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Emoji As Icebreakers? Emoji Can Signal Distinct Intentions in First Time Online Interactions

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Abstract

Very few studies have examined if emoji play a role in first-time interactions and whether their use conveys information about relationship initiation intentions. In two experimental studies (N = 758), we explored if using different emoji to initiate interactions with strangers on Facebook and Tinder were perceived to signal distinct intentions from the sender (Studies 1 and 2) and which emoji (if any) would be used to convey distinct intentions when sending a message to a stranger (Study 2). Results from Study 1 showed that participants perceived messages with 😊 (or without emoji) to signal friendship intentions, with 😊 (or 😏) to signal romantic intentions, and with 😏 (or 🍆) to signal sexual intentions. Results were consistent across social platforms. Study 2 replicated the results regarding the impact of emoji use on perceived intentions. When asked to take the sender's perspective, participants selected 😊 for friendship intentions, 😊 or 😘 for romantic intentions, and 😏 for sexual intentions. Still, about one-third of participants chose not to include emoji in initial interactions. Taken together, these findings suggest that emoji play an important role in online interpersonal communications and potentially shape the initiation of new relationships.

Keywords: emoji, electronic mediated communication (EMC), social networks, interpersonal relationships

Emoji as Icebreakers? Emoji Can Signal Distinct Intentions in New Online Interactions

The use of online technology and social platforms has become ubiquitous in recent years (e.g., Pew Research Center, 2021). Digital communication occurs through multiple channels (e.g., e-mails, instant messaging, video calls) and helps individuals meet multiple needs (Pertegal et al., 2019). For example, online platforms may be used to initiate and develop friendships (e.g., Mittmann et al., 2021; Scott et al., 2021) and romantic relationships (e.g., Brody et al., 2016; Van Ouytsel et al., 2016), but also to meet new people for a first date (e.g., Sharabi & Caughlin, 2017; Sharabi & Dykstra-DeVette, 2019) or a sexual encounter (e.g., Couch & Liamputtong, 2008; Sumter et al., 2017).

Differences between digital and traditional face-to-face modalities of communication have already been extensively discussed (e.g., Venter, 2017), much like their benefits and detriments for interpersonal relationships (e.g., Kotlyar & Ariely, 2013). For example, interacting for the first time with someone through written communication (vs. face-to-face) tends to elicit more negative experiences (e.g., less liking, feelings of connectedness, and enjoyment; Okdie et al., 2011). However, these initial experiences tend to be overcome when individuals continue their interactions (Ramirez et al., 2015; Sprecher, 2014), arguably because other relevant factors of communication come into play (for a review, see Walther & Whitty, 2021). For example, expressing one's emotions is key to connecting with others (Chervonsky & Hunt, 2017) and has been deemed appropriate across social platforms (Waterloo et al., 2018). Furthermore, digital and face-to-face modalities may afford similar emotional expression and personal involvement (Boutet et al., 2021). For instance, individuals can infuse emotion into their written messages, namely through the use of emoji (for a review, see Bai et al., 2019), and messages that include emoji are perceived as having a more positive emotional tone than messages without emoji (Riordan, 2017).

Research has already shown that individuals often use emoji in their communications with close others (e.g., Jones et al., 2020; Kaye et al., 2016) and the implications of using emoji more frequently with potential dates or sexual partners (e.g., Gesselman et al., 2019; Nexø & Strandell, 2020). However, there is a dearth of research focused on understanding how different emoji can play a significant role in first-time interactions. In two experimental studies, we examined if emoji are perceived to convey distinct interpersonal intentions when receiving a direct message from a stranger on social platforms (Studies 1 and 2), and which emoji would be used to convey those intentions when sending a direct message to a stranger on these platforms (Study 2).

Emoji in Written Communication

Emoji are graphic symbols that can represent a myriad of concepts (e.g., facial expressions, emotions, activities; Rodrigues et al., 2018). Individuals tend to have positive attitudes toward emoji (e.g., messages with emoji are perceived as more playful; McShane et al., 2021), endorse different intentions to use them (Prada et al., 2018), and use emoji when they want to make their intentions more salient, express emotions, or disambiguate a message (Tang & Hew, 2018). Analyzing over 2,074 naturally occurring messages grouped in 299 conversations between WhatsApp users, Sampietro (2019) found 1,077 instances in which emoji were used. A qualitative analysis of these messages revealed that emoji were used with three main purposes. First, to reinforce and strengthen a positive message (e.g., "*Is the interview today? Gooood luck!!* 😊") or to lighten a negative message (e.g., "*Oh sorry* […] 😅"; see also Rodrigues et al., 2017). Second, to open new conversation informally and joyfully (e.g., "*Heyyy* 😏😏") or close interaction with a positive tone (e.g., "👍🏻 😘 😘"). Third, to customize the style of writing to the type of speech and the relationship between interlocutors (e.g., "*Get better soon .....* 👍🏻").

Emoji use seems to depend on the relationship between interlocutors. For example, individuals tend to use emoji more often when communicating with close others (e.g., romantic partner, friend; Jones et al., 2020; Kaye et al., 2016), and perceive emoji use to be inadequate when communicating with distant others (e.g., supervisor, professor; Cavalheiro et al., 2022). In interpersonal relationships, emoji can be used to serve different functions and with different intentions. For example, Thomson and colleagues (2018) found that individuals tend to select distinct emoji when communicating with their friends (e.g., 😊), romantic partners (e.g., ❤️), and sexual partners (e.g., 😏). However, emoji interpretation and appropriateness seem to vary according to the context in which it is used (e.g., Rodrigues, Lopes, Prada, et al., 2017). For example, Herring and Dainas (2020) found that certain emoji (e.g., 😂) can be used as a direct (e.g., laughing literally) or indirect (e.g., laughing in a mocking way) reaction to a comment. Also, Kelly and Watts (2015) argued that a certain emoji (e.g., 😘) can be interpreted differently depending on the contextual features (e.g., stranger, friendship, romantic partner). Also, Weissman (2019) found that participants perceived an ambiguous message exchange ("*What are you doing this weekend?*", "*I need some* 🍆😉") as more sexual than a more concrete message exchange ("*What are you getting at the grocery store?*", "*I need some* 🍆😉"). This may be particularly relevant when examining relationship formation, as the meaning conveyed by a given emoji is not always consensual by itself (e.g., 🙏 can be interpreted as "prayer" or "clapping hands"; Bai et al., 2019; Rodrigues et al., 2018).

