

Does It All Harm the Same?—An Empirical Exploration of Opportunities to Reduce the Negative Psychological Effects of Phubbing

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Abstract

With ever-increasing smartphone use, phubbing (i.e., paying attention to the smartphone instead of the direct conversation partner) is playing an increasingly important role in our society. Along with this, we encounter challenges of phubbing such as a more negative perception of the conversation partner and their relationship. We suggest that different phubbing behaviors can mitigate these negative effects. To test our hypotheses, we conducted an online study ($N = 324$) in which phubbing behavior was systematically altered in 5 different experimental conditions. Additionally, we examined the mediating role of the constructs expectancy violation and ostracism and explored effects on future phubbing behavior. Our results suggest that giving an important reason to justify the smartphone use mitigates negative effects compared to phubbing only and that this relationship is mediated by ostracism. Translated into practice, the data suggests that if phubbing is unavoidable, one should at least communicate the (personally) important reason for using the smartphone in order to maintain a positive relationship to the conversation partner.

Keywords

Phubbing, Smartphone Use, Ostracism, Exclusion, Expectancy Violation, Multitasking, Phone Distraction, Conversational Behavior, Smartphone Addiction, Mobile Phone

1. Introduction

Smartphones have become an indispensable part of our everyday lives. Statistics show that the share of smartphone users in Germany increased from 36% in 2012 to 89% in 2021 (VuMa, cited by [de.statista.com](https://www.de.statista.com), 2021). We feel the urge for

constant networking and are afraid of missing out (e.g., Yam & İlhan, 2020; Franchina et al., 2018). This is also reflected by the average usage time of smartphones: 16 to 29 year-old Germans used their smartphones for almost three hours a day in 2023 (Bitkom, cited by de.statista.com, 2023). As a result, the smartphone is also frequently used in real social interactions, such as during conversations (e.g., Nuñez et al., 2020; Chotpitayasunondh & Douglas, 2016). Thereby, it can be used for different reasons: On the one hand, as a contribution to the conversation, for example, when showing a picture to the other person; on the other hand, it can also be used to scroll on social media or answer messages during the conversation. If someone is not paying attention to the conversation partner but instead to the smartphone, this behavior is called “phubbing”. This is a compound of the words “phone” and “snubbing” (Roberts & David, 2016) and defined as the inappropriate smartphone use in social situations (e.g., conversations). The person who turns to the smartphone instead of the dialog partner is called a “phubber”. The other person who is then phubbed is called a “phubbee” (Chotpitayasunondh & Douglas, 2016).

As phubbing has become more relevant, many concerns have arisen about its consequences (Yam & İlhan, 2020). Previous research shows that, in addition to personal well-being (e.g., Chotpitayasunondh & Douglas, 2018), being phubbed negatively affects the phubbee’s perception of the phubber and their relationship (e.g., Mantere et al., 2021; Miller-Ott & Kelly, 2017). Such negative consequences can arise in many different situations, for example in family settings (Liu et al., 2021), in relationships (Roberts & David, 2016; Halpern & Katz, 2017; Al-Saggaf & O’Donnell, 2019), in the workplace (Roberts & David, 2020), or in an everyday conversation with an acquaintance (e.g., McDaniel & Wesselmann, 2021; Sun & Samp, 2022). However, despite these negative consequences, phubbing still occurs and probably won’t completely disappear. All the more important it seems to find out, which specific aspects of phubbing behavior evoke the negative impression on others, and what may be done to prevent or at least mitigate it.

This research aims to derive opportunities that can mitigate the negative effects of phubbing on the phubbee’s perception of the phubber and their relationship in everyday life. This includes verbal and nonverbal phubbing behavior. In addition, we aim to advance the theoretical knowledge about relevant psychological mechanisms behind phubbing which in a second step may also serve as a basis for practical recommendations. In particular, we base parts of our work on propositions of the theoretical model of Vanden Abeele (2020), who theorizes a variety of possible psychological mechanisms and consequences of phubbing and their interrelations. Exploratively, we also aim to investigate the effects that certain phubbing behaviors have on the phubbing behavior shown in the future by the phubbee. So far, only personality traits (Sun & Samp, 2022) and different kinds of media addictions (Karadağ et al., 2015) have been explored as predictors for phubbing.

In the following sections, we summarize the most relevant theoretical and

empirical foundations of our research.

2. Theoretical Background

2.1. Negative Consequences of Phubbing

As already shortly mentioned above previous research has shown that phubbing can have several negative consequences on how conversation partners feel about each other (e.g., Mantere et al., 2021; Miller-Ott & Kelly, 2017; Halpern & Katz, 2017). Specifically, the phubbee's perception of the phubber and the evaluation of their relationship can be negatively affected (e.g., Vanden Abeele et al., 2016; Nuñez et al., 2020): two aspects that are also included in the propositions of the theoretical model of Vanden Abeele (2020).

First, the phubbee's perception of the phubber can be further specified as *person evaluation*. We define *person evaluation* in a conversation as the way the person seems attentive and tries to make the conversation partner feel heard referring to Norton's communicator styles (Norton, 1978). In the context of phubbing, first studies suggest that people rate the attentiveness of conversation partners using their phone more negatively than those who do not (Vanden Abeele et al., 2016; Halpern & Katz, 2017).

Second, the way individuals perceive their relationship to someone as positive or negative can be specified as *perceived relationship quality* (Morry et al., 2010). It is originally an approach to evaluate the quality of intimate relationships (Fletcher et al., 1999) but can also be used to measure the quality of relationships between friends or acquaintances (Nuñez et al., 2020). Moreover, Nuñez et al. (2020) have been able to observe a negative effect of phubbing on the observers' *perceived relationship quality* between the phubbee and the phubber.

With the aim of figuring out how to mitigate these negative consequences, we are going to look at possible underlying psychological mechanisms of phubbing.

2.2. Underlying Psychological Mechanisms of Phubbing

There are already first approaches trying to explain the underlying psychological mechanisms of phubbing (e.g., Çikrikci et al., 2019; Roberts & David, 2016), but research is not extensive yet. However, there are promising assumptions that *expectancy violation* (Miller-Ott & Kelly, 2015) and *ostracism* (McDaniel & Wesselmann, 2021) play a role. Vanden Abeele (2020) proposes them in her model as potential mediators between phubbing and the negative consequences of it. Thus, we will incorporate and empirically test these in our model in relation to different forms of phubbing behavior and the dependent variables *person evaluation* and *perceived relationship quality*.

