CA_{hedonic}$=0.849; $CA_{utalitarian}$=0.840 for recipients. Additionally, we measured sender's *anticipation of recipient's attitude* (see Figure 2), which was captured as "*Think of your Facebook/Instagram friend (a matched recipient from the dyad). He/she will find this post…*" while keeping the same scale items for the hedonic and utilitarian value as specified above. Internal consistency of the scale was acceptable with CA=0.834 for hedonic and CA=0.790 for utilitarian dimensions.

To compute interpersonal and intrapersonal congruence measures (Figure 2, Table 1) we followed the approach of Acitelli et al. (1993), which was introduced to the IS literature by Benlian and Haffke

(2015). Rather than using the absolute difference of two dyadic responses, this technique assigns a congruence score (CS) between 1 (complete incongruence) and 10 (complete congruence) to the pair of answers (measured on 7-point Likert scale) and takes into consideration the side of the scale spectrum (either above or under 4). For example, for responses that both fall on the same side of the answer spectrum (e.g. 5-slightly agree and 7-strongly agree; CS=7) relatively high congruence scores are awarded (which signifies high degree of understanding); for cases when two responses fall on the opposite sides of the answer spectrum (e.g. 3-slightly disagree and 5-slightly agree; CS=5), relatively low congruence scores are assigned, despite the fact that both pairs of scores have exactly two points differences. Using perceptual congruence scoring table as a basis (Benlian and Haffke 2015), (1) 'actual agreement' was derived by comparing reported attitude of the sender vs. reported attitude of the recipient; (2) sender's 'perceived agreement' was derived by comparing sender's anticipation of recipient's attitude vs. sender's reported attitude; and (3) 'sender's understanding of the recipient' was derived by comparing sender's anticipation of the recipient's attitude vs. recipient's reported attitude. Congruence scores were first calculated on the item-level. Scores for "*enjoyable*" and "*appealing*" were averaged to compose a "hedonic value" score; scores for "*informative*", "*relevant*", "*interesting*" were averaged to compose "utilitarian value" score. These composite scores were used for further analysis.

Response A

Response B		1 strongly disagree	2	3	4	5	6	7 strongly agree
strongly disagree	1	10	9	7	5	3	2	1
	2	9	10	9	6	4	3	2
	3	7	9	10	8	5	4	3
	4	5	6	8	10	8	6	5
	5	3	4	5	8	10	9	7
strongly agree	6	2	3	4	6	8	10	9
	7	1	2	3	5	7	9	10

Figure 4. Perceptual congruence scoring table (Benlian and Haffke 2015).

The construct recipient's satisfaction with online relationship was measured using 7-point semantic differential satisfaction scale of Bhattacherjee (2001) and included the following items: "*How would you describe your experience with your friend on SNS?"* – "very dissatisfied/very satisfied"; "very displeased/very pleased"; "very frustrated/very contented"; "absolutely terrible/absolutely delighted". Reflecting actual behaviour, positive feedback was assessed by asking recipients "*Have you 'liked' the post of your friend? 'Liking' means clicking on the 'Like'-button or any other positive emoji e.g. laughing smiley"* (1=yes, 0=no/I plan to do it). "*Intention to ignore the content*" was adopted from Peña and Brody (2014) and measured by asking "*How likely would you hide the posts of this SNS-friend?* and "*How likely would you ignore the posts of this SNS-friend?* (1=very unlikely; 7=very likely). All constructs satisfied the criterion of internal consistency ($CA_{satisfactionR}$=0.869, $CA_{intent\_to\_ignoreR}$ =0.757 > 0.7).

Apart from gender, age and employment status, we also measured time spent on SNS as well as posting frequency to be able to describe our sample and to control for the effect of these variables. Time spent on SNS was measured by asking *"How many minutes do you use Facebook/Instagram per day? (on average)"*. The answers ranged from *"less than 10 minutes"* to *"more than 3 hours"* on a 6-point scale. Posting frequency was measured by asking *"How often do you share a status update on Facebook/Instagram?"* with eight response options ranging from *"never"* to *"every day"*. As the relationship of the dyadic partners differs, we also measured perceived closeness and communication frequency indicated by the recipient. Closeness was measured with one item *"I have a very close relationship with this SNS connection"* lend from Marsden and Campbell (1984). Communication frequency was measured with two items *"I communicate regularly with this SNS connection (1) offline and (2) online"*. Because attitudes and perceptions about network friends are sensitive in nature, we additionally controlled for the tendency to give socially desirable answers in our recipient sample by using the 13-item Marlowe-