Impact of Emoji Use on Relationship Initiation

Only a few studies examined the role of emoji use in person perception. Broadly, results have shown that messages that include (vs. do not include) emoji tend to elicit more positive impressions of an unknown sender (e.g., Beattie et al., 2020; Ganster et al., 2012;

Krishnan & Hunt, 2021), although this may only occur when communicating in an informal setting. For example, Glikson and colleagues (2018) showed that using emoji in a work context may have a detrimental impact on how the sender is perceived (e.g., less competent).

To the best of our knowledge, only two studies focused on the role of emoji use in the dating initiation context. The first study was conducted by Gesselman and colleagues (2019), in which the authors found that participants who indicated using emoji more often with prospective dates also went on more dates, had more sexual activity, and had more sexual partners over the last year. Also, participants who used emoji more often with a prospective partner before their first date were more likely to go on a second date, have intimate behaviors (i.e., kissing, sex), and begin a relationship with that partner. The second study was conducted by Nexø and Strandell (2020), in which the authors found that participants considered emoji an important communicative feature to interact and flirt with prospective partners, and to convey interest in a potential romantic relationship. These perspectives were shared by participants who send and receive emoji in their interactions. Taken together, these studies suggest that emoji play a key role in first-time dating interactions, particularly because they contribute to promoting affiliation and intimacy (for a review, see Sampietro, 2019).

General Overview

Building upon the evidence that individuals use different emoji depending on the type of relationship they have with close others (Thomson et al., 2018), we conducted two experimental studies to examine whether different emoji can also signal distinct intentions in first-time interactions. Specifically, we examined if participants inferred three possible interpersonal intentions—friendship, romantic, and sexual—when an unknown sender used different emoji to complement a written message on a social platform (Studies 1 and 2). We

also examined which specific emoji would be used by participants to convey friendship, romantic, and sexual intentions if they were to send a message to a stranger (Study 2).

Study 1

This study explored if different emoji could elicit distinct interpersonal intentions when individuals received a direct message from someone for the first time on a social platform. We asked participants to look at the screenshot of the direct message and to indicate the extent to which the sender had friendship, romantic, and sexual intentions. Given the lack of past studies and the exploratory nature of our study, we did not establish *a priori* hypotheses.

Method

Participants and Design

A sample of 483 individuals living in Portugal volunteered to participate in a web survey. Participants were, on average, 32 years old (M = 32.07, SD = 12.70), were mostly women (64.0%), with a university degree (58.2%), and were either employed (54.7%) or studying (37.9%).

Participants were randomly assigned to one of the experimental conditions in a 2 (social platform: Facebook vs. Tinder) x 4 (emoji: Control, 😊, 😉, 🍆) between-participants design.

Procedures, Materials, and Measures

This study was conducted in accordance with the Ethical Guidelines issued by *blinded for review*. Prospective participants were recruited on social media (e.g., Facebook, Instagram) and invited to access a link and take part in a study about online interpersonal communication. The online survey was hosted on Qualtrics. The first page of the survey informed about the general goals of the study assured that participation was voluntary, confidential, and anonymous, and highlighted that participation could be ended at any point without penalties or responses being considered for analysis. To proceed, individuals had to

give their informed consent. The survey started with standard demographic information (e.g., age, gender, education level), after which participants were randomly assigned to one of the experimental conditions and presented with a mock-up screenshot depicting direct messages sent by a stranger on Facebook chat or Tinder chat (see Figure 1). Participants were informed that "This interaction occurred in [Facebook vs. Tinder] messenger. The person sending the messages wanted to interact with someone they didn't know yet. Below, you can see the messages that were sent". In all conditions, the messages were "Olá" [*Hi*] and "Tudo bem?" [*How are you?*]. Depending on the experimental condition, these could be the only messages presented to participants (i.e., control condition) or messages could be complemented with one of three emoji: 😊, 😏, or 🍆. This particular set of emoji was selected based on previous research (Thomson et al., 2018). To avoid any spontaneous inferences based on name or physical appearance, we blurred the usernames and photos in all experimental conditions.

-- Figure 1 about here --

We then asked participants "Based on what you saw, do you consider that the sender of the messages was interested in…" and presented three items: "having a friendship?", "having a romantic relationship?", or "having a sexual encounter?". Responses were given in 7-point scales (1 = *Not interested at all* to 7 = *Very interested*). Lastly, participants were asked to indicate how frequently they use emoji (1 = *I never use emoji* to 7 = *I use emoji frequently*) and receive emoji (1 = *I never receive emoji* to 7 = *I receive emoji frequently*) in their written communication. In the end, participants were thanked, debriefed, and provided with the contact information of the lead researcher.

Data Analytic Plan

To examine inferences about the sender's intentions, we conducted three 2 (social platform) x 4 (emoji) univariate ANOVAs, one for each interpersonal intention. When differences were found, we computed pairwise comparisons with Bonferroni correction.

Additional analyses explored if any of our findings varied according to age, gender, and frequency of using and receiving emoji.

Results

Perceived Friendship Intentions

Overall, participants perceived the sender's friendship intentions as low (M = 3.58, SE = 0.08), 95% CI [3.42, 3.74]. We did not find a main effect of social platform, such that ratings were similar for messages sent on Facebook (M = 3.56, SE = 0.11) or Tinder (M = 3.61, SE = 0.11), $F(1, 475) = 0.09$, $p = .760$, $\eta^2_p = .000$. Instead, perceived friendship intentions varied according to emoji, $F(3, 475) = 32.25$, $p < .001$, $\eta^2_p = .169$ (see Figure 2). Specifically, messages with 😊 were perceived has having the strongest friendship intentions (M = 4.41, SE = 0.16), ps < .001, but not different from messages without emoji (M = 4.06, SE = 0.16), $p = .777$. Messages with 🍆 (M = 2.34, SE = 0.16) were the least indicative of friendship intentions, ps < .001. The interaction between platform and emoji was non-significant, $F(3, 475) = 0.34$, $p = .799$, $\eta^2_p = .002$.