2.2.1. Expectancy Violation

People have certain expectations, so called "scripts", about how social situations are likely to go (Schank & Abelson, 1977). These expectations arise out of social

norms and personal individual preferences, among other factors (Abelson, 1981). According to *expectancy violation* theory (EVT; Burgoon, 1978), this also occurs in conversations, where we have cognitive schemas about the extent to which we can expect a certain behavior from the conversation partner (Miller-Ott & Kelly, 2015). If their behavior deviates from this, it is perceived as a violation of these expectations. Depending on the valence of this violation of expectations, this can be perceived and interpreted as either positive or negative (Burgoon, 1993; Burgoon, 2015). Thus, its appraisal depends on evaluating the actual behavior, determining how much it differs from expectations, and assessing whether the behavior is better or worse than what was expected (Miller-Ott & Kelly, 2015). In general, as stated in politeness theory (Brown & Levinson, 1987), we usually expect our conversation partners to give us their full attention and consider it impolite if this is not the case (Vanden Abeele, et al., 2016; Aagaard, 2020). This manifests itself, for example, in holding eye contact or matching facial expressions (Nazir & Pişkin, 2016). If these signs are not present, this could lead to a violation of expectations, resulting in a number of negative consequences including a poor relationship quality and the negative evaluation of the conversation partner (e.g., Morry et al., 2010; Liu et al., 2021; Mantere et al., 2021; Nazir & Pişkin, 2016). This could also be the case in a phubbing situation, where the phubber turns to the smartphone instead of his conversation partner and thus shifts his attention gaze away from this person. Therefore, in line with previous literature, we assume that *expectancy violation* could mediate the relationship between phubbing behavior and *person evaluation* as well as *perceived relationship quality*.

2.2.2. Ostracism

Ostracism is an act of exclusion and rejection. Williams (2001) defines it as “being invisible and being excluded from the social interactions of those around” (Williams, 2001: p. 2). This is often experienced through so-called “silent treatment” (Williams, 2001: p. 70) meaning that a person treats their conversation partners as if they are invisible and do not exist. The effects of *ostracism* are explained in three successive phases of the temporal need threat model (Williams 2007, 2009): the reflexive phase, the reflective phase, and the evaluative phase.

In the reflexive phase of *ostracism*, basic human needs such as the need for belonging are threatened. This leads to the perception of a negative feeling in the excluded person. In the reflective phase, coping strategies are used to compensate for and mitigate the negative experiences previously experienced. An example of such a coping strategy is devaluing the other person. Bourgeois and Leary (2001) have found that socially excluded individuals evaluate the excluding counterpart as more unpleasant, unlikeable, and incompetent. The third phase then deals with the long-term consequences for the excluded person, especially in the context of self-evaluation and interpersonal evaluation. Vanden Abeele (2020) builds on Williams’ model (2007) and postulates that phubbing is perceived as *ostracism*. Moreover, first studies suggest that phubbing may lead to

different forms of social exclusion (Hales et al., 2018; McDaniel & Wesselmann, 2021; Nuñez et al., 2020) which in turn negatively affects the quality of relationships (Chotpitayasunondh & Douglas, 2018). Accordingly, we suggest that *ostracism* mediates the relationship between phubbing behavior and *person evaluation* as well as *perceived relationship quality*.

2.3. Opportunities to Prevent Negative Consequences of Phubbing

Apart from generating knowledge about the underlying mechanisms of phubbing, we especially want to identify ways to mitigate the negative consequences that come with it. McDaniel and Wesselmann (2021) have already made a first approach to address the question of how reason giving for phubbing influences phubbing effects. It suggests that giving an important compared to giving an unimportant reason for phubbing made the participants feel significantly less excluded and less distracted.

To expand knowledge about this, we will investigate four different verbal and nonverbal possibilities that could potentially reduce the negative consequences of phubbing, namely, 1) *giving an important reason*, 2) *giving an unimportant reason*, 3) *asking for permission*, and 4) *holding eye contact*.

2.3.1. Giving a Reason, Important or Unimportant

We suggest that giving the conversation partner the reason for the smartphone use, telling them why they are phubbed, could positively impact their evaluation of the phubber as well as of their relationship. Further, we expect that the psychological mechanisms behind this are *expectancy violation* and *ostracism*. On the one hand, if the phubber provides further information about the reason, it could influence phubbees' appraisal of their behavior as less impolite and thus reduce the extent of *expectancy violation* (e.g., Vanden Abeele et al., 2016; Aagaard, 2019; Humphreys & Hardeman, 2021). On the other hand, giving a reason could also influence the reflective phase of need threat model (Williams 2007, 2009) where "individuals reflexively respond to cues of *ostracism* with [...] threats to basic psychological needs" (McDaniel & Wesselmann, 2021: p. 415). Thus, receiving information could make it easier to recover from this threat and could lead to less feelings of *ostracism*. Furthermore, the positive effect of giving a reason should increase if the reason is important. In this regard, McDaniel and Wesselmann (2021) show that phubbees who were given an unimportant reason experienced significantly more exclusion than those who were given an important reason. According to this, we suggest that *giving a reason* leads to less *expectancy violation* and *ostracism* and therefore to a more positive *person evaluation* and a better *perceived relationship quality* compared to *phubbing only*. We also suggest a greater effect for *giving an important reason* compared to a rather *unimportant one*.

2.3.2. Asking for Permission

Furthermore, we propose that asking the conversation partner if it is okay for

them to use the smartphone could also have a positive impact on the evaluation of the phubber and the relationship. Moreover, we again expect that the psychological mechanisms behind this are *expectancy violation* and *ostracism*. It might be interpreted as another sign of politeness and respect for social norms (Burgoon, 2015). Thus, it also may positively influence phubbees' appraisal of phubbers' *expectancy violation* and may also make it easier to recover from *ostracism*. Consequently, we assume, that compared to giving a reason alone, additionally *asking for permission* could mitigate negative effects.

2.3.3. Holding Eye Contact

Next to the verbal opportunities mentioned above, also keeping up the eye contact with the conversation partner during the use of the smartphone could positively impact their evaluation of the phubber as well as of their relationship. Further, we also expect that the psychological mechanisms behind this are *expectancy violation* and *ostracism*. *Holding eye contact* is an expression of understanding, closeness, and attentiveness. Thus, its absence can lead to a perception of distance, lack of engagement, and a loss of interest (Nazir & Pişkin, 2016) and thereby as an act of social exclusion (Kerr & Levine, 2008; Hales et al., 2018). Research about *holding eye contact* in conversations showed, that participants with refused eye contact felt more excluded and ignored than those with consistent eye contact (Wirth et al., 2010). Moreover, we assume that it could also be perceived as a kind of *expectancy violation*. Consequently, *holding eye contact* should also lead to less *expectancy violation* and *ostracism* and therefore to a more positive *person evaluation* and a better *perceived relationship quality* compared to *phubbing only*.

