Smileys as a Facilitator of Sarcastic Interactions in Online Communication

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Abstract

Computer-mediated communication (CMC) misses certain essential communication cues compared to face-to-face (F2F) communication. Especially for sarcasm, which is very dependent on non-verbal and prosodic cues, CMC could increase the risk of miscommunication. Smileys potentially facilitate this communication by clarifying the sarcastic intent. The current study tests if participants rate sarcastic intentions of messages with and without wink smileys differently, in line with predictions based on two prominent hypotheses on sarcasm: The Tinge Hypothesis and the Enhance Hypothesis. The experiment reveals that smileys only have an effect on sarcastic intentions for outwardly negative messages. Smileys do not facilitate the comprehension of all sarcastic messages and even create the illusion that some literal messages are sarcastic. Smileys have a larger effect on the perception of the message when the affective contrast is largest, that is, when a negative message is combined with the positive wink smiley. This suggests that smileys might function more as an indication of emotional affect rather than as an indication of sarcasm. Across the experiment in almost all conditions, sarcasm follows the pattern of the Tinge Hypothesis, as sarcastically perceived texts are shown to mute the positive or negative nature of the message.

Keywords: smileys; sarcasm; intentions; perceptions; Computer-mediated Communication;

Sarcasm is a form of nonliteral speech as the speaker intends to convey the opposite of the words that are uttered. Thus, the speaker would say one thing to actually imply the opposite. This indirect way of communicating can increase the risk of miscommunication. For sarcasm, the message does not always come across as the sender intended it. Key intentions of sarcasm are to be humorous (Derks, Bos, & Von Grumbkow, 2008b; Roberts & Kreuz, 1994) or to be aggressive (Blasko & Kazmerski, 2006) and to criticize or to praise someone (Anolli, Ciceri, & Infantino, 2002). Users of sarcasm often intend to be humorous (Bowes & Katz, 2011; Derks et al., 2008b; Dews, Kaplan, & Winner, 1995; Roberts & Kreuz, 1994), but for receivers, this aspect is overshadowed by the negative way sarcasm comes across: aggressive and mean (Bowes & Katz, 2011; Lee & Katz, 1998; Leggitt & Gibbs, 2000). This discrepancy between the sender's intent and the receiver's interpretation is not beneficial to the relationship.

In face-to-face (F2F) communication interactions are facilitated by the presence of non-verbal and prosodic cues to reduce miscommunications (Mehrabian, 1971; Phutela, 2015). This is especially important for sarcasm, as one cannot accurately determine the intent of the sarcastic sentence by simply interpreting the literal definition of the words used. Sarcasm is expressed through context, prosodic cues, and facial expressions (Attardo, Eisterhold, Hay, & Poggi, 2003; Cheang & Pell, 2008; Rockwell, 2000; Rockwell, 2001). However, in computer-mediated communication (CMC) these cues are not present, which increases the risk of misinterpretation even more for this already ambiguous form of communication. To compensate for these missing communicational aspects, CMC makes use of graphical representations of emotional affect: Smileys.

Overall, studies have found that smileys have a positive effect on online communication (Aldunate & González- Ibáñez, 2017; Derks et al., 2008b; Kaye, Wall, & Malone, 2016; Lohmann, Pyka, & Zanger, 2017; Rodrigues, Lopes, Prada, Thompson, & Garrido, 2017).

Smileys might function as a representation of non-verbal cues in CMC. Yuasa, Saito, and Mukawa (2011) have found that smileys cause an activation of the brain areas responsible for emotional discrimination, which is activated by non-verbal cues in F2F communication. Smileys might be a sufficient facilitator for most forms of communication, but do they have the capacity to facilitate sarcasm: a form of communication that is already prone to be misunderstood in F2F interactions.

Smileys can facilitate CMC by representing the emotional state of the sender (Derks, Bos, & Von Grumbkow, 2007; Derks et al, 2008b; Kaye et al., 2016), by indicating humour (Adams, 2012; Derks et al., 2008b), or by triggering a similar emotion for the receiver through emotional contagion (Erle, Schmid, & Martin, 2020; Lohmann et al., 2017). Through all these mechanisms, smileys can function as a representation of some, otherwise absent, non-verbal cues in an online environment (Derks et al., 2008b; Yuasa et al., 2011). However, as mentioned before, sarcasm is very dependent on non-verbal cues, prosodic cues, and context (Attardo et al., 2003; Cheang & Pell, 2008; Rockwell, 2000; Rockwell, 2001). As prosodic cues are not represented in CMC, the identification of sarcasm is fully dependent on context and substitutes for non-verbal cues. Therefore, smileys, as the non-verbal cues of CMC, carry more responsibility to successfully transmit sarcastic intent.

At this point, it has become apparent that smileys have contributed to our modern interactions and have made an impact on our language, as their prevalence in daily conversations has grown over the years. A smiley was even chosen as the Oxford Dictionary Word of the Year in 2015 (Oxford Languages, n.d.). The popular use of smileys could arguably be attributed to their facilitating role in CMC of clarifying the intent of the message, resulting in less ambiguity and a more pleasant and smoother communication (Kaye et al., 2016). Despite this evidence, the question remains whether smileys help us to understand sarcasm in CMC in a similar fashion.

While the aforementioned, facilitating effect of smileys is found for most forms of literal speech, sarcastic speech is a lot more complicated, which would allow for more interpretations of the sender's intent. Aside from that sarcasm can be incorrectly interpreted as literal, the intent behind the sarcastic message can also be distorted by the perception of the receiver.

In the field of sarcasm, two opposing theories attempt to explain how sarcasm can distort the perception of the meaning of a message. The Tinge Hypothesis by Dews & Winner (1995) states that sarcasm will mute the positive or negative nature of a message. If sarcasm is used to criticize, one would use a positively valenced sentence such as "*You're right on time*", but intend to convey the opposite, negative message that the person is late. According to the Tinge Hypothesis, in the case of sarcastic criticism, the negative nature of the message gets tinged towards the positive. This can be explained as follows: the recipient perceives the outwardly positive appearance, and this positive input influences the judgement of the intention. This means that sarcastic criticism will come across as less negative and therefore less mean than literal criticism. Literal criticism refers to critique where the content of the sentence is congruent with the criticizing intent of the message. If sarcasm is used to compliment, one would use a negatively valenced sentence such as "*You're awful at tennis*", but intend to convey the opposite, positive message that the person is good at tennis. According to the Tinge Hypothesis, in the case of sarcastic praise, the positive nature of the message gets tinged towards the outwardly negative appearance by the same mechanism as for sarcastic criticism. This means that sarcastic praise will come across as less positive and therefore less genuine than literal praise. Literal praise refers to compliments where the content of the message is congruent with the praising intent of the message.

In response to the study by Dews and Winner (1995), Colston (1997) argued that sarcasm has the opposite effect of muting the positive or negative meaning of a message. According to his

Enhance Hypothesis, sarcasm enhances condemnation for criticizing messages. This means that sarcastic criticism will come across as more negative than literal criticism. The mechanism behind this effect is that by portraying a more desirable state of affairs that could have been but is not, a contrast is indicated that increases the condemnation towards the receiver. For example, if sarcasm is used to criticise, one would use a positively valenced sentence such as "*You're right on time*", but intend to convey that the receiver of the sarcasm is late, he emphasizes the positive outcome that has not occurred. Therefore, more blame is put on the receiver as he could have ensured this positive outcome, but instead has caused the opposite, negative outcome. This increases the perception of condemnation towards the receiver. Colston (1997) only speaks of sarcastic criticism in his Enhance Hypothesis and does not make any assumptions about sarcastic praise. Therefore, the current study will also leave sarcastic praise with regard to the Enhance Hypothesis out of consideration.

Currently, the debate between these two hypotheses is still ongoing in the field of sarcasm. Both hypotheses find support in other studies as well. Pexman & Olineck (2002), Pickering, Thompson, and Filik (2018) and Jorgensen (1996) have found results in line with the Tinge Hypothesis for the emotional impact of sarcasm on the recipient. Inconsistently, Bowes and Katz (2011) and Leggit and Gibbs (2000) have found supporting evidence for the Enhance Hypothesis. The perception of a message's intent is distorted by sarcasm according to these hypotheses. However, smileys also function as influencers of perceptions. Given this information, we are left with the question what role smileys would play in influencing the emotional response to sarcasm.

Even though much research has been done into the effects of sarcasm and, separately, of smileys on emotional affect in communication, not much research has been done on how smileys affect the emotional response to sarcasm in CMC. Filik, Turcan, Thompson, Harvey, Davies, and

Turner (2015) have looked into how smileys and other punctuation marks influence the comprehension and emotional response to sarcastic messages. Smileys were shown to have a larger influence on comprehension and emotional response than other punctuation marks. Smileys influenced the perception of the sarcastic message differently depending on if the context was ambiguous or unambiguous. In an ambiguous context where the sarcastic message was intended to criticize someone, the wink smiley would make the message seem more negative. If the sarcastic message was complimenting someone, the wink smiley would increase the positivity of the message. But in the unambiguous contexts, the wink smiley would consistently make the sarcastic message appear more positive, regardless of the criticizing or complimenting intent of the message. Besides this study, not much research has been done on how smileys influence the emotional response to sarcastic messages.