Perceived Romantic Intentions

Overall, participants perceived the sender's romantic intentions as low (M = 2.77, SE = 0.08), 95% CI [2.61, 2.93]. We found a main effect of social platform, such that messages on Tinder were perceived to have more romantic intentions (M = 2.98, SE = 0.11) than messages on Facebook (M = 2.56, SE = 0.11), $F(1, 475) = 7.07$, $p = .008$, $\eta^2_p = .015$. We also found a main effect of emoji on perceived romantic intentions (see Figure 2), $F(3, 475) = 9.18$, $p < .001$, $\eta^2_p = .055$. Messages with 😊 were perceived has having the strongest romantic intentions (M = 3.24, SE = 0.16), all ps ≤ .035, but not different from messages with 😏 (M = 3.07, SE = 0.16), $p = 1.000$. Messages with 🍆 (M = 2.17, SD = 1.67) were the least indicative of romantic intentions, ps < .001, but not different from messages without emoji

(M = 2.61, SE = 0.16), p = .315. Again, no significant interaction between platform and emoji emerged, $F(3, 475) = 0.23$, p = .877, η^2_p = .001.

Perceived Sexual Intentions

Overall, participants perceived the sender's romantic intentions as low (M = 3.60, SE = 0.10), 95% CI [3.40, 3.80]. There was a main effect of social platform, $F(1, 475) = 5.99$, p = .015, η^2_p = .012, such that messages on Tinder were perceived to have more sexual intentions (M = 3.85, SE = 0.14) than messages on Facebook (M = 3.35, SE = 0.14). There was also a main effect of emoji on perceived sexual intentions (see Figure 2), $F(3, 475) = 13.00$, p < .001, η^2_p = .076. Messages with 🍆 were perceived has having the strongest sexual intentions (M = 4.43, SE = 0.20), ps < .001, but not different from 😉 (M = 3.98, SE = 0.20), p = .641. Message without emoji were perceived as having the least sexual intentions (M = 2.94, SE = 0.20), ps ≤ .002, but not different from messages with 😊 (M = 3.03, SE = 0.20), p = 1.000. As in the previous analyses, we found no significant interaction between platform and emoji, $F(3,475) = 0.55$, p = .650, η^2_p = .003.

-- Figure 2 about here --

Additional Analysis

Overall, age was negatively (and weakly) correlated with the perception of romantic, $r(483)$ = -.12, p = .010, and sexual intentions, $r(483)$ = -.23, p < .001, but not with friendship intentions, $r(483)$ = -.02, p = .682. No gender differences were found on each perceived intention, ps ≥ .081. Similarly, frequencies of using and receiving emoji were unrelated to each perceived intention, ps ≥ .077. Entering age as a covariate in the ANOVAs did not change any of the results.

Discussion

Despite the differences between social platform on perceived romantic and sexual intentions, perceived intentions attributed to messages with emoji was consistent for direct

messages sent on Facebook and Tinder. Overall, messages with 😊 or without emoji can signal friendship intentions, messages with 😊 and 😉 can signal romantic intentions, and messages with 🍆 or 😉 can signal intentions to have sex.

As social platform did not interact with the use of emoji, Study 2 focused only on direct messages sent on Facebook. Furthermore, messages with 😊 and messages without emoji were perceived similarly, but different from messages with other emoji (except for perceived romantic intentions). As such, we used 😊 as our baseline.

Study 2

This study had two distinct tasks. The first task aimed to replicate and extend the preliminary findings obtained in Study 1, by using similar procedures and measures. The second task aimed to understand which emoji best conveys distinct intentions from a sender's perspective. Again, this study was exploratory, and we did not establish *a priori* hypotheses.

Method

Participants and Design

A sample of 275 individuals living in Portugal volunteered to participate in a web survey. Participants were, on average, 30 years old (M = 30.60, SD = 14.11), were mostly women (67.8%), with a university degree (81.8%), and were either studying (61.6%) or employed (31.2%).

For the first task, participants were randomly assigned to one of the experimental conditions in a 4 (emoji: 😊, 😉, 😛, ❤️) between-participants design. For the second task, participants were assigned to a 3 (intentions: friendship, romantic, sexual) within-participants design.

Procedures, Materials, and Measures

Procedures and measures for the first task were similar to those of Study 1, with the exception that the mock-up screenshot only depicted direct messages on Facebook, and that we used a different set of emoji: 😊, 😏, 😛, ❤️. This set of emoji was chosen based on three criteria. First, we used 😊 as our control condition given the overall lack of differences to the control condition in our previous study. Second, as results with 🍆 did not significantly differ from 😏, we replaced it with another sexually suggestive emoji 😛 (Thomson et al., 2018). Lastly, we included ❤️ to widen our analysis, given its association with romantic and love expressions in written communication (Thomson et al., 2018).

For the second task, participants had to imagine they were about to send a written message to a stranger on Facebook, with the intention to have a friendship, a romantic relationship, and a sexual encounter (either physically or online). These distinct scenarios were presented in random order to all participants. In each scenario, we asked participants "From the emoji presented below, which would you select to add to your messages?" and provided 10 response options: 😊, 😉, 😛, 😘, 😏, ❤️, 🍆, 🍑, "None", or "Other. Which?". Apart from the emoji included in the experimental tasks of Studies 1 and 2, we also included three other emoji to convey related (but alternative) response options to convey romantic (😘) or sexual (😉, 🍑) intentions (Thomson et al., 2018; Weissman, 2019). We also provided participants with the possibility to write down their chosen emoji. Response options were also randomized within scenarios to avoid order effects (see Figure 3).

-- Figure 3 about here --

Data Analytic Plan

For the first task, we conducted three 4 (emoji) univariate ANOVAs, one for each interpersonal intention. We also computed pairwise comparisons with Bonferroni correction when differences emerged. Again, additional analyses explored if any of our findings varied

according to age, gender, and frequency of using and receiving emoji. For the second task, we examined the percentage of participants choosing each emoji to convey distinct interpersonal intentions.

Results

Receiver's Perspective: Perceived Friendship Intentions

Overall, participants rated the sender's friendship intentions as low (M = 3.26, SE = 0.103), 95% CI [3.06, 3.47]. There was a main effect of emoji, $F(3, 273) = 11.25$, $p < .001$, $\eta^2_p = .110$ (see Figure 4). Messages with 😊 were perceived as having the strongest friendship intentions (M = 3.73, SE = 0.20), but not different from messages with ❤️ (M = 3.59, SE = 0.21) or 😛 (M = 3.49, SE = 0.20), ps = 1.000. In contrast, messages with 😏 (M = 2.23, SD = 1.52) were the least indicative of friendship intentions, ps < .001.