2.4. Future Phubbing Behavior

So far, there is no research about the influence of phubbing behavior on the phubbers' *future phubbing behavior*. We define *future phubbing behavior* as the *likelihood of phubbing* in the same way as experienced also in a future conversation. On the one hand, it would be conceivable that the phubbee perceives the phubbing behavior as acceptable and will also do so in a future conversation. On the other hand, they could also get disappointed or angry and thus avoid the shown phubbing behavior. Therefore, we will investigate this topic exploratively.

2.5. Hypotheses

Following our research questions and literature research, we derive the following hypotheses and sub-hypotheses. Thereby we use *phubbing only* as control condition compared to the described phubbing behaviors.

H1.1: The type of phubbing behavior has an impact on the *person evaluation* of the phubber by the phubbee.

H1.2: The type of phubbing behavior has an impact on the evaluation of *perceived relationship quality* of the phubber by the phubbee.

H1.3: The type of phubbing behavior has an impact on the evaluation of *ex-*

pectancy violation of the phubber by the phubbee.

H1.4: The type of phubbing behavior has an impact on the phubbee's feelings of *ostracism*.

H2.1: Compared to *phubbing only* (a) *giving an important reason*, (b) *giving an unimportant reason* (c) *asking for permission* and (d) *holding eye contact* leads to a more positive *person evaluation*.

H2.2: Compared to *phubbing only* (a) *giving an important reason*, (b) *giving an unimportant reason* (c) *asking for permission* and (d) *holding eye contact* leads to a more positive *perceived relationship quality*.

H2.3: Compared to *phubbing only* (a) *giving an important reason*, (b) *giving an unimportant reason* (c) *asking for permission* and (d) *holding eye contact* leads to less *expectancy violation*.

H2.4: Compared to *phubbing only* (a) *giving an important reason*, (b) *giving an unimportant reason* (c) *asking for permission* and (d) *holding eye contact* leads to less feelings of *ostracism*.

H3.1: The effects of phubbing behavior on the variables *person evaluation* and *perceived relationship quality* is mediated by *expectancy violation*.

H3.2: The effects of phubbing behavior on the variables *person evaluation* and *perceived relationship quality* is mediated by *ostracism*.

In addition, we aim to examine the following explorative research questions:

E1: To what extent does the phubbing behavior affect the *future phubbing behavior* of the phubbees?

E2: How do participants evaluate the different phubbing behaviors in terms of qualitative statements? Which associations come to mind?

3. Methods

3.1. Design

Our experimental one-factorial between subjects design tested the effects of five different conditions of the independent variable *phubbing behavior* on the dependent variables *person evaluation*, *perceived relationship quality* and *future phubbing behavior* as well as their mediation by the variables *expectancy violation* and *ostracism*. Note that in the condition *asking for permission*, the phubber also named an unimportant reason for phone use, so that this condition actually combined *asking for permission* and *giving an unimportant reason*. **Table 1** summarizes the five experimental conditions.

The different conditions were realized via video vignettes, showing a conversation between two people which was repeatedly interrupted by smartphone use of the one person (the phubber) and participants were asked to put themselves in the shoes of the other (the phubbee). The reasons to justify the phubbing behavior presented in the experimental conditions *giving an important reason* and *giving an unimportant reason* were based on a pretest (N = 47) where we collected ratings of importance for a set of ten different reasons on an 11-point scale (0 = very unimportant, 10 = very important, see **Appendix**).

Table 1. Overview of the experimental conditions.

Phubbing behavior condition	Description
<i>Phubbing only</i>	Looking at the phone without any additional behavior
<i>Giving an important reason</i>	Phubber tells phubbee that they are on the phone because their mother is discharged from the hospital
<i>Giving an unimportant reason</i>	Phubber tells phubbee that they are on the phone because they want to check the score of a handball match
<i>Asking for permission</i>	Phubber tells phubbee that they are on the phone because they want to check the score of a handball match and asks for permission before doing so
<i>Holding eye contact</i>	Phubber uses their phone and keeps eye contact with the phubbee for 70% of the phubbing time

3.2. Procedure and Material

We collected data online through the online survey provider Unipark (software “Tivian”). In the online survey participants first got a brief introduction about the study and had to fill in a consent form to take part. Then they were asked to provide demographic data (age, employment status, educational qualification and gender). After that they were informed about the study procedure: They would first watch a video of about two minutes, shot from the first-person view and then fill in a questionnaire about their perception of the situation shown in the video. Participants were then randomly assigned to one of the five experimental conditions and depending on the condition, watched another video.

As mentioned above, at the beginning of the video, participants were asked to put themselves in the position of the conversation situation shown and to imagine that they were the person from whom the situation or the video was shot. The setting of the videos was identical in each condition: In the scene shown, the participants talk to a colleague at lunch. During the conversation, the colleague shown picks up his smartphone and engages with it, in other words, he phubs the test subject. The type of behavior exhibited by the colleague during the phubbing situation differs in each experimental condition.

In the control condition (*phubbing only*), the colleague uses his smartphone during the conversation without any additional behavior. In the condition *giving an important reason*, the colleague says that he has to check his smartphone because his mother was being discharged from the hospital today. In the *giving an unimportant reason* condition, the colleague says that he has to use his smartphone because he wants to check the score of a handball match. In the condition *asking for permission*, the colleague mentions the same reason and additionally asks whether it is okay for him to check his phone but he is not awaiting the response. In the condition *holding eye contact* the colleague uses his smartphone and keeps eye contact with the camera (i.e., the phubbee) for 70% of the phubbing time. Apart from the parts mentioned above, the conversations were identical in content and course.

After watching the videos, participants rated the conversation from the phubbee perspective by different measures as further described below. After completing the questionnaire, participants were debriefed and informed about the background of the study.