A study by Thompson and Filik (2016) did show that smileys were used to convey the sarcastic intent of a message. The current study wishes to not only study if smileys facilitate to convey sarcastic intent, but also to differentiate between specific intentions of sarcasm and explore the effects of smileys on these intentions. Thompson and Filik (2016) studied if participants would choose smileys to make their sarcastic intentions clear. It was, however, not studied from the perspective of the receiver if those smileys actually help to facilitate the interaction. The present study wishes to explore smileys and sarcasm from the perspective of the receiver as well.

Arguably, the perspective of the receiver is the most crucial in sarcastic interactions, as how the receiver perceives the sender's intentions to be, will decide the emotional reaction it elicits in the receiver. The intentions of the sender can entail his intent to be sarcastic, contrary to be sincere, or it can entail his intentions behind using sarcasm such as, to be humorous (Derks, Bos, & Von Grumbkow, 2008b; Roberts & Kreuz, 1994), to be aggressive (Blasko & Kazmerski,

2006), to criticise or to praise (Anolli, Ciceri, & Infantino, 2002). The intent to be sarcastic can be derived from the context, however, the receiver cannot derive the sender's actual intentions for using sarcasm from any available cues in the conversation. The receiver can only determine his emotional reaction based on how he perceives the message to be intended. The perception of the intention could be quite similar to the actual intention of the sender, however it could also be very dissimilar, which could result in misinterpretation of the intent.

The possible facilitating effect of smileys on conveying sarcastic intentions between senders and receivers will only increase in importance as more communication is shifting towards CMC. Children receive their first smartphone from a younger age and more of their social interactions take place on the internet (Manago et al., 2019; Mascheroni & Cuman, 2014). It is important that research keeps track of the consequences of CMC on social relationships as CMC becomes a larger part of these children's social lives. Especially sarcasm in CMC is a point of concern, as it is can be intended as a form of humour to facilitate social liking, but is often misinterpreted (Bowes & Katz, 2011).

The current work

Based on the Tinge and Enhance Hypotheses the current study explores the effects of smileys on sarcastic interactions in CMC. The framework of the Tinge and Enhance Hypotheses are used, as they both explain how sarcasm might impact the affect of the recipient. Smileys as non-verbal cues in CMC, also influence the affect of the observer (Derks et al., 2007). The current study aims to research this subject by answering how the use of smileys in sarcastic messages aid the sender to convey his intentions (humour, criticism, praise, aggression) to the receiver using the framework of the Tinge and Enhance hypotheses.

The mechanism by which the current study expects that smileys facilitate sarcastic interactions in CMC, is by functioning as an indication of sarcasm (Derks et al., 2008a; Filik et

al., 2015; Thompson & Filik, 2016; Weissman & Tanner, 2018). Especially the wink smiley has shown to be most often related to sarcasm (Derks et al., 2008a; Filik et al., 2015; Thompson & Filik, 2016; Weissman & Tanner, 2018). Therefore, this study expects that messages including a wink smiley will be rated as more sarcastic than messages without such a smiley.

If smileys indeed disambiguate sarcastic messages and make the sarcastic intent more clear (Thompson & Filik, 2016), the increased perception of sarcasm could consequently also increase the effect of the Tinge Hypothesis or the Enhance Hypothesis. According to the Tinge and Enhance Hypotheses, sarcasm influences the perceived positivity or negativity of a message. In order to gain a more detailed idea of which aspects of sarcasm are increased or decreased in positivity or negativity, the positive and negative intentions of sarcasm are individually measured in this study. The positive intentions entail humour (Derks et al., 2008b; Roberts & Kreuz, 1994) and praising (Anolli, Ciceri, & Infantino, 2002). And the negative intentions entail aggression (Blasko & Kazmerski, 2006) and criticizing (Anolli, Ciceri, & Infantino, 2002). As mentioned before, the Tinge Hypothesis differentiates between sarcastic criticism and sarcastic praise. According to the Tinge Hypothesis, sarcasm will either be conveyed as more positive or as more negative than a literal message, depending on the criticizing or praising intent of the sender. The Enhance Hypothesis only mentions sarcastic criticism, although, explicitly mentioning only sarcastic criticism indicates that this theory differentiates between criticism and praise as well. Both Pickering and colleagues (2018) and Pexman and Olineck (2002) have found that sarcasm affects the emotional response differently for criticism and praise. In order to give an accurate representation of all effects, the current study will also differentiate between praising messages and criticizing messages. Regarding the effect of smileys on the emotional impact of sarcastic messages, the current study hypothesises that sarcastic messages including a wink smiley will be rated differently than sarcastic messages not including this smiley. Based on the Tinge

hypothesis, they will receive lower ratings than sarcastic messages without a smiley, because this approach predicts that sarcasm is used to dampen a message's content. Based on the Enhance hypothesis, the opposite (i.e., enhanced ratings) would be predicted. These hypotheses cover all four primary intentions behind using sarcasm: Hypothesis 2a: Criticism, Hypothesis 2b: Praise, Hypothesis 2c: Humour, Hypothesis 2d: Aggression. This entails that based on the Tinge Hypothesis, sarcastic criticizing messages will be rated as less aggressive and less criticizing and that sarcastic praising messages will be rated as less praising and less humorous. Regarding the Enhance Hypothesis, it is only expected that sarcastic criticizing messages will be rated as more aggressive and more criticizing. This study will not comment on sarcastic praise with regard to the Enhance Hypothesis.

As an additional exploratory research question, we will test whether smileys facilitate the alignment of sender and receiver perceptions of sarcastic messages. Previous literature has shown that sometimes misalignment of senders' and receivers' perceptions on sarcasm can occur (Bowes & Katz, 2011). The user of sarcasm might intend to be funny (Bowes & Katz, 2011; Derks et al., 2008b; Dews et al., 1995; Roberts & Kreuz, 1994), but the receiver could interpret it as aggressive (Bowes & Katz, 2011; Lee & Katz, 1998; Leggitt & Gibbs, 2000). Thompson and Filik (2016) have looked from the perspective of the sender, but the perspective of the receiver could arguably be most important, as they will decide how the emotional impact will influence the relationship. Both perspectives are necessary to create an all-encompassing overview of the effect. The current study will differentiate between senders and receivers and measure the effect of smileys both separately and together. As previous research has shown, smileys can disambiguate information and make intentions more clear (Kaye et al., 2016), therefore it is expected that messages including wink smileys are perceived as more unambiguous and therefore receive more similar ratings from senders and receivers. That is, the difference between sender

and receiver ratings on all five dependent variables will be smaller for messages including a smiley than for messages without smileys.

Method

The experiment tested how participants would perceive sarcastic and literal messages if they were accompanied by a wink smiley or without a wink smiley.

Design

This study used a 2 (Perspective: Sender vs. Receiver; between-subjects) x 2 (Message Type: Sarcastic vs. Literal; within-subjects) x 2 (Smiley: Smiley vs. Plain Text; within-subjects) x 2 (Message Valence: Criticism vs. Praise; within-subjects) mixed design. The dependent variables were perceptions of Humour, Aggression, Criticism, Praise, and Sarcasm.

Procedure

Participants participated in a 6-minute online study via the platform Prolific Academic. Participants received a monetary compensation of 0.75 £ for their participation. After providing informed consent, participants were randomly allocated to either the sender or the receiver condition. Each participant, regardless of condition, was presented with eight text message conversations with them and a friend realising all the conditions of the design. For each dialogue, the participant was asked to rate the last text message on five dependent variables. Depending on the sender or receiver condition, this last message could be their own message or the message of their friend (see Figure 1). The participants could not leave the page if one question was left unanswered. Each participant was asked to fill in the eight questions of the Sarcasm Self-Report Scale (Dress, Kreuz, Link, & Caucci, 2008; Ivanko, Pexman, & Olineck, 2004) and their demographics. After the experiment, participants were thanked for their participation and further directed how to collect their reward.

Materials

Independent variables. Each participant received eight dialogues, each with its own scenario, which were retrieved from Thompson & Filik (2016). Within-subject there were different combinations of Message Type (Sarcastic vs. Literal), Message Valence (Criticism vs. Praise), and Smiley (Smiley vs. Plain Text) resulting in eight combinations (2x2x2=8). Between-subjects the dialogues also differed in Perspective (Sender vs. Receiver). Message Type was apparent in the experiment in the context of the dialogue, Message Valence was apparent in the experiment in the content of the last message and Smiley was apparent in the experiment in the visual cue of a smiley at the end of the last text message. For an overview of all eight message combinations presented to each participant see Table 1.