Receiver's Perspective: Perceived Romantic Intentions

Overall, participants rated the sender's romantic intentions as low (M = 3.06, SE = 0.11), 95% CI [2.85, 3.27]. We found a main effect of emoji, $F(3, 273) = 5.17$, $p = .002$, $\eta^2_p = .054$ (see Figure 4). Specifically, messages with ❤️ were perceived as the most representative of romantic intentions (M = 3.59, SE = 0.22), but not different from 😏 (M = 3.22, SE = 0.22), p = 1.000, or 😛 (M = 3.01, SE = 0.212), p = .357. In contrast, messages with 😊 were the least representative of romantic intentions (M = 2.42, SE = 0.22), but not different from 😛, p = .295, or 😏, p = .053.

Receiver's Perspective: Perceived Sexual Intentions

Overall, participants rated the sender's romantic intentions as low (M = 3.15, SE = 0.12), 95% CI [2.91, 3.39]. Again, we found a main effect of emoji, $F(3, 273) = 14.50$, $p < .001$, $\eta^2_p = .137$ (see Figure 4). Messages with 😏 were the most indicative of sexual intentions (M = 4.12, SE = 0.24), ps ≤ .002, but not different from ❤️ (M = 3.58, SE = 0.25), p

= .711. In contrast, messages with 😊 (M = 2.00, SE = 0.24) were the least indicative of sexual intentions, $ps \leq .047$.

-- Figure 4 about here --

Additional Analysis

Overall, age was negatively correlated with the perception of friendship, $r(275) = -.20$, $p = .001$, romantic, $r(275) = -.36$, $p < .001$, and sexual intentions, $r(275) = -.34$, $p < .001$. We also found that men perceived more friendship intentions (M = 3.59, SD = 1.71) than women (M = 3.10, SD = 1.85), $t(273) = 2.09$, $p = .037$, but no other gender differences emerged, $ps \geq .263$. Lastly, participants who either use or receive more emoji perceived stronger romantic, $r(274) \geq .13$, $ps \leq .029$, and sexual intentions, $r(274) \geq .14$, $ps \leq .024$. No associations emerged with friendship intentions, $ps \geq .054$. Entering these four variables as covariate in the ANOVAs did not change any of the results.

Sender's Perspective: Emoji Selection According to Message Intentions

The frequency of emoji selection according to interpersonal intentions is depicted in Figure 5. When asked to select which emoji they would use to signal friendship intentions in a written message, most participants selected 😊 (55.9%) or indicated they would not use any emoji (30.1%). To signal romantic intentions, most participants selected 😊 (26.9%), 😘 (19.0%), or they would not use any emoji (26.5%). Lastly, sexual intentions would be best conveyed using 😏 (26.5%) or no emoji at all (32.6%). Responses to the "other emoji" were scarce across intentions (< 2.9%), suggesting that no other emoji would be the best representative of either interpersonal intention.

-- Figure 5 about here --

Discussion

Taken together, our findings showed stronger friendship intentions when received messages included 😊, 😛, and ❤️; or when sent messages included 😊. For romantic

intentions, receiving messages with ❤️, 😏, and 😛 were interpreted as signaling a stronger interest, whereas using 😊 and 😘 signaled such intentions when sending messages. Lastly, received messages with 😏 and ❤️ conveyed stronger sexual intentions, and 😏 was also selected to serve this purpose in sent messages.

General Discussion

Two experimental studies examined the impact of including different emoji in a direct message on the perceived intentions of a sender (Study 1 and 2), and whether these emoji would be used to signal distinct intentions when sending a direct message to a stranger (Study 2). Results from both studies showed that messages with 😊 were mostly perceived as cues to friendship interactions, which suggests that this type of widely used emoji (see Rodrigues et al., 2018) may be considered more suitable to meet strangers. Messages with 😊 and ❤️ were more consistently perceived as a cue for romantic interactions, whereas messages with 🍆 and 😏 were more consistently perceived as cues to sexual interactions. This is aligned with previous research suggesting that certain emoji are used more often due to their meaning in a specific context (e.g., Thomson et al., 2018; Weissman, 2019).

Results from Study 1 also showed that the social platform influenced the perception of the sender's intentions. Specifically, individuals interpreted messages received on Tinder as signaling stronger romantic and sexual intentions, compared to messages received on Facebook. Despite these overall differences, the social platform did not moderate the impact of emoji use on perceived interpersonal intentions. One could expect more pronounced innuendos or sexual meanings attributed to emoji when communication takes place on Tinder. Still, as shown by LeFebvre (2018), although Tinder is commonly viewed as a "sex" or "hook up" app, many users also use it to develop other types of relationships, including romantic or platonic ones. Likewise, given that Facebook is still among the most used social

media platforms, some people may use it to pursue their sexual or dating-related goals. This plurality of functions associated with each platform may explain why the impact of emoji did not vary according to the platform.

Results from Study 2 complemented and extended these findings by asking participants to take on the role of the sender. We found that participants' choices matched the links we found between certain emoji and specific intentions. More specifically, when sending a message to a stranger, 😊 was more frequently chosen to signal friendship intentions, 😊 and 😘 would more often be used to signal romantic intentions, and 😏 was selected as the most representative of sexual intentions. Interestingly, not using any emoji was frequently selected for each of the three interpersonal intentions, suggesting that using certain emoji may benefit a new interaction, even though not using emoji might also be a good approach. Aligned with these findings, past research has shown that emoji use can sometimes result in ambiguous messages or negative inferences about the sender (Glikson et al., 2018). This is particularly the case when senders and receivers differ in their emoji use patterns (i.e., when the sender uses emoji more often; Coyle & Carmichael, 2019). Although the frequency of using emoji did not moderate any of our findings, differences may still occur when dyadic data is taken into consideration and even be more pronounced in first-time interactions.

Limitations and Future Research

Despite the novel contributions, we must acknowledge some limitations to our studies. The generalization of our findings must be taken with caution given that our samples were comprised mostly of women and young individuals who are known to use emoji more frequently (Prada et al., 2018). Still, we did not find evidence that perceived intentions were determined by a priori differences in individual variables.

Our materials mimicked direct messages in social platforms but were not necessarily ecologically valid. Because we aimed to focus on the impact of emoji use, these materials

were purposedly simple. For example, we blurred the sender's profile picture and provided no additional information to the participants. A recent study showed that checking a stranger's Facebook profile before interacting with them promotes self-disclosure (Paul, 2019). Therefore, future studies could seek to examine if cues known to determine interpersonal attraction (e.g., facial attractiveness; Rodrigues, Lopes, Alexopoulos, et al., 2017) moderate the impact of emoji use on perceived intentions.