3.3. Participants

Participants were recruited through postings on social media and the university's panel recruitment services. Since phubbing can affect anyone and requires no further knowledge or skills, there were no specific selection criteria besides adult age, and participation was open to all persons aged 18 and above. Participants had a chance to win a 20€ gift voucher in exchange for participation and psychology students could receive course credit for their participation. Data collection took place over a period of 7 weeks. Overall, 327 participants completed the survey. We excluded three cases indicating obvious careless responding (e.g., same values on all items of the survey). In our final sample ($N = 324$), the majority of participants were female ($n = 239$; 80%). Ages ranged between 18 and 67 years ($M = 26.09$, $SD = 9.19$). Participants were almost evenly distributed across conditions ($n_{\text{phubbing only}} = 69$; $n_{\text{unimportant reason}} = 61$; $n_{\text{unimportant reason + permission}} = 63$; $n_{\text{important reason}} = 66$; $n_{\text{holding eye contact}} = 65$).

3.4. Measures

3.4.1. Person Evaluation

Person evaluation was assessed by four items on a 5-point Likert scale (1 = not at all, 5 = very much) asking about the extent to which the participants' conversation partner seemed to be vividly involved in the conversation, listened attentively, was interested in their feelings and needs, and appeared to be fully engaged in the conversation. We used the adapted items from [Vanden Abeele et al. \(2016\)](#) (e.g., "My conversation partner seemed completely immersed in our conversation") based on [Norton \(1978\)](#). They showed an internal consistency of $\alpha = 0.85$, implying a good reliability.

3.4.2. Perceived Relationship Quality

Perceived relationship quality was assessed by five items on a 5-point Likert scale (1 = not at all, 5 = very much) asking about the extent to which the participants and their conversation partner were in good harmony, got along well, communicated well, were honest with each other, and could become good friends. We adapted the items (e.g., "My conversation partner and I harmonize well with each other") from [Nuñez et al. \(2020\)](#). They showed an internal consistency of $\alpha = .88$, implying a good reliability.

3.4.3. Expectancy Violation

Expectancy violation, was assessed by four items on a 5-point Likert scale (1 = not at all, 5 = very much) asking about the extent to which participants perceived their conversation partner's behavior as inappropriate, atypical, unusual,

and unexpected. We adapted the items (e.g., “I found my conversation partner’s behavior inappropriate”) from [Burgoon and Olney \(1989\)](#). They showed an internal consistency of $\alpha = 0.80$, implying a good reliability.

3.4.4. Ostracism

Perceived *ostracism* was assessed by three items on a 5-point Likert scale (1 = not at all, 5 = very much) asking about the extent to which participants felt ignored, rejected, and excluded during the interview. We adapted the items (e.g., “During the conversation I felt ignored”) from [McDaniel and Wesselmann \(2021\)](#). They showed an internal consistency of $\alpha = 0.84$, implying a good reliability.

3.4.5. Future Phubbing Behavior

Future phubbing behavior was assessed by one item on a 5-point Likert scale (1 = negatively, 5 = positively) asking about the behavior of their conversation partner (*evaluation of the phubber’s behavior*). Next, participants rated one item on a 5-point Likert scale (1 = very unlikely, 5 = very likely) asking how likely it is that they will show the same behavior as their conversation partner (e.g., to “use your smartphone in the middle of a conversation with someone for a rather important reason and share that reason with your conversation partner”) in a future conversation (*likelihood of phubbing*). We also asked them in an open question to write down reasons for that.

3.4.6. Smartphone Use

Smartphone use was assessed by five items on a 7-point Likert scale (1 = rarely/approximately 1 time per day, 7 = constantly/every few minutes) asking about participants’ habits and ways of usage. We adapted the items (e.g., “How often do you check your phone for new messages or emails?”) from [Marty-Dugas et al. \(2018\)](#). They showed an internal consistency of $\alpha = 0.78$, implying an acceptable reliability.

3.4.7. Demographical Data

We assessed participant’s *age* by an open question and *gender* through a single choice question with three answer options (“male”, “female”, “divers”).

4. Results

4.1. Descriptive and Correlational Analyses

Across all conditions, the mean *person evaluation* was $M = 2.60$ ($SD = 0.82$), the mean *perceived relationship quality* was $M = 2.83$ ($SD = 0.83$), the mean *expectancy violation* was $M = 2.95$ ($SD = 0.86$) and the mean *ostracism* was $M = 3.05$ ($SD = 1.00$), indicating ratings in the middle scale range. Furthermore, the mean *evaluation of the phubber’s behavior* was $M = 2.27$ ($SD = 1.16$) and the mean *likelihood of phubbing* in a same way as the phubber in future conversations was $M = 2.39$ ($SD = 1.25$). Correlational analyses showed a significant negative relationship between *expectancy violation* and *person evaluation* ($r = -0.36$, $p <$

0.001) as well as *perceived relationship quality* ($r = -0.32, p < 0.001$) and also between *ostracism* and *person evaluation* ($r = -0.65, p < 0.001$) as well as *perceived relationship quality* ($r = -0.53, p < 0.001$). These results imply that higher *expectancy violation* and *ostracism* go along with lower *person evaluation* and *perceived relationship quality*. Furthermore, there was a significant positive relationship between *evaluation of phubber's behavior* and *likelihood of phubbing* ($r = 0.58, p < 0.001$) implying that one is more likely to show a phubbing behavior which one rates as positive. *Age* and *smartphone use* only have a small relationship with other variables. **Table 2** shows the descriptive data and intercorrelations of the central variables.

4.2. Hypotheses Testing

Referring to H1 and H2, we examined if different phubbing behaviors (in contrast to *phubbing only*) have a positive effect on *person evaluation* and *perceived relationship quality* as well as on *expectancy violation* and *ostracism*. For this purpose, we conducted several one-factor ANOVA's with single contrast analyses. We reported p -values as significant after ($\alpha = 0.05$) Bonferroni-Holm correction to account for spurious significance through repeated testing. **Table 3** shows the means of all dependent variables across conditions.

4.2.1. Effects of Phubbing Behavior on Person Evaluation

A one-way ANOVA with phubbing behavior as between-subjects factor showed a main effect of phubbing behavior on *person evaluation* ($F(4, 319) = 4.86, p < 0.001, \eta_p^2 = 0.06$). Thus, results supported H1.1. Furthermore, there was a significant difference between *phubbing only* ($M = 2.43, SD = 0.68$) and *giving an important reason* ($M = 2.97, SD = 0.85$) of 0.55 ($SE = 0.14$), $p < 0.001, d = 0.71$. The other phubbing behaviors showed no significant difference from *phubbing only*: *giving an unimportant reason* ($M = 2.55, SD = 0.84$) with a difference of

Table 2. Descriptive data and intercorrelations of central variables.