Table 1

Overview of All Eight Message Combinations

		Message Type	
		Sarcastic	Literal
Message Valence	Criticism	Person 1: What are you doing this evening? Person 2: I'm going to that squash class that we went to last week. I kinda sucked at it so I want more practice. Person 1: Oh yeah, you were great at that.	Person 1: What are you doing this evening? Person 2: I'm going to that squash class that we went to last week. Person 1: Oh yeah, you were awful at that.
	Praise	Person 1: What are you doing this evening? Person 2: I'm going to that squash class that we went to last week. I kinda sucked at it so I want more practice. Person 1: Oh yeah, you were awful at that.	Person 1: What are you doing this evening? Person 2: I'm going to that squash class that we went to last week Person 1: Oh yeah, you were great at that.

Smiley		Smiley	Plain Text
Message Valence	Criticism	Person 1: What are you doing this evening? Person 2: I'm going to that squash class that we went to last week. I kinda sucked at it so I want more practice. Person 1: Oh yeah, you were great at that. 😉	Person 1: What are you doing this evening? Person 2: I'm going to that squash class that we went to last week. Person 1: Oh yeah, you were awful at that.
	Praise	Person 1: What are you doing this evening? Person 2: I'm going to that squash class that we went to last week. I kinda sucked at it so I want more practice. Person 1: Oh yeah, you were awful at that. 😉	Person 1: What are you doing this evening? Person 2: I'm going to that squash class that we went to last week. Person 1: Oh yeah, you were great at that.

The Sender and Receiver condition differed in the perspective that the participant had to take on. In the Sender condition, participants had to imagine being the senders of a sarcastic text message. In the Receiver condition, participants had to imagine being the receiver of a sarcastic text message. The variable Perspective was apparent in the experiment in the colour and the position of the text message in the image of an online conversation (see Figure 1).

Dependent variables. For each dialogue the participant was asked to rate the dependent variables humour, aggression, criticism, praise, and sarcasm on five 7-point Likert slider scales (from 1 = totally disagree to 7 = totally agree) (see Appendix B). All statements had the same body but the dependent variable differed. The body of the text was: "The last message is ..." With the dependent variable inserted.

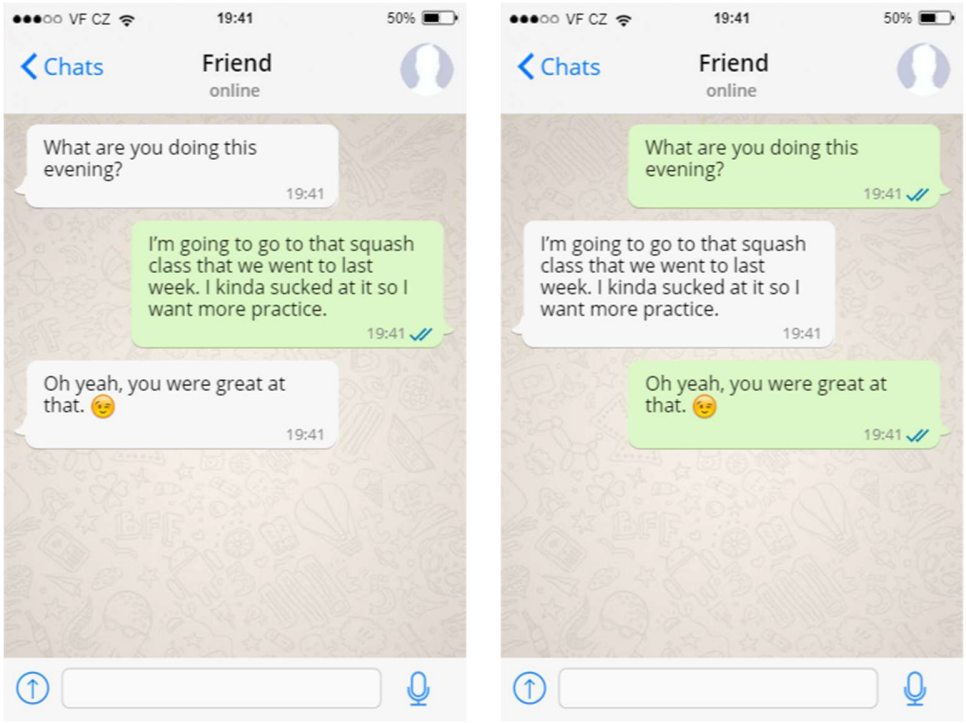

Figure 1. Two online dialogues differing in Perspective. Left: Receiver condition. Right: Sender condition.

Dialogues. The dialogues were retrieved from Thompson and Filik (2016). The dialogues in the literal condition were completely adopted, however, the dialogues in the sarcastic condition were slightly altered versions of the dialogues from Thompson and Filik (2016). Thompson and Filik (2016) provided their participants with the intention of the message: either sarcastic or literal, they did not need to make the intention clear through context. The current study aimed to measure if participants perceived a literal or sarcastic message with a smiley as either literal or sarcastic. We, therefore, could not provide them with the correct intention and needed to clarify this intention in the context. The used materials also differed with the original materials from Thompson and Filik (2016) in that the original materials did not include a smiley or a plain condition in their dialogues. See Appendix A for the altered dialogues.

Thompson and Filik (2016) made use of 24 dialogues. The current study only adopted eight dialogues in order to present participants with every combination of the values of the independent variables (2x2x2=8), while minimizing the duration of the experiment. Adjusting the context of the dialogues was not feasible for some of the 24 items from Thompson and Filik (2016). Therefore, the eight dialogues were selected based on how suitable they are for modification.

Sarcasm Self Report Scale. For potential exploratory purposes, participants also completed an eight-item version of the Sarcasm Self-Report Scale (SSS) (Dress et al. 2008; Ivanko et al. 2004) at the end of the study.

Participants

The a priori power analysis was based on the smallest effect size on the most comparable dependent variable in a similar project (Erle, Schmid & Martin, 2020), which was Cohen's dz = 0.55. For all 5 paired samples t-tests the aim was to find a power of 0.95 per test, with an overall power of 0.95^5 = 0.78. To realise the target effect size with the target power the sample size should be N = 45. The decision was made to achieve this sample size in both Sender and Receiver conditions, which results in a total target sample size of N = 90.

A total of $N = 90$ participants (36 females, 51 males, 2 other; age: $M = 24{,}54$, $SD = 7.62$) who indicated that they are fluent in English took part in this study. For one participant the data were missing and thus was the participant excluded from the analyses (N = 89). Participants were equally distributed over the two conditions of the study (Sender: $n = 45$, Receiver: $n = 44$).

Results

All dependent variables were subjected to 2 (Smiley: smiley vs. no smiley; within-subjects) x 2 (Message Valence: praise vs. criticism; within-subjects) x 2 (Message Type: sarcastic vs. literal; within-subjects) x 2 (Perspective: sender vs. receiver; between-subjects)

mixed design ANOVAs and were followed up with planned comparisons. Everything was pre-registered and all data are available at https://osf.io/j8943/.

Sarcasm

Sarcasm ratings were subjected to an ANOVA. It was expected that a main effect of Smiley would be found, indicating that sarcasm ratings would be higher for messages including a smiley, compared to messages not including a smiley (Hypothesis 1).

In line with this hypothesis a mixed ANOVA indeed revealed a main effect of Smiley, $F(1,87) = 37.27$, $p < .001$. Post-hoc tests revealed that messages with a wink smiley were rated as more sarcastic then messages without a wink smiley, $t(89) = 6.28$, $p < .001$. However, there was also a main effect of Message Type, $F(1,87) = 15.26$, $p < .001$, a main effect of Message Valence, $F(1,87) = 5.42$, $p = .022$, an interaction between Message Type and Message Valence, $F(1,87) = 6.40$, $p = .013$, and most importantly there was a three-way interaction between Smiley x Message Type x Message Valence, $F(1,87) = 12.82$, $p = .001$, and thus the main effect of Smiley could not be interpreted.

Post-hoc tests revealed that this increase in sarcasm was only true for literal criticizing messages including a wink smiley, $t(89) = 6.10$, $p < .001$ (see Figure 2). And for sarcastic praising messages including a wink smiley, $t(88) = 4.35$, $p < .001$ (see Figure 3). Contrary to expectations, no effect of Smiley was found for sarcastic criticizing messages, $t(89) = 1.48$, $p = .141$, and for literal praising messages, $t(89) = 0.68$, $p = .496$. Thus, Hypothesis 1 was rejected.

Sarcastic Intentions

Aggression. Aggression ratings were subjected to an ANOVA. It was expected that a main effect of Smiley and a main effect of Message Type would be found, indicating that aggression ratings would be higher for sarcastic messages including a smiley, compared to sarcastic messages not including a smiley (Hypothesis 2a).

