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Short-sighted ghosts. Psychological antecedents and consequences of ghosting others within emerging adults' romantic relationships and friendships

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ABSTRACT

Ghosting (i.e., terminating communication with another person on social media without explanation) has become an all-too-common occurrence. Prior scholarship has predominantly focused on adverse effects of being ghosted on individuals' well-being and mainly investigated the phenomenon within romantic relationships. By contrast, its occurrence within friendships as well as psychological predictors and effects of ghosting others over time with regard to well-being are not comprehensively understood yet. The present study aims to fill these research gaps using data from a two-wave panel survey among emerging adults between 16 and 21 years. Analyses show that ghosting romantic partners and ghosting friends are different phenomena: While communication overload (i.e., the feeling of receiving more messages than one can handle) positively predicts ghosting romantic partners, ghosting friends is predicted by one's self-esteem. Most notably, ghosting others within romantic relationships did not yield any effects on well-being, whereas ghosting friends increased depressive tendencies over time, demonstrating that ghosting is not only harmful to those who are ghosted, but can also negatively impact those who ghost others.

1. Introduction

Almost universal access to digital devices such as smartphones has created conditions where individuals are permanently connected to others (Vorderer et al., 2017). This might be particularly relevant for emerging adults among whom almost half are online constantly (concerning the US, see Perrin and Atske, 2021; for similar numbers outside of the US, see Feierabend et al., 2021). Social media (understood broadly as an umbrella term for various platforms that focus, for instance, on networking, texting, or dating) plays a central role in their usage behaviors: 84% of people in this age group use at least one social media site (Pew Research Center, 2021); more specifically, close to one third of them has used online dating platforms (Anderson et al., 2020). Many have also developed online vigilance, meaning they pay attention to the online world even when they are offline (Reinecke et al., 2018). As a result, interactants have formed mutual expectations about how online communications ought to unfold, that is, typically, as quickly as possible (Winstone et al., 2021). If these expectations are violated, concern and emotional distress will typically be the consequence (Bennett et al., 2020).

Similar to how smartphones and social media have altered how relationships are formed and maintained (Tong and Walther, 2011),

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they have also re-shaped ways of how they end. An infamous example of a relationship dissolution strategy that is based on expectancy violations is *ghosting*. Ghosting is defined as a unilateral discontinuance of communication with another person without explanation (LeFebvre et al., 2019). Many (especially young) people have first-hand experience with ghosting. For example, LeFebvre and colleagues (2019) reported that among emerging adults (see Arnett, 2007), 29.3% had at some point ghosted someone, 25.3% had been ghosted, and 44.2% had been in both positions. Despite how common ghosting is, particularly among younger people, research on it is rather rare. What little research is there, however, suggests that ghosting may be associated with a lack of psychological well-being (e.g., apathy, stress, self-doubt, disillusionment, fear, depressive symptoms; Astleitner et al., 2023; Freedman et al., 2022b; Konings et al., 2023; Pancani et al., 2021; Thomas and Dubar, 2021) and increasing levels of relational distrust (LeFebvre and Fan, 2020; Narr and Luong, 2022; Šiša, 2022; Timmermans et al., 2021), thus establishing it as a potentially consequential behavior of individual and possibly even societal scope.

At least four research gaps can be identified in the ghosting literature: Firstly, previous work primarily employed interpretative methodologies that dissected reasons for and consequences of ghosting via thematic analyses, mainly based on interviews with individuals who were ghosted (i.e., ghostees); quantitative approaches are underrepresented. Secondly, insights into ghosting rely exclusively on cross-sectional data, meaning that, for lack of longitudinal data, the temporality of established links is unclear. Thirdly, prior research investigating predictors and consequences of ghosting has focused on ghostees, largely leaving aside those who ghost others (i.e., ghosters). Investigating ghosters' motivations and consequences of their behavior for their well-being is essential for understanding why ghosting occurs and how it affects *both* involved parties. Lastly, ghosting is not limited to romantic relationships (ranging from short-term physical relationships to long-term commitments). Nevertheless, extant work has mostly neglected ghosting in other relationship types. Especially in friendships, a similar (or even higher) prevalence can be assumed given the number of different ties people entertain within and across social networks.

The current longitudinal study fills these gaps by examining both cognitive and self-conceptual antecedents and consequences of ghosting in romantic relationships and friendships from ghosters' perspective. By doing so, the project significantly advances our empirical knowledge about ghosting, whose psychological antecedents and potentially detrimental health consequences, particularly for ghosters, are not well understood yet.