Crowne social desirability scale (Reynolds 1982). Spearman's correlations between recipient's satisfaction with online relationship, reported attitude of the recipient (regarding hedonic and utilitarian value of the content) and social desirability score of the recipients were insignificant. The same holds for Spearman's correlations between sender's reported attitude, sender's anticipation of recipient's perception (regarding hedonic and utilitarian value of the content) and social desirability score of the senders. We thus assume that our sample is not subject to a social desirability issue. Common method bias (Podsakoff et al. 2003) was measured by including the construct 'tendency towards fantasizing' (Son and Kim 2008) as a marker variable with the scale lent from Darrat et al. (2016): "*I daydream a lot*", "*When I go to the movies I find it easy to lose myself in the film*" and "*I often think of what might have been*" (7-point Likert scale). To check for common method bias, we followed the guidelines by Rönkkö and Ylitalo (2011) and included the tendency to fantasize as a predictor for all endogenous constructs in our model (Figure 7). No significant regression paths became insignificant, suggesting that common method bias is not salient in our data.
Mann-Whitney U test applied to the dataset has shown that SNS type has no significant effect on the constructs (except one item *sender's anticipation of the recipient's attitude*$_{\text{appealing}}$, U= -1.985; p = .047), hence we decided not to split the sample by the platform. 65.56% of the respondents were female; the age ranged from 17 to 53 with the mean of 25.92 years. The majority of participants were either employed (52.78%) or students (34.44%).

4 Results

Hypotheses H1 and H2 were examined by the Mann-Whitney U test, which is a non-parametric equivalent of the independent samples t-test. It allows to compare differences between two groups accounting for the ordinal type and non-normal distribution of variables, which is the case for our perceptual constructs measured on a 7-point scale Likert scale or 10-point congruence scale. Our analysis reveals significant differences on reported value of the shared content between senders and recipients for both hedonic and utilitarian dimensions (H1a and H1b confirmed). In particular, senders perceive their own posts to be more *enjoyable* (U = -2.534; p = .011), *appealing* (U = -3.663; p = .000), *informative* (U = -2.013; p = .044), *relevant* (U = -2.634; p = .008) and *interesting* (U = -2.115; p = .034), as illustrated in Figure 5.

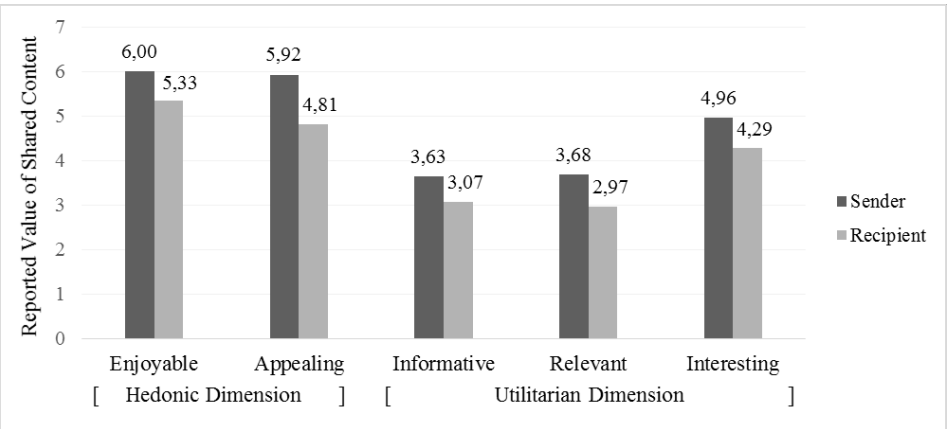

Figure 5. Mean values reported by senders and recipients (H1).

Comparison between actual agreement and sender's perceived agreement points out significant differences for utilitarian value (U = -3.641, p = .000) and for hedonic value (U = -5.411, p = .000). Similar to marital relationships (Acitelli 1993), "false consensus effect" is present (Figure 6): senders who share content on an SNS anticipate that perceptions of recipients regarding shared content would be more similar to their own (with mean congruence score 8.54 for hedonic dimension and 8.24 for utilitarian dimension), than they actually are (with the mean congruence score 7.27 for hedonic dimension and 6.71 for utilitarian dimension) (H2a and H2b supported).