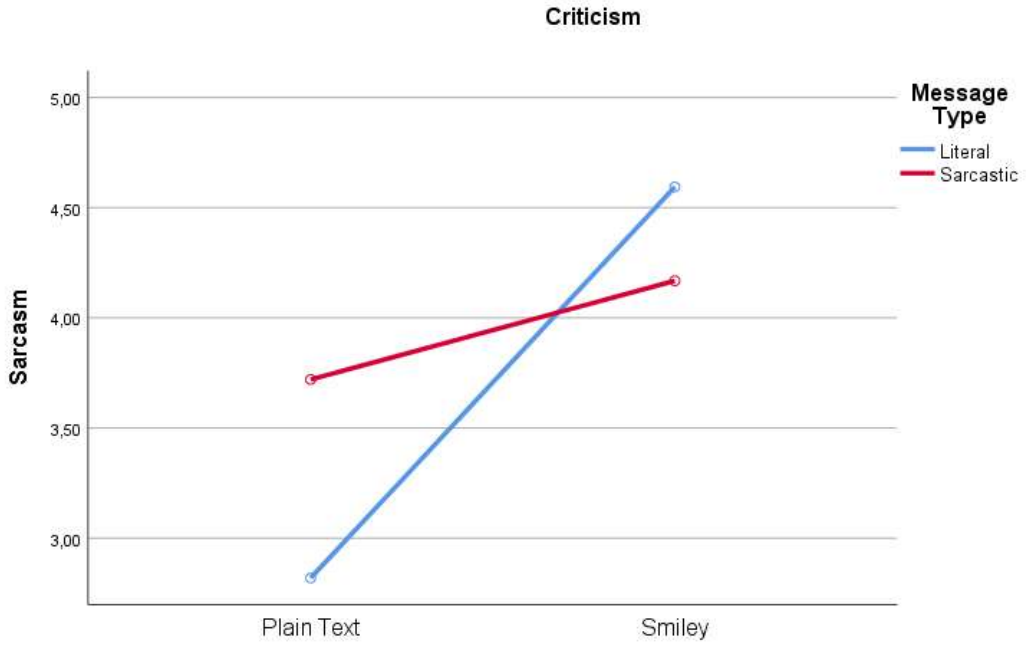

Figure 2. Sarcasm ratings for criticizing message.

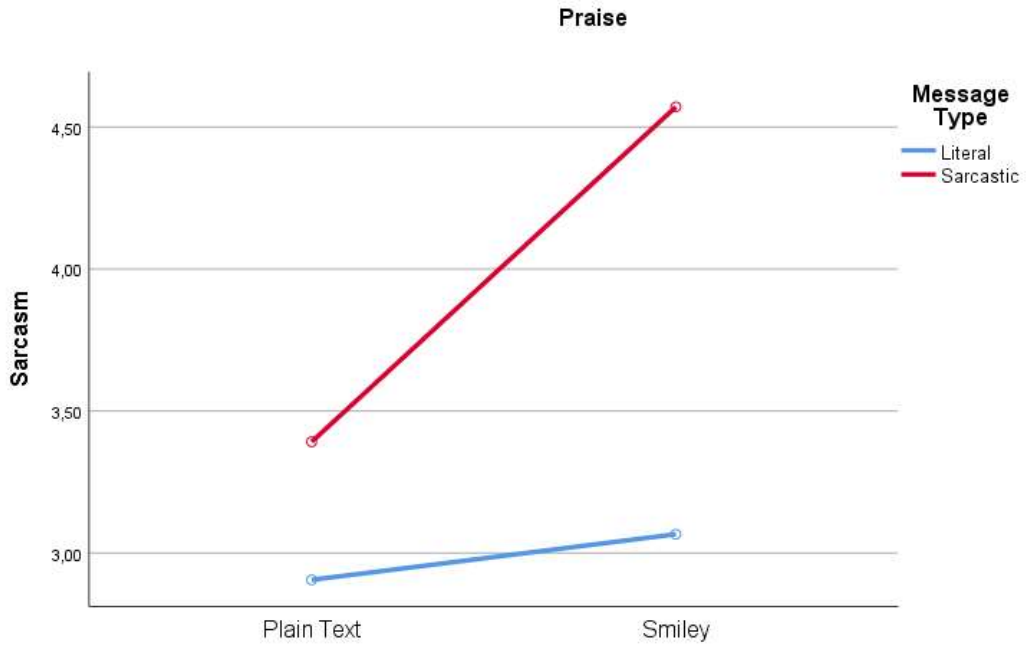

Figure 3. Sarcasm ratings for praising messages.

In line with the hypothesis, a mixed ANOVA indeed revealed a main effect of Smiley, $F(1,87) = 21.73$, $p < .001$, but not a main effect of Message Type, $F(1,87) = 0.77$, $p = .391$. Post-hoc tests revealed that messages with a wink smiley were rated as less aggressive then messages without a wink smiley, $t(89) = 4.83$, $p < .001$.

However, there was also an interaction between Message Type and Message Valence, $F(1,87) = 142.18$, $p < .001$, and more importantly there was a three-way interaction between Smiley x Message Type x Message Valence, $F(1,87) = 15.74$, $p < .001$, and thus the main effect of Smiley could not be interpreted.

Post-hoc tests revealed that sarcastic criticizing messages were rated as less aggressive then literal criticizing messages, $t(89) = 8.71$, $p < .001$. And that sarcastic praising messages were rated as more aggressive then literal praising messages, $t(89) = 10.01$, $p < .001$. The decrease in aggression was only true for literal criticizing messages including a wink smiley, $t(89) = 4.48$, $p < .001$ (see Figure 4). And for sarcastic praising messages including a wink smiley, $t(88) = 3.40$, $p = .001$ (see Figure 5). Contrary to expectations, no effect of Smiley was found for sarcastic criticizing messages, $t(89) = 1.22$, $p = .226$, and literal praising messages, $t(89) = 8.35$, $p = .406$. Thus, Hypothesis 2a was rejected.

Criticism. Criticism ratings were subjected to an ANOVA. It was expected that a main effect of Smiley and a main effect of Message Type would be found, indicating that criticism ratings would be higher for sarcastic messages including a smiley, compared to sarcastic messages not including a smiley (Hypothesis 2b).

In line with the hypothesis, a mixed ANOVA indeed revealed a main effect of Smiley, $F(1,87) = 19.31$, $p < .001$, but not a main effect of Message Type, $F(1,87) = 0.11$, $p = .738$. A post-hoc test revealed that messages with a wink smiley were rated as less criticizing then messages without a wink smiley, $t(89) = 4.49$, $p < .001$. However, there was also a main effect of

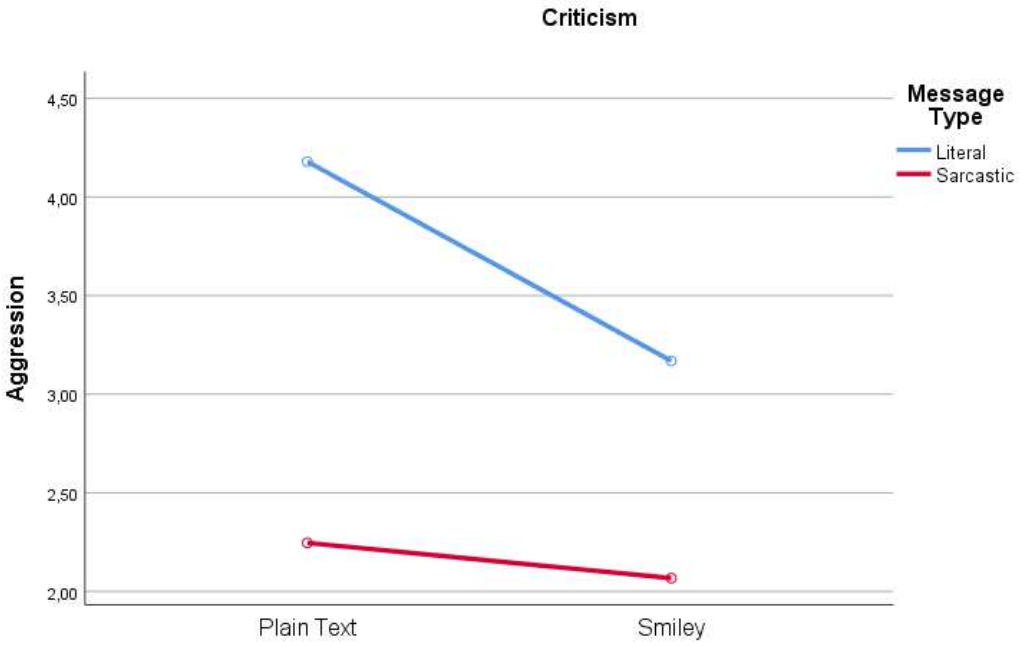

Figure 4. Aggression ratings for criticizing messages.