Variable	<i>M</i> (<i>SD</i>)	1	2	3	4	5	6	7	8
1. <i>Person evaluation</i>	2.60 (0.82)								
2. <i>Perceived relationship quality</i>	2.83 (0.83)	0.74**							
3. <i>Expectancy violation</i>	2.95 (0.86)	-0.36**	-0.32**						
4. <i>Ostracism</i>	3.05 (1.00)	-0.65**	-0.53**	0.52**					
5. <i>Evaluation of the phubber's behavior</i>	2.27 (1.16)	0.50**	0.47**	-0.31**	-0.45**				
6. <i>Future phubbing behaviour</i>	2.39 (1.25)	0.30**	0.30**	-0.26**	-0.24**	0.58**			
7. <i>Age</i>	26.09 (9.19)	-0.00	-0.06	0.02	-0.07	-0.03	-0.14*		
8. <i>Smartphone use</i>	4.62 (1.04)	0.08	0.14	-0.04	-0.02	0.10	0.16**	-0.19**	

a. 5-point Likert scale for 1 - 4 (1 = not at all, 5 = very much). 5-point Likert scale for 5 (1 = negatively, 5 = positively). 5-point Likert scale for 6 (1 = very unlikely, 5 = very likely). 7-point Likert scale for 8 (1 = rarely/approximately 1 time per day, 7 = constantly/every few minutes). * $p < 0.05$. ** $p < 0.01$.

Table 3. Descriptive data of *personal evaluation*, *perceived relationship quality*, *expectancy violation* and *ostracism* across the five experimental conditions.

	<i>Phubbing only</i> (n = 69) <i>M (SD)</i>	<i>Giving an important reason</i> (n = 66) <i>M (SD)</i>	<i>Giving an unimportant reason</i> (n = 61) <i>M (SD)</i>	<i>Asking for permission</i> (n = 63) <i>M (SD)</i>	<i>Holding eye contact</i> (n = 65) <i>M (SD)</i>
<i>Person evaluation</i>	2.43 (0.68)	2.97 (0.85)	2.55 (0.84)	2.57 (0.86)	2.47 (0.80)
<i>Perceived relationship quality</i>	2.61 (0.78)	3.17 (0.79)	2.70 (0.86)	2.92 (0.85)	2.74 (0.78)
<i>Expectancy violation</i>	3.06 (0.76)	2.76 (1.07)	3.04 (0.78)	3.12 (0.86)	2.80 (0.83)
<i>Ostracism</i>	3.19 (0.91)	2.68 (1.16)	3.21 (0.94)	3.20 (0.92)	3.00 (0.95)

a. 5-point Likert scale (1 = not at all, 5 = very much).

0.12 ($SE = 0.14$), $p = 0.391$; *asking for permission* ($M = 2.57$, $SD = 0.86$) with a difference of 0.14 ($SE = 0.14$), $p = 0.319$; *holding eye contact* ($M = 2.47$, $SD = 0.80$) with a difference of 0.04 ($SE = 0.14$), $p = 0.765$. Thus, results supported 2.1(a). They did not support 2.1(b), 2.1(c) and 2.1(d).

4.2.2. Effects of Phubbing Behavior on Perceived Relationship Quality

A one-way ANOVA with phubbing behavior as between-subjects factor showed a main effect of phubbing behavior on *perceived relationship quality* ($F(4, 319) = 4.99$, $p < 0.001$, $\eta_p^2 = 0.06$). Thus, results supported H1.2. Furthermore, there was a significant difference between *phubbing only* ($M = 2.61$, $SD = 0.78$) and *giving an important reason* ($M = 3.17$, $SD = 0.79$) of 0.56 ($SE = 0.14$), $p < 0.001$, $d = 0.71$. The other phubbing behaviors showed no significant difference from *phubbing only*: *giving an unimportant reason* ($M = 2.70$, $SD = 0.86$) with a difference of 0.08 ($SE = 0.14$), $p = 0.557$; *asking for permission* ($M = 2.92$, $SD = 0.85$) with a difference of 0.31 ($SE = 0.14$), $p = 0.030$; *holding eye contact* ($M = 2.74$, $SD = 0.78$) with a difference of 0.12 ($SE = 0.14$), $p = 0.390$. Thus, results supported H2.2(a). They did not support H2.2(b), H2.2(c) and H2.2(d).

4.2.3. Effects of Phubbing Behavior on Expectancy Violation

A one-way ANOVA with phubbing behavior as between-subjects factor showed no main effect of phubbing behavior on *expectancy violation* ($F(4, 319) = 2.40$, $p = 0.050$, $\eta_p^2 = 0.03$). Thus, results did not support H1.3. Furthermore, there were no significant differences between *phubbing only* ($M = 3.06$, $SD = 0.71$) and the other phubbing behaviors: *giving an important reason* ($M = 3.06$, $SD = 0.71$) with a difference of -0.30 ($SE = 0.16$), $p = 0.061$; *giving an unimportant reason* ($M = 3.04$, $SD = 0.78$) with a difference of -0.02 ($SE = 0.13$), $p = 0.872$; *asking for permission* ($M = 3.12$, $SD = 0.86$) with a difference of 0.07 ($SE = 0.14$), $p = 0.638$; *holding eye contact* ($M = 2.80$, $SD = 0.83$) with a difference of -0.26 ($SE = 0.13$), $p = 0.052$. Thus, results did not support H2.3(a), H2.3(b), H2.3(c) and H2.3(d).

4.2.4. Effects of Phubbing Behavior on Ostracism

A one-way ANOVA with phubbing behavior as between-subjects factor showed

a main effect of phubbing behavior on *ostracism* ($F(4, 319) = 3.51, p = 0.008, \eta_p^2 = 0.04$). Thus, results supported H1.4. Furthermore, there was a significant difference between *phubbing only* ($M = 3.19, SD = 0.91$) and *giving an important reason* ($M = 2.68, SD = 1.16$) of -0.51 ($SE = 0.18$), $p = 0.005, d = -0.50$. The other phubbing behaviors showed no significant difference from *phubbing only*: *giving an unimportant reason* ($M = 3.21, SD = 0.94$) with a difference of 0.02 ($SE = 0.16$), $p = 0.903$; *asking for permission* ($M = 3.20, SD = 0.92$) with a difference of 0.03 ($SE = 0.16$), $p = 0.987$; *holding eye contact* ($M = 3.00, SD = 0.95$) with a difference of -0.19 ($SE = 0.16$), $p = 0.231$. Thus, results supported H2.4(a). They did not support H2.4(b), H2.4(c), H2.4(d).