Differences between sender's perceived agreement (SPA) and actual agreement (AA) also hold on the item-level: senders anticipate that perceptions of recipients will be more similar to their own when rating their post in terms of it being *enjoyable* (mean SPA=8.69; mean AA=7.56; U = -3.066, p = .002), *appealing* (mean SPA=8.40; mean AA=6.99; U = -3.488; p = .000), *informative* (mean SPA=8.18; mean AA=6.66; U = -3.577; p = .000), *relevant* (mean SPA=8.31; mean AA=6.70; U = -4.258; p = .000), and *interesting* (mean SPA=8.22; mean AA=6.78; U = -4.111; p = .000), compared to the real degree of interpersonal perceptual congruence of the reported perceptions of senders and recipients (actual agreement).

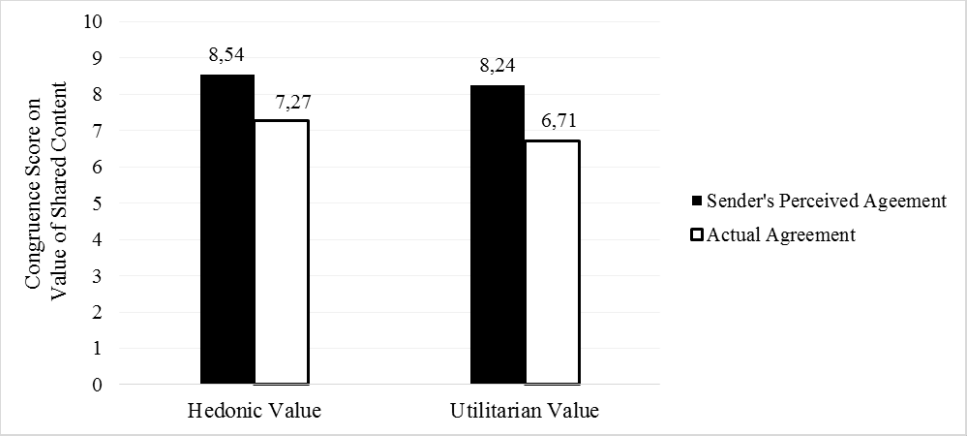

Figure 6. Congruence scores on actual agreement vs. perceived agreement (H2).

In our research model on the effects of sender's perceptual understanding of the recipient (Figure 3), we hypothesized that sender's understanding of the recipient regarding the value of the shared content contributes the recipient's satisfaction with online relationship, which in turn triggers a set of behavioral responses of the recipient. Our research model was evaluated using the partial least squares (PLS) with the help of the SmartPLS v.3.2.7 (Ringle et al. 2015). First, we assessed our measurement model by evaluating convergent and discriminant validity. To ensure convergent validity, parameters for indicator reliability (IR), composite reliability (CR) and Average Variance Extracted (AVE) were computed for two multi-item constructs in our model (recipient's satisfaction with online relationship; intention to ignore the content from this user). All item loading exceeded the 0.7 threshold (Hair et al. 2012), which provides assurance for the IR. Further, CR values for both constructs were higher than the required level of 0.7 (Hair et al. 2012): $CR_{satisfactionR}$=0.914; $CR_{intent\_to\_ignoreR}$=0.891. The AVE values surpassed the threshold level of 0.5 (Quan-Haase and Young 2010): $AVE_{satisfactionR}$=0.730; $AVE_{intent\_to\_ignoreR}$=0.804. Hence, convergent validity can be assumed. The criterion for discriminant validity that compares the square root of AVE with inter-construct correlations was also fulfilled for our model (Hulland 1999, p. 200). Taken together, our measurement model is well-specified.

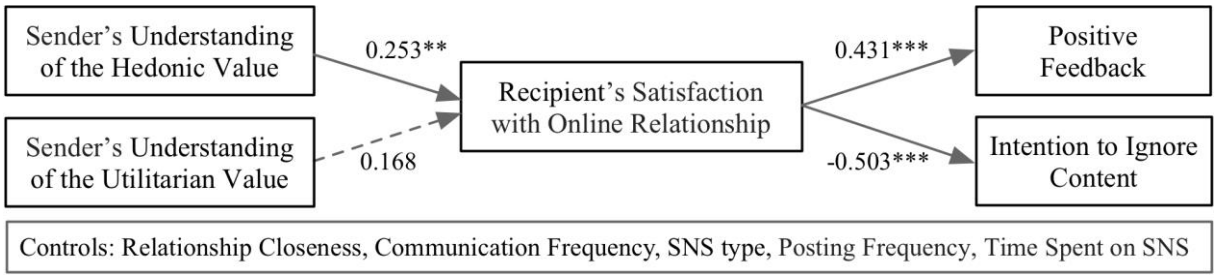

*Figure 7. Results of the structural model testing (***p<0.001, **p<0.01).*

In the next step, the Structural Model (SM) was evaluated by assessing the size of path coefficients and their significance via a bootstrapping procedure (see Figure 7). We find that the degree of sender's understanding regarding the hedonic value is positively associated with recipient's satisfaction with online relationship (β=0.253, p=0.009) thus supporting H3a. Understanding regarding the utilitarian