Our analyses were restricted to three possible interpersonal intentions and a small array of emoji, therefore limiting the generalizability of our findings. Future research could seek to extend our procedure to include a broader range of intentions (e.g., getting to know someone in a school or work context), emoji (e.g., different emoji to convey romance), or follow person-centered approaches (e.g., asking individuals to recollect their written behavior when interacting with others for the first time). Moreover, we were unable to examine how open participants were to reciprocate the messages, particularly when more specific emoji are used. For instance, someone may clearly recognize the sexual intentions of a message with 🍆 (see also Weissman, 2019) but have a negative reaction and decide to block the user. Hence, using emoji to strengthen a given intention, may not always lead to the desired outcome. Indeed, when given the opportunity, several participants chose not to complement a message with an emoji, thus suggesting emoji use is not always deemed appropriate. Future research could follow more naturalistic approaches and use data from actual interactions (e.g., Na'aman et al., 2017; Sampietro, 2019) to understand the intentions for using emoji when initiating relationships, explore additional cues that shaped the process (e.g., the context in which the written interaction took place), and examine how these relationships grew (or ended) over time.

Conclusion

There is an ample body of literature examining the benefits and consequences of using electronic mediated communication to pursue different types of interpersonal goals. However, research examining how emoji influences the initiation and development of interpersonal relationships is still limited. Much like research addressing first impressions in online dating contexts, only a handful of studies examined how different emoji are interpreted and used in distinct interpersonal contexts or relationship initiation. Our paper builds upon these limited findings and showed for the first time the relative strength of associations between the use of specific emoji and interpersonal intentions, both from the receiver's as well as from the sender's perspective. Taken together, our studies suggest that emoji can help individuals decide whether or not to reply when they receive a message from a stranger and establish specific expectations to guide such communication. These findings are innovative to research on interpersonal relationships and electronic mediated communication, and shed new light on how emoji use can help or hinder relationship initiation.

References

Bai, Q., Dan, Q., Mu, Z., & Yang, M. (2019). A systematic review of emoji: Current research and future perspectives. *Frontiers in Psychology*, *10*, 2221. https://doi.org/10.3389/fpsyg.2019.02221

Beattie, A., Edwards, A. P., & Edwards, C. (2020). A bot and a smile: Interpersonal impressions of chatbots and humans using emoji in computer-mediated communication. *Communication Studies*, *71*(3), 409–427. https://doi.org/10.1080/10510974.2020.1725082

Boutet, I., LeBlanc, M., Chamberland, J. A., & Collin, C. A. (2021). Emojis influence emotional communication, social attributions, and information processing. *Computers in Human Behavior*, *119*, 106722. https://doi.org/10.1016/j.chb.2021.106722

Brody, N., LeFebvre, L. E., & Blackburn, K. G. (2016). Social networking site behaviors across the relational lifespan: Measurement and association with relationship escalation and de-escalation. *Social Media + Society*, *2*(4), 1–16. https://doi.org/10.1177/2056305116680004

Cavalheiro, B. P., Prada, M., Rodrigues, D. L., Lopes, D., & Garrido, M. V. (2022). Evaluating the adequacy of emoji use in positive and negative messages from close and distant senders. *Cyberpsychology, Behavior, and Social Networking*, *Advance online publication*. https://doi.org/10.1089/cyber.2021.0157

Chervonsky, E., & Hunt, C. (2017). Suppression and expression of emotion in social and interpersonal outcomes: A meta-analysis. *Emotion*, *17*(4), 669–683. https://doi.org/10.1037/emo0000270

Couch, D., & Liamputtong, P. (2008). Online dating and mating: The use of the internet to meet sexual partners. *Qualitative Health Research*, *18*(2), 268–279. https://doi.org/10.1177/1049732307312832

Coyle, M. A., & Carmichael, C. L. (2019). Perceived responsiveness in text messaging: The role of emoji use. *Computers in Human Behavior*, *99*(February), 181–189. https://doi.org/10.1016/j.chb.2019.05.023

Ganster, T., Eimler, S. C., & Krämer, N. C. (2012). Same same but different!? The differential influence of smilies and emoticons on person perception. *Cyberpsychology, Behavior, and Social Networking*, *15*(4), 226–230. https://doi.org/10.1089/cyber.2011.0179

Gesselman, A. N., Ta, V. P., & Garcia, J. R. (2019). Worth a thousand interpersonal words: Emoji as affective signals for relationship-oriented digital communication. *PLOS ONE*, *14*(8), e0221297. https://doi.org/10.1371/journal.pone.0221297

Glikson, E., Cheshin, A., & Kleef, G. A. van. (2018). The dark side of a smiley: Effects of smiling emoticons on virtual first impressions. *Social Psychological and Personality Science*, *9*(5), 614–625. https://doi.org/10.1177/1948550617720269

Herring, S. C., & Dainas, A. R. (2020). Gender and age influences on interpretation of emoji functions. *ACM Transactions on Social Computing*, *3*(2), 10:1-10:26. https://doi.org/10.1145/3375629

Jones, L. L., Wurm, L. H., Norville, G. A., & Mullins, K. L. (2020). Sex differences in emoji use, familiarity, and valence. *Computers in Human Behavior*, *108*, 106305. https://doi.org/10.1016/j.chb.2020.106305

Kaye, L. K., Wall, H. J., & Malone, S. A. (2016). "Turn that frown upside-down": A contextual account of emoticon usage on different virtual platforms. *Computers in Human Behavior*, *60*, 463–467. https://doi.org/10.1016/j.chb.2016.02.088

Kelly, R., & Watts, L. (2015, September 20). *Characterising the inventive appropriation of emoji as relationally meaningful in mediated close personal relationships*. Experiences of Technology Appropriation: Unanticipated Users, Usage, Circumstances, and Design, Oslo, Norway.