Taken together, we can assume that there is a positive effect of *giving an important reason* (vs. *phubbing only*) for *person evaluation*, *perceived relationship quality* and *ostracism*. However, there is no effect for the other phubbing behaviors (vs. *phubbing only*) and neither for *expectancy violation*.

4.2.5. Mediation Analyses: Effects of Phubbing Behavior on Person Evaluation and Perceived Relationship Quality through Expectancy Violation and Ostracism

In a next step, according to H3.1 and H3.2, we conducted mediation analyses using PROCESS by Hayes (2022) to assess if *expectancy violation* and *ostracism* could mediate the significant effects of *giving an important reason* (vs. *phubbing only*). It uses linear least squares regression to determine unstandardized path coefficients of the total, direct, and indirect effects. We used Model 4 and bootstrapping with 5000 iterations along with heteroskedasticity-consistent standard errors (Davidson & MacKinnon, 1993) to calculate confidence intervals and inferential statistics. We considered effects as significant if the confidence interval did not include zero. For contrast coding (*phubbing only* vs. *giving an important reason*), we used an indicator coding with *phubbing only* as reference group.

Results (see Figure 1) showed that phubbing behavior significantly predicted

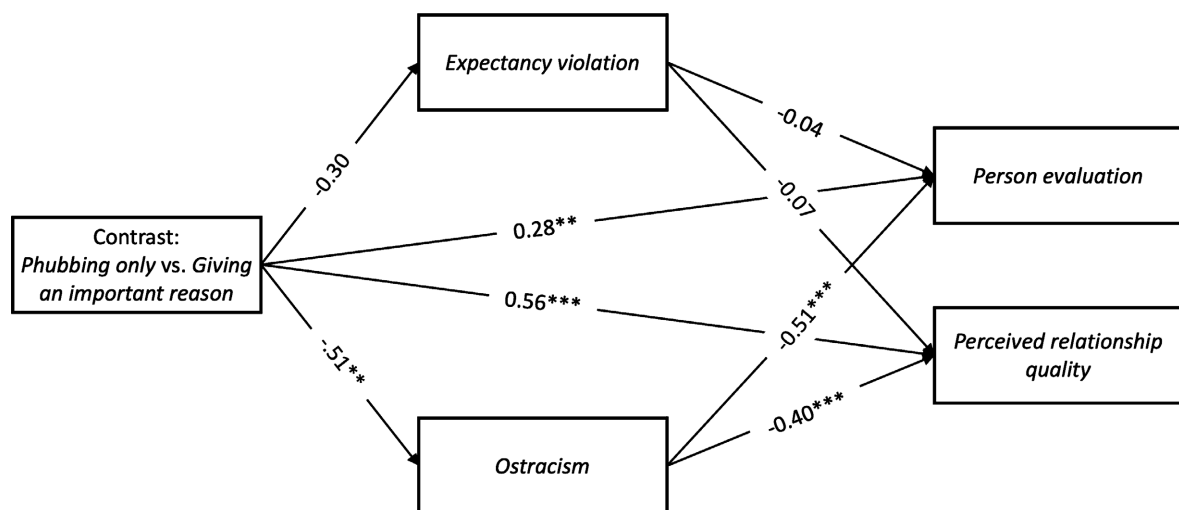


Figure 1. Mediation model on the effect of giving an important reason on person evaluation and perceived relationship quality through expectancy violation and ostracism. * $p < 0.05$. ** $p < 0.01$. *** $p < 0.001$.

ostracism ($A = -0.51, p = 0.003$), which in turn significantly predicted *person evaluation* ($B = -0.51, p < 0.001$) and *perceived relationship quality* ($B = -0.40, p < 0.001$). We thus found that phubbing behavior and *person evaluation* were partially mediated by *ostracism*, indirect effect = 0.26, 95% CI [0.07, 0.45] and also phubbing behavior and *perceived relationship quality*, indirect effect = 0.20, 95% CI [0.06, 0.36]. There was no indirect effect for *expectancy violation* on *person evaluation* = 0.01, 95% CI [-0.02, 0.06] or *perceived relationship quality* = 0.02, 95% CI [-0.02, 0.08]. Thus, our results supported H3.2 but did not support H3.1.

Taken together, *ostracism* could significantly and partially mediate the effect of *giving an important reason* (vs. *phubbing only*) on *person evaluation* and *perceived relationship quality*. However, there was no mediating effect of *expectancy violation*.

4.3. Exploratory Analyses

To explore if certain phubbing behaviors are evaluated more positively and lead the phubbees to show the same *future phubbing behavior* in conversations with a higher likelihood than others (E1), we calculated means and 95% confidence intervals. Results for the *evaluation of phubbers's behavior* (see **Figure 2**) and *future phubbing behavior* (see **Figure 3**) revealed that participants rated *giving an important reason* the most positive, 95% CI [3.25, 3.84] and also most likely to show the same phubbing behavior in the future, 95% CI [3.25, 3.87]. Vice versa, participants rated the other phubbing behaviors as more negative and less likely to show in the future. As already reported above, *evaluation of the phubber's behavior* and *future phubbing behavior* in the same way showed a significant positive relationship ($r = 0.58, p < 0.001$), implying that one is more likely to show a behavior which one rates as positive.

To gain even more specific insight into participants' potential reasons for showing or not showing the displayed phubbing behavior in the future, we also analyzed the responses to the open question (E2).

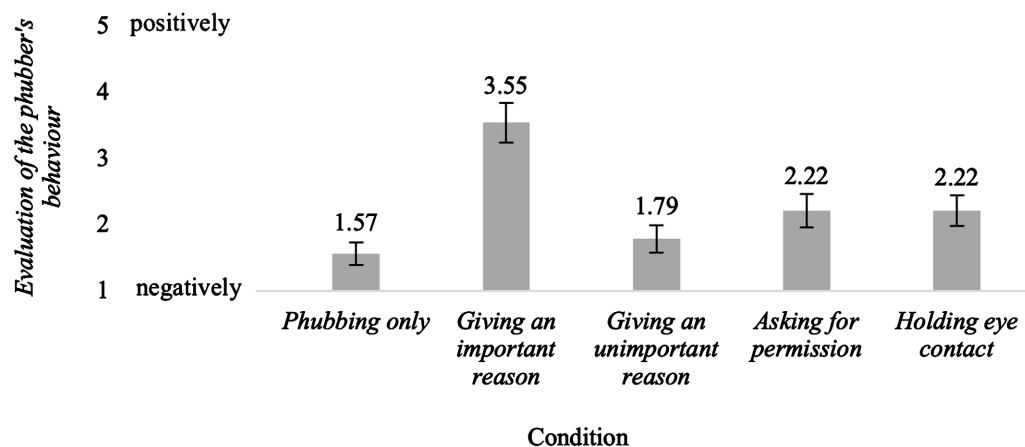


Figure 2. Means and 95% confidence intervals for the evaluation of the phubber's behaviour.