2. Literature review

Current theoretical conceptualizations of ghosting illustrate broad agreements (Kay and Courtice, 2022; Koessler et al., 2019; LeFebvre et al., 2019; Thomas and Dubar, 2021): Conceptual definitions unanimously agree that ghosting requires the unilateral termination of communication without explicit closure (e.g., via written explanation). However, scholars disagree about various details, for example, whether ghosting can be temporary (LeFebvre, 2017) or not (Campaioli et al., 2022; Koessler et al., 2019), whether a stable relationship must be established (LeFebvre et al., 2019), or whether ghosting has to occur suddenly (Kay and Courtice, 2022) or can also involve a more gradual process (LeFebvre et al., 2020).

Most importantly for this paper, conceptualizations by LeFebvre and colleagues (2019) and Koessler and colleagues (2019) argue that ghosting happens primarily in romantic contexts. However, more recent definitions based on insights from interviews and a survey among emerging adults state that that just as romantic partners may cease communication to end relationships, friends may also "disappear on each other" (Campaioli et al., 2022; Kay and Courtice, 2022; Thomas and Dubar, 2021). Seconding this argument, Flannery and Smith (2021) report that avoidance is among the most frequently enacted methods to end friendships, in line with how it is used in romantic relationships. Extant studies that examined ghosting among friends highlighted some similarities to ghosting in romantic relationships (e.g., ghosting others was deemed more socially acceptable within short-term than long-term relationships; Freedman et al., 2019; see also Leckfor et al., 2023). Other work has pointed out differences between the two relationship types, such as a higher acceptability of ghosting friends compared to ghosting romantic partners (Campaioli et al., 2022; Yap et al., 2021).

Following these arguments, we define ghosting as a relationship dissolution strategy that is enacted on social media by ceasing to communicate *with another person* without an explanation, thus advocating to think beyond romantic relationships. As Furman and Rose (2015) suggested for studying close peer relationships, we simultaneously focus on ghosting among friends *and* romantic partners, yet we acknowledge their unique features and treat them as separate phenomena.

Notably, ghosting must not be confused with self-(cyber)ostracism, which refers to purposefully secluding oneself and choosing not to connect with others (Wesselmann et al., 2021), or solitude, which describes a state of noncommunication (Campbell and Ross, 2021). While all three phenomena are characterized by not communicating with others, ghosting is distinct as it is typically directed at specific individuals and does not involve withdrawing altogether, even when someone ghosts multiple people at once. Furthermore, ghosting is uniquely characterized by the absence of an explanation for its occurrence. We also recognize that ghosting does not always need to be permanent as long as it is evident at an individual's current moment in time.

2.1. Prediction of ghosting

Research has highlighted different explanations as to why people ghost others, which can be broadly summarized into five categories (LeFebvre et al., 2019; Manning et al., 2019): Firstly, *relational* reasons refer to individuals' perceptions of a relationship leading to ghosting. For instance, ghosters reported that they had not seen romantic relationships they ended via ghosting as serious (LeFebvre et al., 2019). Secondly, *situational* factors should be considered. Having met the other party on a dating app is a typical example (Timmermans et al., 2021) where ghosting was found to be by far the preferred method of relationship dissolution (Halversen et al., 2022). Thirdly, ghosting can also be a *self-protective* measure. After having been treated in a disrespectful or abusive way, ghosting has been highlighted as

safer than a confrontational breakup (Freedman et al., 2022a; Manning et al., 2019). While these three categories can be considered *external* causes (i.e., reasons involving the ghostee), this project focuses on *internal* causes (i.e., reasons that only exist within the ghoster). For one, we examine reasons that are grounded in people's limited information processing capacities (i.e., *cognitive* reasons). Related work has identified receiving "too many" messages as one of the most frequent reasons for not replying (Agarwal and Lu, 2020). Furthermore, we also investigate *self-conceptual* reasons, focusing on individual dispositions that may make ghosting others more likely, namely self-esteem and depressive tendencies.