value did not pass the significance threshold of 5% (β=0.163, p=0.285) and therefore H3b was rejected. Further, recipient's satisfaction with the online relationship is positively linked to the provision of positive feedback by clicking on the 'Like'-button (β=0.431, p=0.000), as well as to the intention to ignore the content of the sender (β=-0.503, p=0.000). Hence, H4a and H4b were supported in our sample. Finally, we controlled for the dyadic relationship and SNS usage. In line with past research (Cialdini et al. 1997; Savitsky et al. 2011), closeness positively affects recipient's satisfaction with the online relationship (β=0.303**) and positive feedback (β=0.255*) significantly. However, no path coefficient in the original model became insignificant by including this effect. Communication frequency, sender's/recipient's time spent on SNS, sender's posting activity and the type of SNS turned out to be insignificantly related to our three outcome variables. We discuss implications of our findings in the following section.

5 Discussion

In this section, we discuss our results by bridging them with related work and indicating our contribution for research and practice.-This study investigated the observed contradiction between perception of content contributors (senders) and content consumers (recipients) (Wenninger et al. 2016). While senders are typically well-meaning in their sharing, their content is often seen as irritating, annoying, envy-inducing, and excessive (e.g. Krasnova et al. 2015). In order to shed light on this obvious gap in intentions and perceptions, a dyadic study with 90 matched pairs of SNS users was conducted.

5.1 Implications for Research

This study adds to SNS research in several ways. First, our results provide a novel view on the undesirable consequences of content consumption for recipients on SNSs (Sasaki et al. 2016; Maier et al. 2015; Krasnova et al. 2015; Tandoc et al. 2015). Based on social cognition theory (Bandura 2002) and the perceptual congruence model (White 1985), we move beyond the one-sided investigation of sender's or recipient's perceptions in isolation; instead we focus on the interpersonal nature of SNS communication as we compare user perceptions in a dyadic setting. This allows us to show that senders generally value their content more than recipients, scoring the hedonic and utilitarian value of the content higher. This conforms with recent findings indicating that recipients complain about needless and irrelevant information forced to them in their News Feed (Fox and Moreland 2015). Moving beyond the existence of perceptual differences, our results suggest that these contradictions occur due to senders' tendency towards egocentrism. Senders falsely anchored others' perception on their own building on the assumption that others are similar to them. We provide evidence that senders are biased, because perceived agreement (intrapersonal congruence of the sender) is significantly higher than actual agreement (interpersonal congruence of senders' and recipients' actual assessment). Along these lines, we support results of Kruger et al. (2005) that "false consensus" bias is even higher in electronic communication, which accentuates importance of perspective-taking. Senders are trapped by egocentrism while focusing on their own interests and needs (Barasch and Berger 2014). In this vein, we indicate that SNS artifacts like the invisible and heterogeneous audience coupled with asynchronous feedback leverages egocentrism and false-consensus bias compared to Face-to-Face communication. It challenges the ability of senders to put oneself in the shoes of others.

The need for perspective-taking brings us to our next contribution. Specifically, we show that sender's understanding of the recipient (accuracy of perspective-taking) influences relational outcomes. Subsequently, our findings highlight the critical importance of sender's understanding of the hedonic value of the content for the recipient. At the same time, contrary to our expectations, sender's understanding of the utilitarian value of the content for the recipient is not significantly related to relationship satisfaction. This result is plausible considering the hedonic orientation of SNSs, like Facebook or Instagram. We deem this finding as an indicator, that SNS environment are rather perceived as an environment for enjoyable pass time, which helps users to avoid boredom and supports them in their desire to procrasti-

nate (Krasnova and Kift 2012; Kwak et al. 2014). This pleasure-oriented nature of SNSs stands in contrast with news websites aiming to inform people, or more goal-oriented professional networks like LinkedIn.