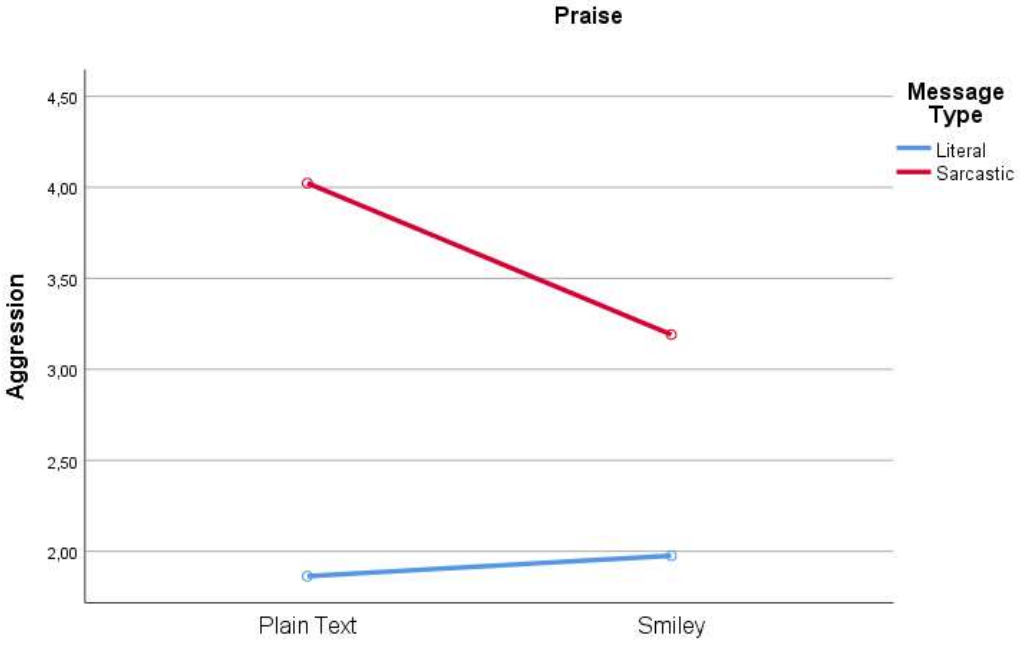

Figure 5. Aggression ratings for praising messages.

Message Type, $F(1,87) = 6.44$, $p = .013$, an interaction between Message Type and Message Valence, $F(1,87) = 165.73$, $p < .001$, and most importantly there was a three-way interaction between Smiley x Message Type x Message Valence, $F(1,87) = 23.84$, $p < .001$, and thus the main effect of Smiley could not be interpreted.

Post-hoc tests revealed that sarcastic criticizing messages were rated as less criticizing then literal criticizing messages, $t(89) = 9.69$, $p < .001$. And that sarcastic praising messages were rated as more criticizing then literal praising messages, $t(89) = 10.17$, $p < .001$. The decrease in criticism was only true for literal criticizing messages including a wink smiley, $t(89) = 5.74$, $p < .001$ (see Figure 6). And for sarcastic praising messages including a wink, $t(88) = 3.77$, $p < .001$ (see Figure 7). Contrary to expectations, no effect of Smiley was found for sarcastic criticizing messages, $t(89) = 0.84$, $p = .406$, and literal praising messages, $t(89) = 0.98$, $p = .330$. Thus, Hypothesis 2b was rejected.

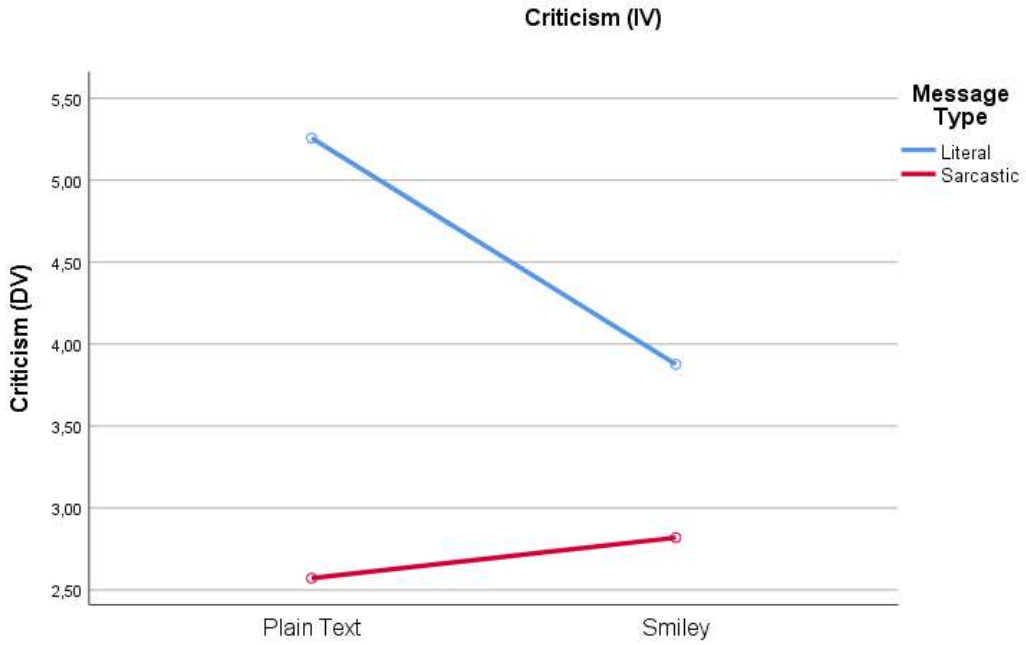

Figure 6. Criticism ratings for criticizing messages.

Figure 7. Criticism ratings for praising messages.

Humour. Humour ratings were subjected to an ANOVA. It was expected that a main effect of Smiley and a main effect of Message Type would be found, indicating that humour ratings would be higher for sarcastic messages including a smiley, compared to sarcastic messages not including a smiley (Hypothesis 2c).

In line with the hypothesis, a mixed ANOVA indeed revealed a main effect of Smiley, $F(1,87) = 84.17$, $p < .001$, and a main effect of Message Type, $F(1,87) = 10.79$, $p = .001$. Post-hoc tests revealed that messages with a wink smiley were rated as more humorous then messages without a wink smiley, $t(89) = 9.26$, $p < .001$, and that when praising messages were sarcastic they were rated as more humorous then when they were literal, $t(89) = 3.62$, $p = < .001$. For the literal messages, no effect of Humour on Message Type was found. However, there was also a main effect of Message Valence, $F(1,87) = 7.36$, $p = .008$, and most importantly there was a

three-way interaction between Smiley x Message Type x Message Valence, $F(1,87) = 10.14$, $p = .002$, and thus the main effect of Smiley could not be interpreted.

Post-hoc tests revealed that this increase in humour was true for literal criticizing messages including a wink smiley, $t(89) = 8.96$, $p < .001$ (see Figure 8), for literal praising messages, $t(89) = 4.34$, $p < .001$ (see Figure 9), for sarcastic criticizing messages, $t(89) = 3.16$, $p = .002$, and for sarcastic praising messages, $t(89) = 5.63$, $p < .001$. Thus, Hypothesis 2c was accepted.

Praise. Praise ratings were subjected to an ANOVA. It was expected that a main effect of Smiley and a main effect of Message Type would be found, indicating that praise ratings would be higher for sarcastic messages including a smiley, compared to sarcastic messages not including a smiley (Hypothesis 2d).

In line with the hypothesis, a mixed ANOVA indeed revealed a main effect of Smiley, $F(1,87) = 4.41$, $p = .039$, but not a main effect of Message Type, $F(1,87) = 2.81$, $p = .097$. A post-hoc test revealed that messages with a wink smiley were not rated differently as messages without a wink smiley, $t(89) = 1.95$, $p = .055$. However, there was also a main effect of Message Valence, $F(1,87) = 22.04$, $p < .001$, an interaction between Message Type and Message Valence, $F(1,87) = 149,82$, $p < .001$, and most importantly a three-way interaction between Smiley x Message Type x Message Valence, $F(1,87) = 5.80$, $p = .018$, and thus the main effect of Smiley could not be interpreted.

Post-hoc tests revealed that sarcastic criticizing messages were rated as more praising then literal criticizing messages, $t(89) = 7.74$, $p < .001$. And that sarcastic praising messages were rated as less praising then literal praising messages, $t(89) = 10.23$, $p < .001$. The increase in praise was only found for literal criticizing message, $t(89) = 3.16$, $p = .002$ (see Figure 10). And for sarcastic praising messages, $t(88) = 3.04$, $p = .003$ (see Figure 11). Contrary to expectations, no

ffect of Smiley was found for sarcastic criticizing messages, $t(89) = 0.46$, $p = .650$, and literal praising messages, $t(89) = 0.04$, $p = .973$. Thus, Hypothesis 2d was rejected.