2.1.1. Cognitive reasons

According to information processing theories (e.g., the Limited Capacity Model of Mediated Message Processing; Lang, 2000), individuals' cognitive resources are restricted. Considering that using multiple platforms to stay in touch with others is common (McEwan, 2021), the myriad of (possible) simultaneous interpersonal exchanges on social media may, at times, be more than one can handle. Communication overload (LaRose et al., 2014) is defined as an excess of communicative demands on social media that transcends individuals' communicative abilities (Cho et al., 2011) and has been associated with harms for their well-being (Cao and Sun, 2018). It has also been considered a component of digital stress (Steele et al., 2020), which is defined as a harmful psychosocial consequence of near-constant use of information and communication technology.

Communication overload may be linked to ghosting others via at least two routes: On the one hand, people who suffer from communication overload are more likely to feel overwhelmed by how many messages they receive. Given that people cannot always reply immediately, a steady intake of communications may cause messages to pile up; this can potentially lead to forgetting about earlier messages (Agarwal and Lu, 2020; Yap et al., 2021). Once noticed, accidentally delayed responses may bring people to then intentionally ignore that conversations had been initiated, attempting to suppress guilt caused by their violation of communicative expectations (Thomas and Dubar, 2021; Winstone et al., 2021).

On the other hand, individuals may also choose to pursue mitigation strategies when they experience communication overload to minimize negative consequences for their well-being. Communication overload has been shown to lead to social media fatigue (i.e., feeling tired due to one's use of social media; Lee et al., 2016) and intentions to discontinue social media use (Zhang et al., 2016). Ghosting others, from this point of view, may be understood as a less drastic way of making use of social media features (e.g., muting conversations or blocking contacts) to free up cognitive resources for more meaningful matters (Agarwal and Lu, 2020). More specifically, not responding to others, particularly without explanation, reduces the number of one's active communications, which may be relevant for avoiding overabundant conversations with less close social contacts (Šiša, 2022). On dating apps where a multitude of potential partners is available, users reported that features that help them block unwanted interactions play a facilitating role in their decision to ghost others (Timmermans et al., 2021). Generally, communication via social media reportedly feels less personal compared to offline contact, which results in ghosters feeling less accountable for morally ambiguous behaviors (Thomas and Dubar, 2021). In other words, social media may lower the barriers to intentionally engage in ghosting others when one feels overwhelmed. Based on these arguments for unintentional and intentional links between communication overload and ghosting, we hypothesize:

> **H1**: Communication overload positively predicts ghosting others within (a) romantic relationships and (b) friendships over time.

2.1.2. Self-conceptual reasons

Self-determination theory (Ryan and Deci, 2000) postulates that a need for relatedness, which is typified by wanting to belong with others and feel connected to them, is evident in all humans. When individuals cope with the stressor of unfulfilled psychological needs, two general action tendencies come into play (Roth and Cohen, 1986): Approach tendencies lead to actions that are directed *toward* the stressor and involve making changes with the aim of gaining control, whereas avoidance tendencies are aimed *away* from the stressor in order to limit stress and anxiety.

While people with low self-esteem are more likely to pursue avoidance strategies, those with high self-esteem are more likely to make use of approach strategies (Heimpel et al., 2006). These associations suggest two likely paths of becoming a ghoster: Individuals with high self-esteem may be more likely to employ ghosting as an approach strategy to exercise control over romantic relationships or friendships that do not sufficiently gratify their need for relatedness. They may choose to ghost relational partners to be free to connect with other people, as existing research about ghosting in romantic relationships has suggested (Manning et al., 2019; Timmermans et al., 2021). Relatedly, self-esteem is also positively associated with self-forgiveness (Strelan, 2007), explaining why individuals with high self-esteem are more likely to engage in ghosting in spite of potential harm for ghostees (for friendships: Agarwal and Lu, 2020; for romantic relationships: LeFebvre, 2017). Contrariwise, individuals with low self-esteem may be more likely to ghost others to avoid confronting partners and friends when their need for relatedness is not met. This assumption is supported by evidence that low self-esteem increases the intention to discontinue romantic relationships due to higher feelings of dissatisfaction and insecurity (Arikewuyo et al., 2021) and typically comes with higher rejection sensitivity (Watson and Nesdale, 2012). Acknowledging both possible mechanisms, we ask:

> **RQ1**: (How) Does self-esteem predict ghosting others within (a) romantic relationships and (b) friendships over time?