Kotlyar, I., & Ariely, D. (2013). The effect of nonverbal cues on relationship formation. *Computers in Human Behavior*, *29*(3), 544–551. https://doi.org/10.1016/j.chb.2012.11.020

Krishnan, A., & Hunt, D. S. (2021). TTYL :-) … Nonverbal cues and perceptions of personality and homophily in synchronous mediated communication. *Information, Communication & Society*, *24*(1), 85–101. https://doi.org/10.1080/1369118X.2019.1635183

LeFebvre, L. E. (2018). Swiping me off my feet: Explicating relationship initiation on Tinder. *Journal of Social and Personal Relationships*, *35*(9), 1205–1229. https://doi.org/10.1177/0265407517706419

McShane, L., Pancer, E., Poole, M., & Deng, Q. (2021). Emoji, playfulness, and brand engagement on Twitter. *Journal of Interactive Marketing*, *53*, 96–110. https://doi.org/10.1016/j.intmar.2020.06.002

Mittmann, G., Woodcock, K., Dörfler, S., Krammer, I., Pollak, I., & Schrank, B. (2021). "TikTok is my life and snapchat is my ventricle": A mixed-methods study on the role of online communication tools for friendships in early adolescents. *The Journal of Early Adolescence*, *Advance online publication*. https://doi.org/10.1177/02724316211020368

Na'aman, N., Provenza, H., & Montoya, O. (2017). Varying linguistic purposes of emoji in (Twitter) context. *Proceedings of ACL 2017, Student Research Workshop*, 136–141. https://aclanthology.org/P17-3022

Nexø, L. A., & Strandell, J. (2020). Testing, filtering, and insinuating: Matching and attunement of emoji use patterns as non-verbal flirting in online dating. *Poetics*, *83*, 101477. https://doi.org/10.1016/j.poetic.2020.101477

Okdie, B. M., Guadagno, R. E., Bernieri, F. J., Geers, A. L., & Mclarney-Vesotski, A. R. (2011). Getting to know you: Face-to-face versus online interactions. *Computers in Human Behavior*, *27*(1), 153–159. https://doi.org/10.1016/j.chb.2010.07.017

Paul, A. (2019). How are we really getting to know one another? Effect of viewing Facebook profile information on initial conversational behaviors between strangers. *The Journal of Social Media in Society*, *8*(1), 249–270.

Pertegal, M.-Á., Oliva, A., & Rodríguez-Meirinhos, A. (2019). Development and validation of the Scale of Motives for Using Social Networking Sites (SMU-SNS) for

adolescents and youths. *PLOS ONE*, *14*(12), e0225781. https://doi.org/10.1371/journal.pone.0225781

Pew Research Center. (2021a). *Social media use in 2021*. https://www.pewresearch.org/internet/2021/04/07/social-media-use-in-2021/

Pew Research Center. (2021b). *Mobile technology and home broadband 2021*. https://www.pewresearch.org/internet/2021/06/03/mobile-technology-and-home-broadband-2021/

Prada, M., Rodrigues, D. L., Garrido, M. V., Lopes, D., Cavalheiro, B., & Gaspar, R. (2018). Motives, frequency and attitudes toward emoji and emoticon use. *Telematics and Informatics*, *35*(7), 1925–1934. https://doi.org/10.1016/j.tele.2018.06.005

Ramirez, A., (Bryant) Sumner, E. M., Fleuriet, C., & Cole, M. (2015). When online dating partners meet offline: The effect of modality switching on relational communication between online daters. *Journal of Computer-Mediated Communication*, *20*(1), 99–114. https://doi.org/10.1111/jcc4.12101

Riordan, M. A. (2017). Emojis as tools for emotion work: Communicating Affect in text messages. *Journal of Language and Social Psychology*, *36*(5), 549–567. https://doi.org/10.1177/0261927X17704238

Rodrigues, D., Lopes, D., Alexopoulos, T., & Goldenberg, L. (2017). A new look at online attraction: Unilateral initial attraction and the pivotal role of perceived similarity. *Computers in Human Behavior*, *74*, 16–25. https://doi.org/10.1016/j.chb.2017.04.009

Rodrigues, D., Lopes, D., Prada, M., Thompson, D., & Garrido, M. V. (2017). A frown emoji can be worth a thousand words: Perceptions of emoji use in text messages exchanged between romantic partners. *Telematics and Informatics*, *34*(8), 1532–1543. https://doi.org/10.1016/j.tele.2017.07.001

Rodrigues, D., Prada, M., Gaspar, R., Garrido, M. V., & Lopes, D. (2018). Lisbon Emoji and Emoticon Database (LEED): Norms for emoji and emoticons in seven evaluative dimensions. *Behavior Research Methods*, *50*(1), 392–405. https://doi.org/10.3758/s13428-017-0878-6

Sampietro, A. (2019). Emoji and rapport management in Spanish WhatsApp chats. *Journal of Pragmatics*, *143*, 109–120. https://doi.org/10.1016/j.pragma.2019.02.009

Scott, R. A., Stuart, J., & Barber, B. L. (2021). Contemporary friendships and social vulnerability among youth: Understanding the role of online and offline contexts of interaction in friendship quality. *Journal of Social and Personal Relationships*, *38*(12), 3451–3471. https://doi.org/10.1177/02654075211029384

Sharabi, L. L., & Caughlin, J. P. (2017). What predicts first date success? A longitudinal study of modality switching in online dating. *Personal Relationships*, *24*(2), 370–391. https://doi.org/10.1111/pere.12188

Sharabi, L. L., & Dykstra-DeVette, T. A. (2019). From first email to first date: Strategies for initiating relationships in online dating. *Journal of Social and Personal Relationships*, *36*(11–12), 3389–3407. https://doi.org/10.1177/0265407518822780

Sprecher, S. (2014). Initial interactions online-text, online-audio, online-video, or face-to-face: Effects of modality on liking, closeness, and other interpersonal outcomes. *Computers in Human Behavior*, *31*, 190–197. https://doi.org/10.1016/j.chb.2013.10.029

Sumter, S. R., Vandenbosch, L., & Ligtenberg, L. (2017). Love me Tinder: Untangling emerging adults' motivations for using the dating application Tinder. *Telematics and Informatics*, *34*(1), 67–78. https://doi.org/10.1016/j.tele.2016.04.009

Tang, Y., & Hew, K. F. (2018). Emoticon, emoji, and sticker use in computer-mediated communications: Understanding its communicative function, impact, user behavior,

and motive. In L. Deng, W. Ma, & C. Fong (Eds.), *New Media for Educational Change* (pp. 191–201). Springer.