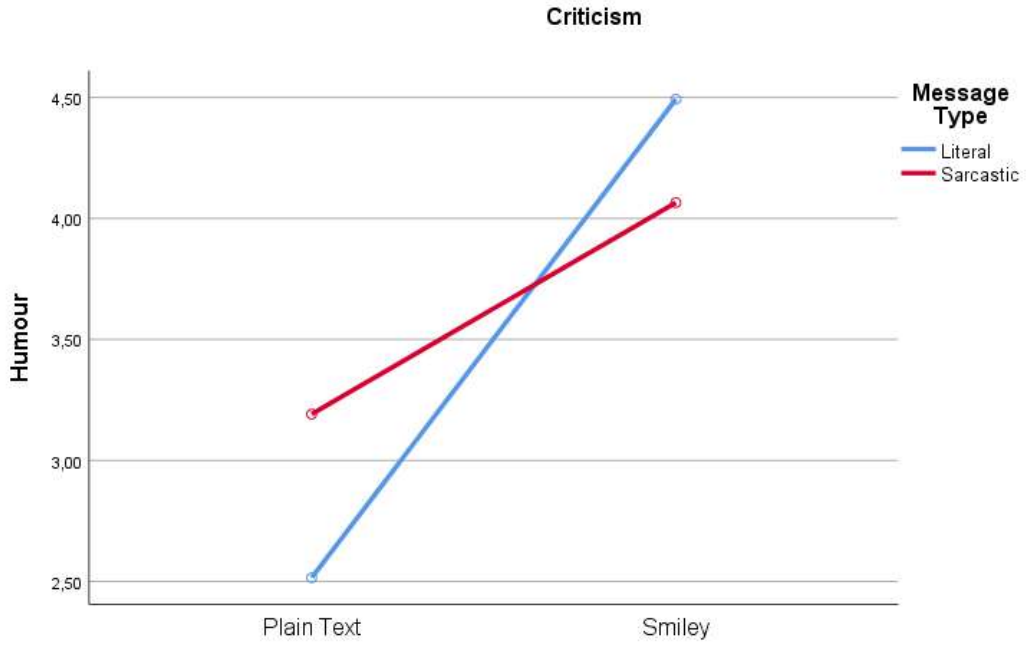

Figure 8. Humour ratings for criticizing messages.

Figure 9. Humour ratings for praising messages

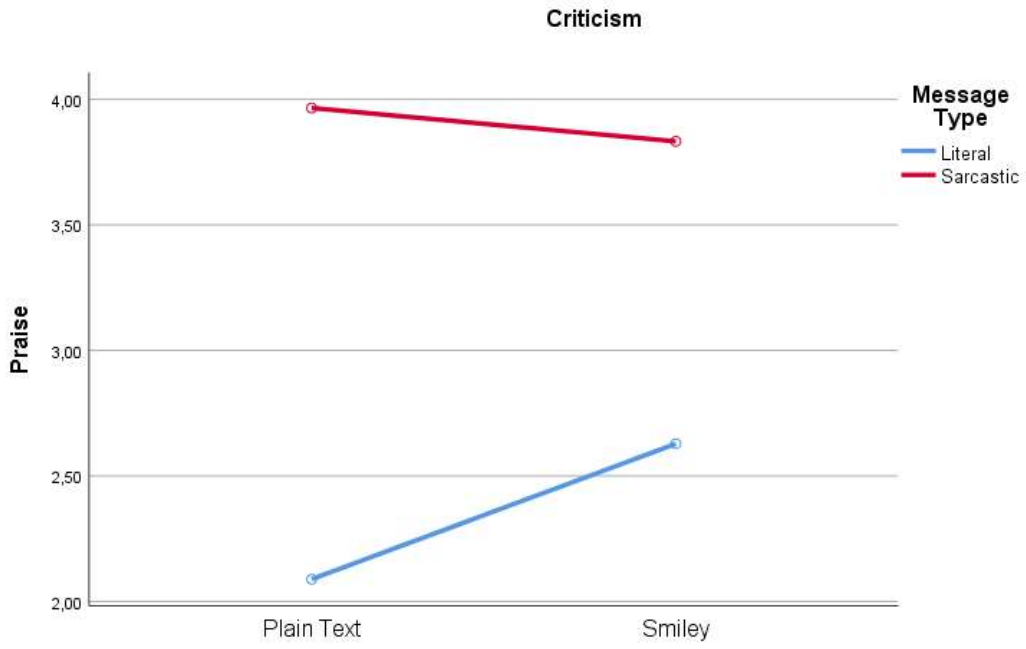

Figure 10. Praise ratings for criticizing messages.

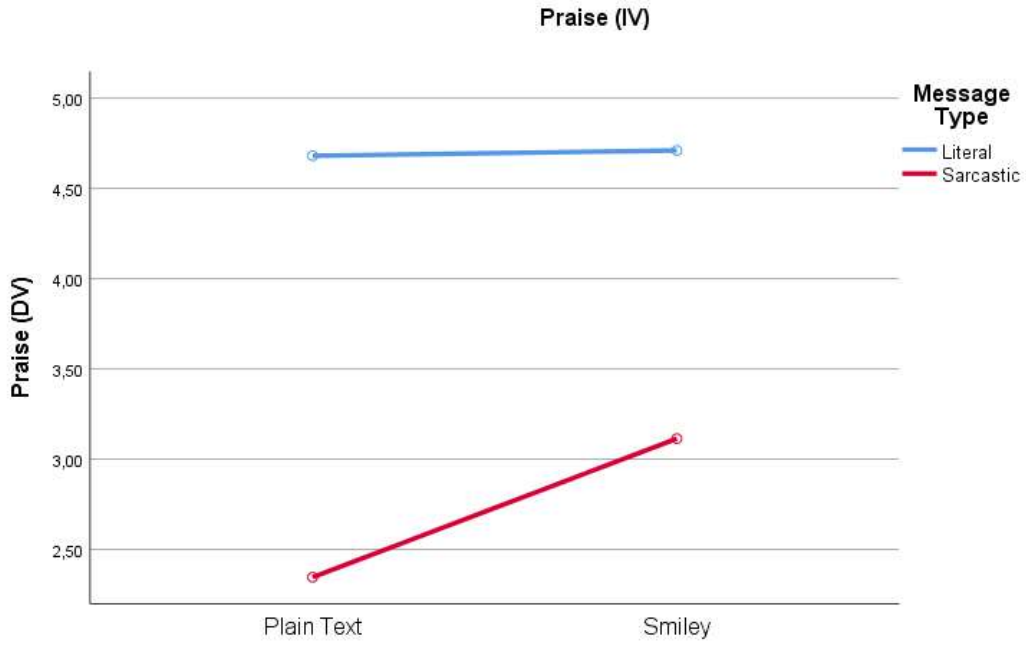

Figure 11. Praise ratings for praising messages.

Perspective

Finally, as an exploratory question, we investigated whether smileys would affect ratings differently depending on whether a participant is the sender or receiver of a given message. Smileys have shown to facilitate communication and reduce ambiguity (Kaye et al., 2016). They might clarify the intent of the sender for the receiver of a message and therefore make their perception of the message more similar. However, for all dependent variables, all effects involving the perspective manipulation were not significant, all Fs < 3.548, all ps ≥ .063, contradicting the idea that smileys would affect ratings of senders and receivers differently.

Discussion

This study aims to contribute to sarcasm and CMC research by answering if the use of smileys in sarcastic messages aids the sender to convey his intentions to the receiver using the framework of the Tinge and Enhance hypotheses. Research on sarcasm is still very divided if sarcasm mutes (Tinge Hypothesis) or enhances (Enhance Hypothesis) the positive or negative nature of a message. In this study, it was expected that such a Tinge or Enhance effect could be amplified when a wink smiley is present in the message. This idea is based on previous literature that states that the wink smiley increases perceptions of sarcasm (Filik et al., 2015; Thompson & Filik, 2016; Weismann & Tanner, 2018). Whether smileys indeed influence the level of sarcasm is an important question to explain how smileys add to the conversation.

However, this study finds no support for the hypothesis that messages with a wink smiley are rated as more sarcastic. This indicates that the wink smiley likely does not figurate as an indication of sarcasm. The current study revealed that smileys indeed increase the perceived sarcasm, but contrary to Filik et al. (2015), this is only the case in specific circumstances. Sarcasm is only increased for literal criticizing messages and sarcastic praising messages. Adding a wink smiley to sarcastic criticizing messages and literal praising messages does not have an

effect on the perceived sarcasm. Smileys did not function as an accurate indicator of sarcasm, the wink smileys even created an illusion that literal criticism was perceived as sarcastic but more importantly, they do not help to recognise actual sarcasm in sarcastic praise. Previous literature has shown that the wink smiley is used to clarify sarcasm (Thompson & Filik, 2016), however smileys might influence message interpretation via multiple ways.