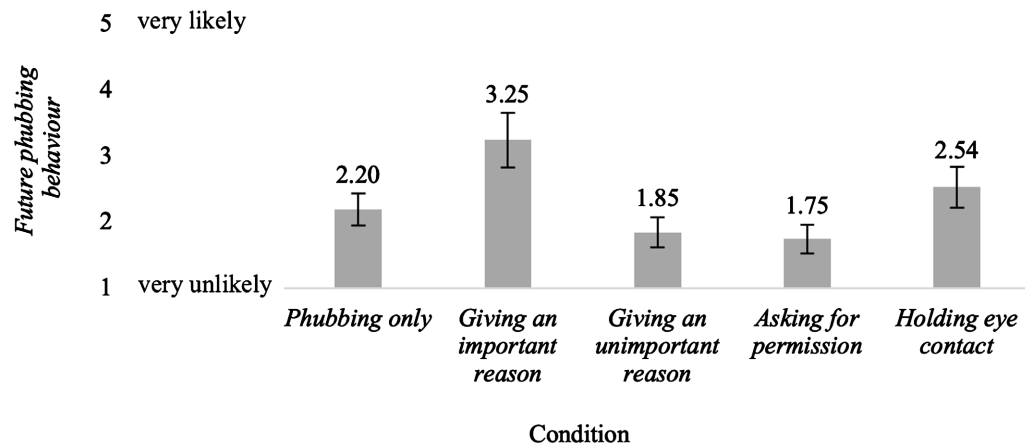


Figure 3. Means and 95% confidence intervals for future phubbing behaviour across the five experimental conditions.

In general, most participants agreed in their statements that they would not exhibit such phubbing behavior in a one-on-one conversation. Frequently mentioned reasons for not exhibiting this type of behavior were that phubbing is perceived as rude (e.g., “It is really rude to look at your phone in the middle of a conversation”), inappropriate (e.g., “It’s inappropriate and impolite.”) and disrespectful (e.g., “I consider reaching for the smartphone when you are in the middle of a conversation very disrespectful”) and is interpreted as a sign of disinterest (e.g., “I would not show this behavior out of politeness. It suggests disinterest and a lack of interest in the conversation partner.”).

Nevertheless, exceptions were mentioned in which the participants judge phubbing to be more appropriate and would also phub themselves. These exceptions include situations in which the phubber has an important reason to answer the smartphone (e.g., “When it comes to important things/appointments, I don’t mind if the person I’m talking to takes a quick look at their smartphone.”). Furthermore, it can be deduced from the participants’ statements that this specific reason should nevertheless be disclosed to the conversation partner (e.g., “Only if I were expecting an important message I would check my smartphone in the meantime, but I would also communicate this to my conversation partner so that he does not feel disrespected.”).

The responses indicate that participants would even interrupt the conversation for the time spent on the smartphone rather than continue it (e.g., “Only for a valid reason, e.g., if you absolutely have to clarify something. But I would probably rather interrupt the conversation briefly, clarify the important thing and then continue the conversation.”) In addition, it was mentioned that it would be even better if the important situation was clarified in a short phone call instead of constantly writing messages (e.g., “Actually, it is very rude to be on your smartphone during a conversation. If it was such an important topic, I would rather get up and make a short phone call instead of just texting.”). Furthermore, some participants stated that they would not phub in the situation shown, where they were talking to a rather unknown person (e.g., “I find it rude

and disrespectful, especially because the people don't know each other that well yet.”).

However, some participants stated that they would probably exhibit phubbing behavior in the future. The most mentioned reasons included the fear of missing out on something (e.g., “This happens to me more often because I don't want to miss anything important”) and smartphone addiction (e.g., “I do this completely unintentionally, even if I am interested in the conversation, so the smartphone and being constantly reachable has become something of a habit, maybe even a kind of addiction.”).

Taken together, participants would not show phubbing behavior in the future as it is perceived as rude unless they have an important reason.

5. Discussion

Phubbing in conversations negatively affects the phubbee's perception of the phubber as well as the relationship to them (e.g., [Mantere et al., 2021](#); [Miller-Ott & Kelly, 2017](#)). Therefore, our study examined different phubbing behaviors to deal with these negative effects. Specifically, we tested whether different verbal (*giving an important reason*, *giving an unimportant reason*, *asking for permission*) and nonverbal (*holding eye contact*) phubbing behaviors result in a more positive *person evaluation* and *perceived relationship quality* compared to *phubbing only*. Furthermore, we also investigated the variables *expectancy violation* and *ostracism* as underlying psychological mechanisms and further examined how phubbing may affect the phubbee's *future phubbing behavior*. The following sections discuss our findings in the context of previous studies and literature of phubbing.

In line with our hypotheses and previous research ([McDaniel & Wesselmann, 2021](#)), results showed that *giving an important reason* led to a significantly more positive *person evaluation* and *perceived relationship quality* compared to *phubbing only*. This effect was mediated by *ostracism*. Based on previous work ([Vanden Abeele, 2020](#); [McDaniel & Wesselmann, 2021](#)) we argued that by *giving a reason*, unimportant and important, the phubbee would be able to positively use this information to counteract the threat of phubbing to their needs ([Williams 2007, 2009](#)). In addition, we assumed that it would help them to deal with their experience of *ostracism* more positively.

However, since there was no significant difference between *asking for permission* and *phubbing only*, we conclude that this mechanism does not operate in the same way when the reason given is not seen as important. Analyses of the open questions support this assumption. Participants interpreted *giving an unimportant reason* as rather rude and a sign of missing respect (e.g., “I thought it was really rude. He could also take a look at his smartphone after the conversation”; “It's not proper to look at your smartphone when you're talking to someone else without really needing to do so”; “You give your counterpart the feeling that you don't care that much about the conversation”). They also perceived

asking for permission as an unnecessary request, as refusal is uncommon.