Thomson, S., Kluftinger, E., & Wentland, J. (2018). Are you fluent in sexual emoji?😉: Exploring the use of emoji in romantic and sexual contexts. *The Canadian Journal of Human Sexuality*, *27*(3), 226–234. https://doi.org/10.3138/cjhs.2018-0020

Van Ouytsel, J., Van Gool, E., Walrave, M., Ponnet, K., & Peeters, E. (2016). Exploring the role of social networking sites within adolescent romantic relationships and dating experiences. *Computers in Human Behavior*, *55*, 76–86. https://doi.org/10.1016/j.chb.2015.08.042

Venter, E. (2017). Bridging the communication gap between Generation Y and the Baby Boomer generation. *International Journal of Adolescence and Youth*, *22*(4), 497–507. https://doi.org/10.1080/02673843.2016.1267022

Walther, J. B., & Whitty, M. T. (2021). Language, psychology, and new new media: The Hyperpersonal Model of Mediated Communication at twenty-five years. *Journal of Language and Social Psychology*, *40*(1), 120–135. https://doi.org/10.1177/0261927X20967703

Waterloo, S. F., Baumgartner, S. E., Peter, J., & Valkenburg, P. M. (2018). Norms of online expressions of emotion: Comparing Facebook, Twitter, Instagram, and WhatsApp. *New Media & Society*, *20*(5), 1813–1831. https://doi.org/10.1177/1461444817707349

Weissman, B. (2019). Peaches and eggplants or. . . something else? The role of context in emoji interpretations. *Proceedings of the Linguistic Society of America*, *4*(1), 29-1–6. https://doi.org/10.3765/plsa.v4i1.4533

Figure 1

Mockup direct messages on Facebook (upper panel) and Tinder (lower panel) (Study 1)

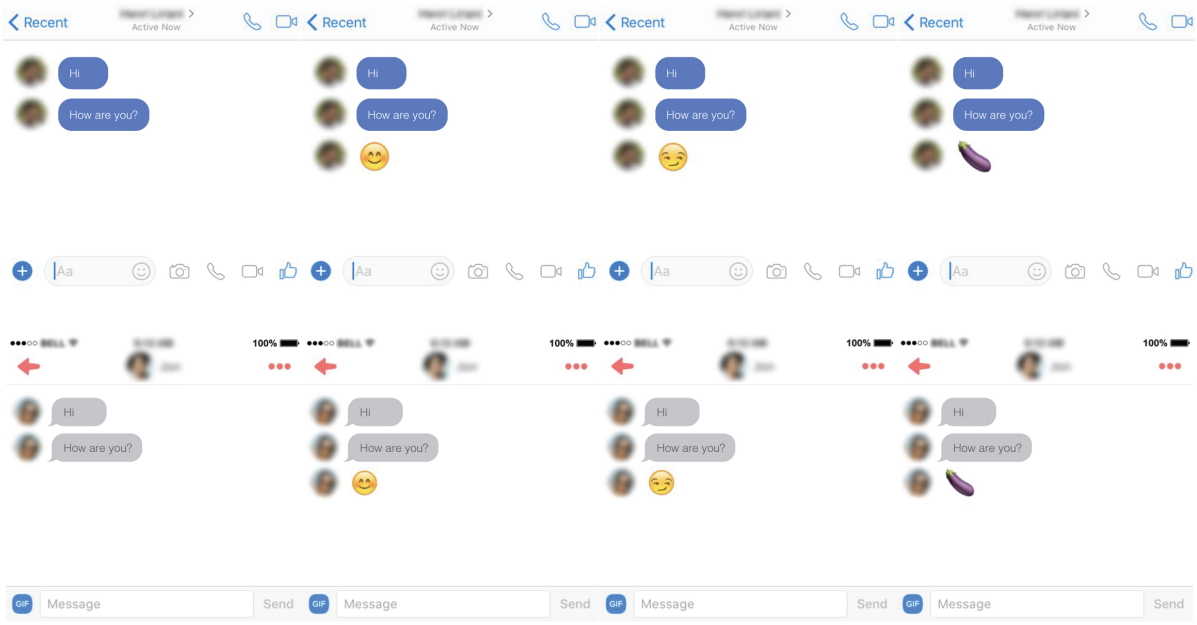
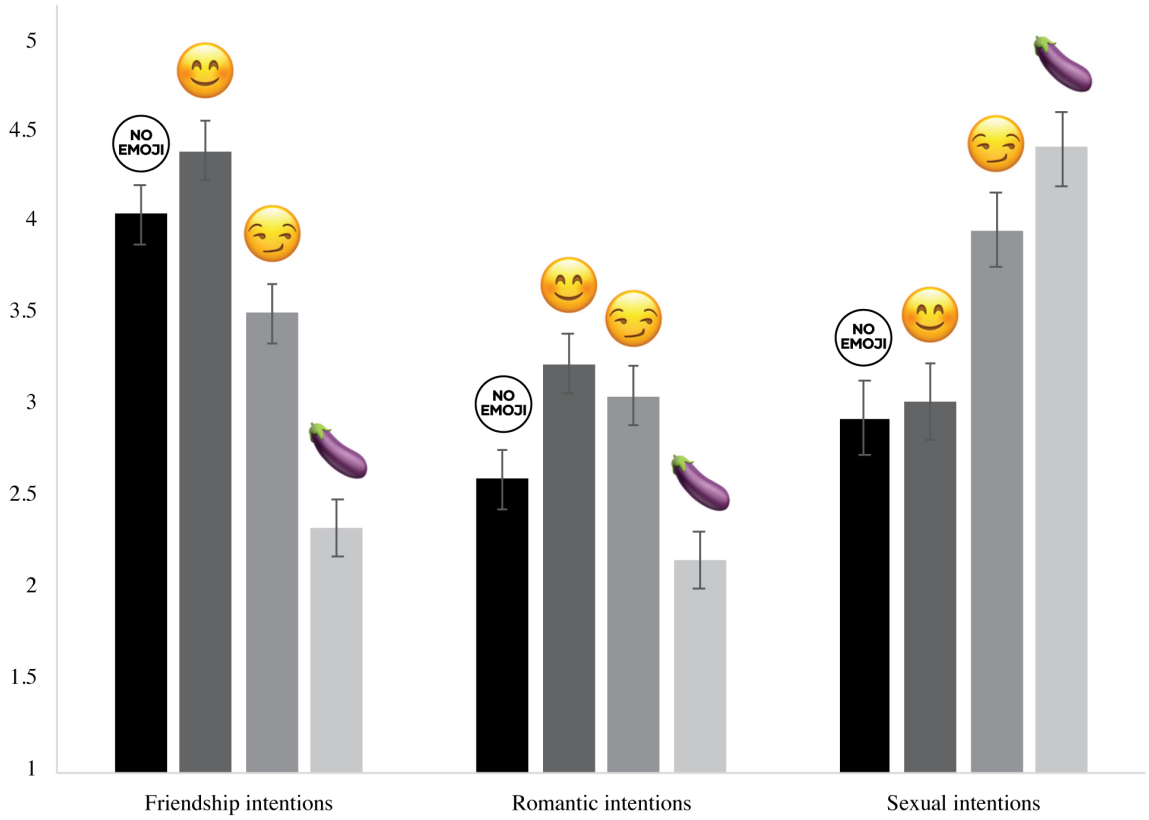


Figure 2

Perceived Sender's Intentions (Friendship, Romantic, or Sexual) According to Emoji (Study 1)



Note. Error bars indicate standard errors.