For hypothesis 2, results are complicated. For all intentions of sarcasm, with the exception of Humour, we find the same pattern that was found for Sarcasm. This pattern entails that the effect of smiley only occurred for the literal criticizing messages and the sarcastic praising messages. No difference in ratings on Aggression, Criticism, and Praise for literal criticizing messages and for sarcastic praising messages is found. Therefore, smileys did not influence the ratings on Aggression, Criticism, and Praise independent of Message Valence and Message Type. However, for the intention Humour an effect of smiley is found for all sarcastic messages. Therefore, the hypothesis that sarcastic messages are rated differently when a smiley is added is only supported for the subsection of the hypothesis regarding the intention Humour.

For Humour, smileys increase the ratings for all values of Message Type and Message Valence: The perceived humour is increased regardless if the message is criticizing, praising, literal or sarcastic. However, the effect of smileys on Humour was the strongest for literal criticizing and sarcastic praising messages. This is in line with the pattern that is found for all other dependent variables; smileys affect literal criticizing and sarcastic praising messages more then they affect sarcastic criticizing and literal praising messages.

For all intentions of sarcasm, with the exception of Humour, we find the same effect of smileys on the perceived intent of the message. For literal criticizing messages, smileys have a tinging effect on the negative nature of the message; they make the messages less aggressive, less criticizing, and more praising. Contrary, smileys also cause sarcastic praising messages to be

perceived as less aggressive, less criticizing, and more praising. As sarcastic praising messages are already positive in their nature, the increased positivity when adding a smiley is not a muting effect of the meaning of a message in line with the Tinge Hypothesis. For Humour, however, support for the Tinge Hypothesis regarding the effect of smileys is found for both literal and sarcastic criticizing messages: their negative nature is tinged towards the positive by increased humour ratings. On the other hand, both literal and sarcastic praising messages with smileys have increased humour ratings, which is again not in line with the Tinge Hypothesis. In conclusion, no consistent support that smileys function according to the assumptions of the Tinge hypothesis can be derived from these results.

When we were testing for the effects of smileys on the perception of sarcasm, analyses revealed an effect of sarcasm on the emotional response to criticism and praise. In addition to many existing studies (Pexman & Olineck, 2002; Pickering, Thompson & Filik, 2018; Jorgensen, 1996), this study has found supporting evidence for the Tinge hypothesis with regards to the perceived emotionality of sarcastic and literal messages. Evidence for the Tinge hypothesis is only found for three out of the four variables that were subjected to analysis: Aggression, Criticism, and Praise. Sarcastic criticizing messages were tinged towards the positive as they were rated as more positive then literal criticizing messages. Sarcastic criticizing messages were perceived as less aggressive, less criticizing, and more praising. On the other hand, sarcastic praising messages were tinged towards the negative as they were perceived as more negative then literal praising messages. Sarcastic praising messages were more aggressive, more criticizing, and less praising.

Along the lines of the Tinge Hypothesis, the current study found that sarcasm has the most positive effect on the emotionality of a criticizing message compared to literal speech. Additionally, sarcasm also has a more negative effect on the emotionality of a praising message

compared to literal speech. Colston (1997) argued that the findings supporting the Tinge hypothesis in the study by Dews & Winner (1995) could be explained by the difference in the format of the stimuli presentation. Dews & Winner (1995) used a voice recording that presented the participants with the stimuli as well as presented them with text. Colston (1997) argued that the differences in results were to blame on the presence of prosodic cues. The current study has shown, as well as Pexman & Olineck (2002), that the Tinge effect occurred even though the stimuli were not read out loud to the participants.

To summarize the findings regarding the second hypothesis, smileys do not have an overall effect on the perception of intentions of sarcasm and in the specific cases that they do have an effect, there is no conclusive evidence for either the Tinge or the Enhance Hypothesis. Smileys have a tinging effect on the perceived negativity of literal criticism, but this tinging effect is not found for the perceived positivity of sarcastic praise, across all four intentions of sarcasm. A similar study by Filik et al. (2015) on the effect of smileys on the emotional impact of sarcasm, did find an effect of smileys on both sarcastic criticism and sarcastic praise. The direction of the effect was dependent on if the message was ambiguous or unambiguous, but for sarcastic praising messages, smileys always had an enhancing effect on positivity.

Apart from if sarcastic messages are interpreted differently with and without a smiley, this study also explored if smileys facilitate the alignment of sender and receiver perceptions of sarcastic messages. This entails that smileys would contribute to decrease differences between sender and receiver ratings on their perceptions of sarcasm and of intentions behind sarcasm in messages. Findings from the experiment give no indication that smileys facilitate the alignment of sender and receiver perspectives nor that there are any differences between sender and receiver perceptions of the messages. Previous literature has sometimes found a misalignment of senders' intentions and receivers' perceptions of sarcasm (Bowes & Katz, 2011), but this is not the case in

the current study. Senders and receivers seem to be pretty aligned in their judgement of the sarcastic messages, and this was true across all conditions of the present design, suggesting that this is quite universally the case.

An intriguing finding from this study is a pattern that appeared across all dependent variables. All analyses on the dependent variables revealed a pattern where there was either an effect only for literal criticizing messages and sarcastic praising messages or, as it was the case with Humour, the effect was largest for these two message combinations. This pattern is not in accordance with the expectation of this study. The expectation was that smileys would function as an indication of sarcasm and therefore would have an effect on all sarcastic messages. However, smileys do not increase sarcasm ratings for sarcastic criticism and smileys have even created the illusion that literal criticism is perceived as sarcastic. It is especially thought-provoking that the two message combinations that are affected by smileys are two total opposites with regard to message type and message valence, leaving them with not much in common.

Literal criticizing messages and sarcastic praising messages do have some shared characteristics. In general, smileys have an effect on the message alternative that would be worst. They mitigate literal criticizing messages when these are perceived as more negative than their sarcastic alternatives. Similarly, they render sarcastic praising messages more positive when they are perceived as more negative than their literal alternatives. Another thing that the literal criticizing messages and the sarcastic praising messages have in common is that they are both outwardly negative.

A consequence of literal criticism that is deceived as sarcasm, is that it follows the same pattern as sarcastic praise as they are both outwardly negative. People misinterpret that they are both sarcastically praising even though the literal condition is actual criticism. Consequently, the two message combinations are actually the same in the eyes of the participant.

Their outwardly negative nature might also explain why they are often rated as the most negative, but more importantly, this could give an explanation as to why smileys mainly have an effect on only those two message combinations. Besides disambiguating information and making sarcasm more apparent, smileys can also communicate positive affect in a set of ways. In order to explain this, we need to take a look at a psychological model that attempts to explain the communication of emotions through emotional expressions.

According to the EASI model (Van Kleef, 2009) emotional expression elicits an affective reaction in the observer through two pathways. Through the first pathway, emotions are directly copied through emotional-contagion processes. Through the other pathway, emotional expressions are analysed on their intentions and meanings and as a result, affect thoughts about and behaviours towards the emotional expresser. Bringing this model into the context of the smiley, the online representation of facial expressions could also elicit an affective reaction in the observer through one of the two ways. For the wink smiley, we would assume that through emotional contagion it would cause a positive feeling in the observer or it would give the observer the indication that the sender is feeling positive affect.

Both pathways of the EASI model are visible in the findings of this study. For the ratings on Humour the mere presence of a smiley made the message funnier across all conditions, this could be an indication of the emotional contagion. However, for Aggression, Criticism, and Praise the observer had to interpret the smiley and react accordingly, therefore there is a difference between message combinations for those variables.

The EASI model could explain why smileys have the largest effect on the outwardly negative messages. An outwardly negative message with a positive smiley is ambiguous as the emotional valence of the message and the smiley are incongruent. In this ambiguous situation, people might rely most on the visual cues for their interpretation (Mehrabian, 1971; Phutela,

2015). A smiley could be interpreted as an indication of sarcasm or as an indication of positive affect. The wink smiley as an indication of sarcasm could be more apparent for literal criticizing and sarcastic praising messages, as the contrast here is larger than for the other message combinations. Research has also shown that an incongruent message-smiley combination could come across as more sarcastic (Derks et al., 2008a).

For an outwardly negative message, adding a positive smiley is a large contrast of the emotional valence of the message. Based on solely the textual information one might think the sender is being negative. However, the incongruence with the positive smiley confuses the receiver about the sender's intent. The emotion that is expressed with the smiley is evaluated and as this is not congruent with the textual content, the receiver will question why the sender displays this emotion. From here the receiver could conclude that the sender is not being serious/ the textual content should not be taken serious/literally. This process is comparable to the mechanism of the Tinge Hypothesis; When a negative message such as criticism is delivered with an indication of positive affect such as the wink smiley, the negative message will be tinged towards the positive. As the contrast between an outwardly negative message and a positive smiley is larger than between an outwardly positive message and a positive smiley, the impact the smiley makes in the former will more likely also be larger. In this experiment the expected mechanism of smileys was that they would function as an indication of sarcasm, this expectation is not supported. Therefore, it is still possible, but it is less likely that smileys function as a correct indication of sarcasm but it is more feasible that they function as a (sometimes illusional) indication of a message's intended emotional valence. Which is in accordance with Derks and colleagues (2007).