Finally, in line with marital relationship research (Levinger and Breedlove 1966; Schröder-Abé and Schütz 2011), our results yield insights that understanding between communication partners positively influences relationship satisfaction. In this regard, we are able to show that when senders perform better in terms of "stepping into the shoes" of their audiences, this will pay itself off socially as the sender is likely to enjoy more positive feedback, e.g. in the form of 'likes', and better acceptance of the shared content among its recipients. Together, our findings uncover, help explain and explore the consequences of perceptual incongruence between senders and recipients of content on SNSs.

5.2 Implications for Practice

There is a number of practical implications for SNS providers and users resulting from our study. First, senders should be aware that their anticipation of recipients' attitudes is biased in the direction of own perceptions, and is not fully reflective of the actual attitudes of the audience. Among others, social cognitive research explains that this may be due to differing emotional states (Van Boven and Loewenstein 2003). For instance, if someone shares content in a happy mood, it is hard to predict how people in a bad mood would react. Further, inaccuracies in perspective-taking can be reinforced by false positive feedback. While negative emoticons have been introduced on Facebook, most feedback still remains positive and may create the false impression that recipients actually like the content, whereas in reality 'likes' are often given on the basis of tie strength, or simply as a confirmation of seeing the content (Lee et al. 2016). Hence, platform providers should be aware of this vicious cycle of positive feedback, and work towards mechanisms that counteract this dynamics.

Second, our results show that users who seek to be liked by their audience need to carefully think about the hedonic value of their content, since perceptions of hedonic value emerge as a critical driver of online relationship satisfaction, which in turn is positively associated with behavioral strategies favorable for a sender. This is in line with the results of Utz (2015) who shows that positive and entertaining content keeps the audience happy while contributing to the sense of connection.

For SNS providers who rely on user-generated content, fostering perspective-taking, for example by increasing awareness of its importance, emerges as an important strategy to ensure platform sustainability in the long-run. Indeed, if senders of content are not able to take the perspective of their audience, their recipients will in the worst case start ignoring their updates by hiding the content, which can backfire in terms of reduced time spent on an SNS in general. In this regard, no communication takes place as the shared content will not be visible to any recipient. Based on our results, we recommend SNS providers to strengthen other-focus on their platforms to enrich social interactions while keeping the communication loop of senders sharing content and recipients reacting on it stable. Already now, daily time spent on Facebook is less than 10 minutes – a significant decrease compared to just a few years ago (Alexa 2017).

6 Limitations and Future Research Suggestions

As with every research project, our study is subject to limitations. We asked dyads to respond to the questionnaire having the other person in mind. This allowed us to have real dyads with differing tie strength in our sample. In addition, we were able to capture interpersonal understanding on a post level. Although we assured the respondents that their data is treated anonymously and will not be shared with their friends, it is possible that respondents were biased as they had to provide private thoughts and opinions with regard to their friends or distant acquaintances. With respect to our results, we were not able to identify any social desirability bias, but it would be interesting to see whether future studies can replicate our results. An extension of our study with strangers indicating their perception of the content could lead to further interesting findings, as such research design will be less influenced by relationship closeness.

The survey was answered based on the latest post of the sender and related to one specific SNS connection. Certainly, users share different content over time and thus their accuracy in anticipating the perception of the value of the content for their peers might vary as well. In order to guide future research, we call for studies to investigate the factors that influence understanding. Our study revealed that understanding is crucial on SNS, but its antecedents remain unclear. Additionally, it could be also fruitful to analyze the divergence between actual and perceived agreement, and to further explore the determinants and consequences of false consensus bias on SNSs.

Finally, we conducted a survey among Instagram and Facebook users. However, one could expect that interpersonal perceptions and their impact on other platforms might differ. For instance, it is possible that on professional SNSs like LinkedIn utilitarian understanding positively impacts recipient's satisfaction with the online relationship.

7 Conclusion

Inaccuracy in perspective-taking is a common concern of interpersonal communication. Similar to traditional writing where audience is often unknown to the sender, "broadcasting" to wide audience on SNSs requires ability to understand the potential readers in order to succeed. Our results provide insights on the bilateral perceptions of content that is shared on SNS. Senders' accurate anticipation of recipients' perceptions of the shared content can leverage a healthy SNS environment. In contrast, misunderstanding can lead to reluctance to follow the content on the part of the receiving audiences, thereby threatening to undermine the sustainability of SNSs. Together, our findings contribute to a better understanding of the underlying dynamics of content sharing and consumption on SNSs, and have significant implications for theory and practice.

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