Figure 3

Possible Choices for Sending Messages (Study 2)

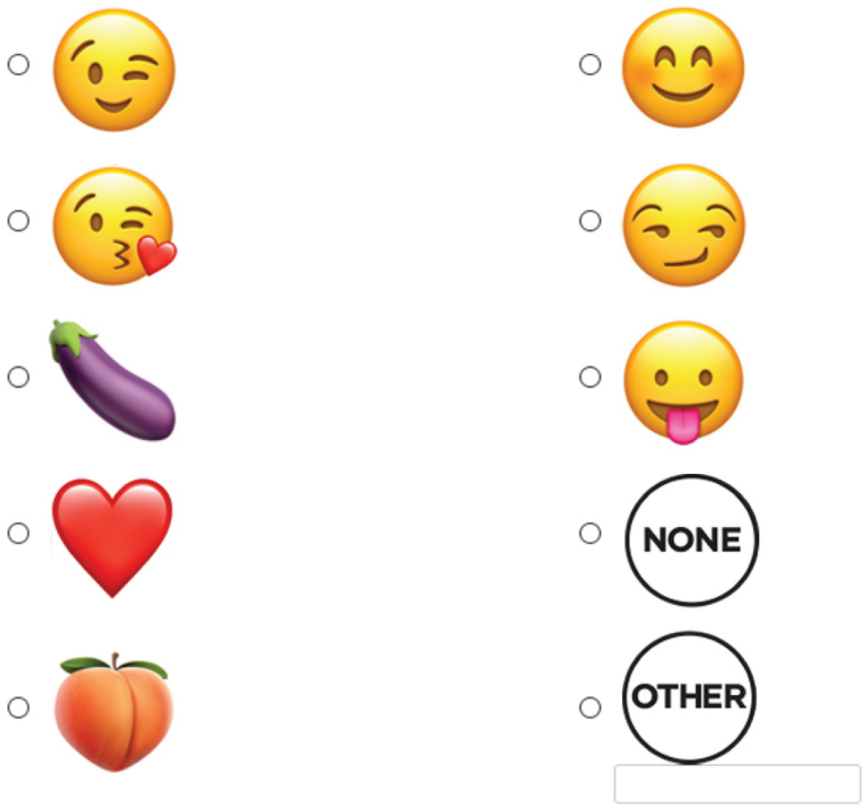
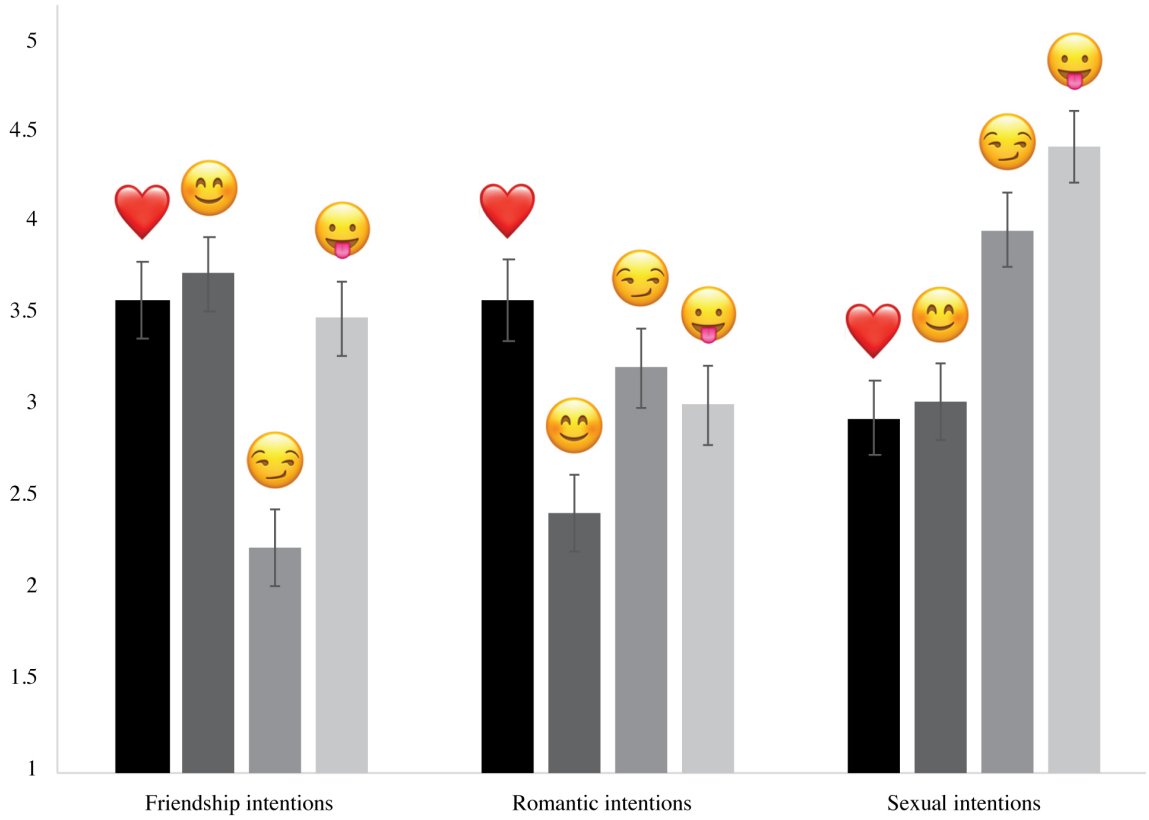


Figure 4

Perceived Sender's Intentions (Friendship, Romantic, or Sexual) According to Emoji (Study 2)



Note. Error bars indicate standard errors.

Figure 5

Choice (%) of Emoji for Each Intention (Friendship, Romantic, or Sexual)