That smileys can potentially conjure this positive affect, regardless of the actual content of the message, is something unique to CMC. Even though CMC misses certain communicational

cues such as non-verbal and prosodic cues compared to F2F communication, CMC also has its benefits which can be derived from this study. As the interlocutors are not face-to-face with each other, they cannot derive emotional information from facial expressions or other non-verbal cues. As individuals in this situation are not constricted by the automatic, biological reaction of facial expressions, they can strategically choose the emotional expression they wish to convey. Negative messages with a positive smiley induced the largest effect on emotional response. So when a message is intended negatively, adding a smiley will dampen the negative nature of the message. As an example, one could express criticism, but reduce the perceived harshness of it with a smiley, to keep social relations intact. This illusionary effect of smileys was confirmed in this experiment by the positive ratings of literal criticism when a smiley was added.

However, the sarcastic interpretation of literal criticism is not an objective result of adding a wink smiley. It is possible that participants were primed with the presence of a question about sarcasm, that they started perceiving the literal criticizing messages as sarcastic. Future studies should control for this priming effect.

Another aspect that maybe should be taken into consideration for future studies is the effect of ambiguous or unambiguous context. A study by Filik et al. (2015) did find that sarcastic criticism with a wink smiley is perceived as more sarcastic. However, they found a difference in sarcasm ratings and emotional impact ratings for sarcastic and literal messages between ambiguous and unambiguous messages. The current study falls short in considering this effect as the literal messages were presented in an ambiguous context and the sarcastic messages were slightly less ambiguous as the sarcastic intent needed to be clarified. Filik et al. (2015) found that sarcastic messages in unambiguous situations do not have increased sarcasm ratings while sarcastic messages in ambiguous situations do. This might display an effect that smileys do facilitate the sarcastic intent of all sarcastic messages in a more obscure context. This is in

accordance with Phutela (2015), who states that people rely more on visual cues for interpretation when the context is more ambiguous. Future studies should take the possible differences between ambiguous and unambiguous contexts into account.

The current study has revealed an inconsistent pattern of the effect of the wink smiley on sarcastic intentions. Smileys only aid the sender to convey his attentions for literal criticizing messages and sarcastic praising messages, both outwardly negative and showing large incongruence between message and smiley affect. Leaving questions open for the field of literature for why this pattern was found. The direction of this effect does not monotonously follow the Tinge nor the Enhance hypothesis with regard to the wink smiley. However, this study does contribute to the pool of studies that have found supporting evidence for the Tinge hypothesis with regard to sarcastic and literal speech.

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Appendix A

Dialogues

Table A1

Scenario 1

Criticism	Literal	Person 1: So how was the interview? Person 2: I really can't tell. Person 1: Well, you didn't look confident
	Sarcastic	Person 1: So how was the interview? Person 2: I really can't tell, but I was super nervous though. Person 1: Well, you looked confident
Praise	Literal	Person 1: So how was the interview? Person 2: I really can't tell. Person 1: Well, you looked confident
	Sarcastic	Person 1: So how was the interview? Person 2: I really can't tell, I was super relaxed though. Person 1: Well, you didn't look confident

Table A2

Scenario 2

Criticism	Literal	Person 1: Where did you get your hair done again? Person 2: Hans Hair. I can't decide if it suits me though. Person 1: I really hate the colour.

	Sarcastic	Person 1: Where did you get your awfully bright hair done again? Person 2: Hans Hair. I can't decide if it suits me though. Person 1: I really love the colour.
Praise	Literal	Person 1: Where did you get your hair done again? Person 2: Hans Hair. I can't decide if it suits me though. Person 1: I really love the colour.
	Sarcastic	Person 1: Where did you get your pretty blonde hair done again? Person 2: Hans Hair. I can't decide if it suits me though. Person 1: I really hate the colour.

Table A3

Scenario 3

Criticism	Literal	Person 1: What are you doing this evening? Person 2: I'm going to go to that squash class that we went to last week. Person 1: Oh yeah, you were awful at that.
	Sarcastic	Person 1: What are you doing this evening? Person 2: I'm going to go to that squash class that we went to last week. I kinda sucked at it so I want more practice. Person 1: Oh yeah, you were great at that.
Praise	Literal	Person 1: What are you doing this evening? Person 2: I'm going to go to that squash class that we went to last week. Person 1: Oh yeah, you were great at that.
	Sarcastic	Person 1: What are you doing this evening? Person 2: I'm going to go to that squash class that we went to last week. I thought it went really well, I enjoy playing squash.

		Person 1: Oh yeah, you were awful at that.

Table A4

Scenario 4

Criticism	Literal	Person 1: Did you hear from Charlotte last night about her break up with Rich? Person 2: Yes she was really upset, I had to talk to her on the phone for ages. Person 1: I bet you handled that badly.
	Sarcastic	Person 1: Did you hear from Charlotte last night about her break up with Rich? Person 2: Yes she was really upset, I had to talk to her on the phone for ages. We aren't even that close. Person 1: I bet you handled that well.
Praise	Literal	Person 1: Did you hear from Charlotte last night about her break up with Rich? Person 2: Yes she was really upset, I had to talk to her on the phone for ages. Person 1: I bet you handled that well.
	Sarcastic	Person 1: Did you hear from Charlotte last night about her break up with Rich? Person 2: Yes she was really upset, I had to talk to her on the phone for ages. We are really close. Person 1: I bet you handled that badly.

Table A5

Scenario 5

Criticism	Literal	Person 1: Are you coming to the social tonight? Person 2: No, I'm going to watch a scary film with my housemates. Person 1: That sounds so dull
	Sarcastic	Person 1: Are you coming to the social tonight? Person 2: No, I'm going to watch a scary film with my housemates. And I know you think movie nights are dull. Person 1: That sounds like fun
Praise	Literal	Person 1: Are you coming to the social tonight? Person 2: No, I'm going to watch a scary film with my housemates. Person 1: That sounds like fun
	Sarcastic	Person 1: Are you coming to the social tonight? Person 2: No, I'm going to watch a scary film with my housemates. And I know you love movie nights. Person 1: That sounds so dull

Table A6

Scenario 6

Criticism	Literal	Person 1: How did your day go? Person 2: It was good. Did you watch me playing tennis earlier? Person 1: Yeah I did, you were rubbish

	Sarcastic	Person 1: How did your day go? Person 2: It was good. Did you see me failing badly at tennis earlier? Person 1: Yeah I did, you were amazing
Praise	Literal	Person 1: How did your day go? Person 2: It was good. Did you watch me playing tennis earlier? Person 1: Yeah I did, you were amazing
	Sarcastic	Person 1: How did your day go? Person 2: It was good. Did you see me winning at tennis earlier? Person 1: Yeah I did, you were rubbish

Table A7

Scenario 7

Criticism	Literal	Person 1: Are you busy later? Person 2: Yes, I'm going to the guitar rehearsal for Sunday. Person 1: Yeah, you really need the practice.
	Sarcastic	Person 1: Are you busy later? Person 2: Yes, I'm going to the guitar rehearsal for Sunday. I really need the extra practice. Person 1: But you're basically an expert already.
Praise	Literal	Person 1: Are you busy later? Person 2: Yes, I'm going to the guitar rehearsal for Sunday. Person 1: But you're basically an expert already.
	Sarcastic	Person 1: Are you busy later? Person 2: Yes, I'm going to the guitar rehearsal for Sunday. Even though I've been playing guitar for years.

		Person 1: Yeah, you really need the practice.

Table A8

Scenario 8

Criticism	Literal	Person 1: I'm glad we finally cleared up from the party. Person 2: Same, sorry about all the singing! Person 1: You're such an awful singer
	Sarcastic	Person 1: I'm glad we finally cleared up from the party. Person 2: Same, sorry about all the singing! I know I'm tone deaf. Person 1: You're such a great singer
Praise	Literal	Person 1: I'm glad we finally cleared up from the party. Person 2: Same, sorry about all the singing! Person 1: You're such a great singer
	Sarcastic	Person 1: I'm glad we finally cleared up from the party. Person 2: Same, sorry about all the singing! But at least I'm a good singer. Person 1: You're such an awful singer

Appendix B

Dependent Variables Rating Questions

	Totally disagree						**Totally agree**
The last message is sarcastic.	1	2	3	4	5	6	7
The last message is aggressive.	1	2	3	4	5	6	7
The last message is humorous.	1	2	3	4	5	6	7
The last message is praising someone.	1	2	3	4	5	6	7
The last message is criticizing someone.	1	2	3	4	5	6	7