Furthermore, we could not find significant effects for *holding eye contact*, which contradicts previous literature (e.g., Nazir & Pişkin, 2016; Wirth et al., 2010). Nazir and Pişkin (2016) theorized that nonverbal cues, such as *holding eye contact*, express attention and thus perceived closeness and interest. We operationalized *holding eye contact* by looking alternating at the participant (70% of the time) and at the smartphone (30% of the time) while phubbing. That might not have been enough time to convey participants that the phubber's attention is on them, especially while the phubber is still actively texting. Another reason for the missing effect of eye contact could be the experimental setup. Since the phubbing situation was displayed via video, we can neither confirm to what extent the phubbee was aware of the eye contact nor if it was perceived the same way as in a real-life situation.

Moreover, perceived *expectancy violation* could not significantly mediate the positive effects of *giving an important reason*. However, there is still a significant negative correlation between *expectancy violation* and the dependent variables. This negative correlation could derive from participants generally thinking that phubbing is a sign of disinterest and thus a contrast to what they expect from their conversation partner. Many participants felt that they personally had something to do with their counterpart being on their smartphone during the conversation. For example, they thought that they were too boring to maintain their conversation partner's attention. Only when they were given an actual important reason, they attributed the act of phubbing to external circumstances and did therefore not experience a violation of their expectations. These findings are also consistent with previous studies on perceptions and evaluations of phubbing (e.g., Miller-Ott & Kelly, 2017; Aagaard, 2020).

Finally, results for future phubbing suggest that the more positively one evaluates phubbing behavior, the more likely one is to engage in the same phubbing behavior in a future conversation ($r = 0.58, p < 0.001$). Results from the open questions support this conclusion in two ways. On the one hand, people justified the smartphone use of their partner during the conversation, if they think the reason is really important. They could understand the reason and stated that they therefore would act the same way in a similar situation. On the other hand, if participants were not given an important reason, they interpreted the behavior as rather negative and indicated that they would not behave like the phubber in the future since they did not think that there was sufficient justification for the smartphone use during the conversation.

6. Limitations and Future Research

Our study comes with particular limitations that could affect the significance and generalizability of our results. The first one is the online character of our study, presenting the phubbing situation via video instead of a real-life encounter. Consequently, it remains unclear if the conversation and the phubbing part

was perceived the same way as if it took place in real life. Moreover, the participants did not actually know the phubber in the video and we don't know what kind of expectations towards this person participants had while watching the video. If the introduction to the situation did not awake any expectations at all, this could also be a possible explanation for the missing significant mediation effect of expectancy violation. Therefore, future studies could complement the present findings by investigations of phubbing in real life situations as well as focusing more on the specific relationship and associated expectations.

Regarding the aspect of phubbing as a social norm violation, future studies could explore to what extent the negative evaluation of the phubber varies between generations. In our study, the age of participants varied from 18 to 67, with an average age of 26. Here, it would be interesting in the future to on the one hand focus on even younger generations who have grown up with smartphones. If smartphone use in parallel to conversations is more and more common especially in younger generations, and expectations of conversation are changing, one could argue that phubbing is no longer perceived as negative at all. At the same time, one could assume that even a cognitive change in social norms of conversations could not mitigate the more biologically rooted feeling of rejection. In fact, our findings regarding the mediating effects of *ostracism* and *expectancy violation* suggest that *ostracism* might be the dominant mechanism in the phubbing context so that intergenerational differences in social norms could be negligible. Further research is needed to answer such questions.

Lastly, as one of our main findings suggests that *giving an important reason* can mitigate the negative effects of phubbing, we would recommend focusing on how best to convey the personal importance of a reason. It is still unclear at what point a reason is perceived as objectively important, and how subjective importance can best be communicated for the counterpart to not see phubbing as an act directed against them.

7. Conclusion

Smartphones will continue to be an integral part of our everyday lives and their use can no longer be completely avoided in today's connected world. According to our results, the negative consequences of smartphone use in social situations are especially related to feelings of rejection and social exclusion as well as the interpretation of phubbing behavior as impolite. However, if phubbing can't be avoided, one should at least try to communicate the (personally) important reason for it.

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Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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Appendix

A pretest validated differences in perceived importance of different reasons to justify smartphone use in daily life situations. Participants ($N = 47$) rated ten different reasons on a 10-point Likert scale ranging from 0 (very unimportant) to 10 (very important) via online questionnaire. **Table A1** shows the descriptive data for all ten reasons. For the experimental conditions of the main study, we used the reason rated the least important (“Sorry, I will briefly check my smartphone, I want to check how the handball game is going”, $M = 2.45$, $SD = 1.61$) and the reason rated the most important (“Sorry, I will briefly check my smartphone, I want to check if my mother will be discharged from the hospital today”, $M = 9.40$, $SD = 1.08$). The difference between these two reasons was significant ($t(46) = -27.35$, $p < 0.001$).

Table A1. Ratings of importance of different reasons to justify smartphone use.

Condition	M (SD)
1. “Sorry, I will briefly check my smartphone, I want to check if there are still tickets available for the Coldplay concert.”	3.72 (2.62)
2. “Sorry, I will briefly check my smartphone, I want to check how the handball game is going.”	2.45 (1.61)
3. “Sorry, I will briefly check my smartphone, I want to check if my mother will be discharged from the hospital today.”	9.40 (1.08)
4. “Sorry, I will briefly check my smartphone, we had a burst pipe in our apartment and I need to talk to my roommates about the next steps with the landlords.”	8.66 (1.54)
5. “Sorry, I will briefly check my smartphone, I want to check the weather for the weekend.”	2.64 (1.90)
6. “Sorry, I will briefly check my smartphone, I want to check whether I have to go to an apartment viewing later.”	7.89 (1.30)
7. “Sorry, I will briefly check my smartphone, I have a date tonight and want to check at what time.”	6.85 (1.64)
8. “Sorry, I will briefly check my smartphone, my sister is having her baby today and I want to check if she’s due already.”	9.17 (1.59)
9. “Sorry, I will briefly check my smartphone, I want to check with a friend where we are going for dinner this weekend.”	2.94 (1.83)
10. “Sorry, I will briefly check my smartphone, I need to clarify if I have to lead a workshop later.”	8.26 (1.37)

a. 10-point Likert scale (1 = very unimportant, 10 = very important).