Avoidance of interpersonal contact with the goal of preventing negative experiences has also been linked to depressive tendencies (Moulds et al., 2007; Negriff, 2019). Individuals with depressive tendencies tend to engage in avoidance strategies such as rumination (Nolen-Hoeksema et al., 2007), meaning that they are more likely to zero in on distressing issues, but rather than actively attempting to resolve them, they are merely mentally preoccupied with them (Nolen-Hoeksema et al., 2008). Ruminating individuals often turn to

imagined interactions (i.e., internal dialogues in which individuals process and respond to anticipated reactions; Honeycutt, 2008). Maladaptive imagined interactions may intensify relational rumination up to a point where anticipating a confrontational breakup is more fearsome (McCullough et al., 2007). Aiming to minimize the risk of experiencing rejection (Chango et al., 2012), individuals with depressive tendencies may see ghosting as a suitable way out and thus end relationships without explaining themselves. Previous research on ghosting in romantic relationships has shown that people who tend to resolve conflict by withdrawing report higher intentions to ghost (Navarro et al., 2021); to our knowledge, this has not been considered among friends. Taken together, we consider depressive tendencies a predictor for ghosting others.

H2: Depressive tendencies positively predict ghosting others within (a) romantic relationships and (b) friendships over time.

2.2. Consequences of ghosting

Psychological harm for ghostees is a prominent focus in ghosting research involving romantic partners and friends (Astleitner et al., 2023; Konings et al., 2023; Pancani et al., 2021; Thomas and Dubar, 2021). By contrast, harmful repercussions for ghosters have received less scholarly attention (Freedman et al., 2022b; Leckfor et al., 2023; Thomas and Dubar, 2021). A broad mechanism through which ghosting could be detrimental to ghosters' well-being emerges from the self-initiated loss of potentially rewarding romantic or social experiences. Given that humans are "social animals" (Epley and Schroeder, 2014), strongly connected individuals typically feel better than less connected people (Sun et al., 2019). The same is evident for individuals who are in satisfying romantic relationships (Demir, 2008). What is important to note, however, is that people often underestimate the benefits of suppositionally less meaningful social contact while overestimating the perks of not investing in it. In a series of experiments, Epley and Schroeder (2014) documented a marked discrepancy between participants' expectations for (non–)social experiences and how they turned out: While participants anticipated talking to unknown others to be less desirable than it was, they also overestimated benefits of not connecting with them. Others have further demonstrated important benefits of interactions with "weak ties" (i.e., casual relationships with rare contact and limited emotional intensity; Sandstrom and Dunn, 2014). Similarly, in a romantic context, people who merely ghosted out of momentary disinterest or because of the prospect of better partners may have undervalued the benefits of even modest emotional intimacy (Gómez-López et al., 2019) compared to a complete lack thereof (and underestimated occurrences of post-relational rumination; Saffrey and Ehrenberg, 2007) if satisfying alternatives do not present themselves. From this perspective, ghosting others could be a short-sighted decision with unintended psychological aftereffects.

This general argument can more specifically be applied to potential effects of ghosting on both self-esteem and depressive tendencies, as a protective factor against and a prime example of psychological harm, respectively. Concerning self-esteem, it has been shown that both friendships and romantic relationships, particularly social support experienced within them, are central to developing self-worth among young people (Harris and Orth, 2020). Since ghosters may deprive themselves of opportunities to experience social support and develop adequate self-esteem, any partial depletion thereof—even out of one's own volition—might make detrimental effects more likely. With respect to depressive tendencies, literature demonstrated that experiencing a lack of relatedness can be a risk factor (De Coninck et al., 2021), likely because romantic partners and friends are emerging adults' primary points of contact to talk about issues (Camara et al., 2017). In addition, having a higher number of friends was negatively associated with depressive symptoms (Schwartz-Mette et al., 2020), and lacking social support from romantic partners predicts depressive tendencies (Katainen et al., 1999). Again, it can be argued that ghosting friends and romantic partners may enhance the probability that ghosters have nobody to help them cope before depressive tendencies could accumulate.

These processes might be further intensified because rejecting others can lead to guilt (Thomas and Dubar, 2021) and a poor reputation (Perilloux and Buss, 2008), particularly since ghosting is often considered inappropriate (Campaioli et al., 2022; LeFebvre et al., 2019; Yap et al., 2021). Furthermore, while ghosting can minimize the immediate distress caused by a breakup, it often disinhibits personal growth that can otherwise arise out of it (Marshall et al., 2013). These ghosting-driven instances of guilt, interpersonal isolation, and lack of personal growth could all relate negatively to ghosters' self-esteem (Faccini et al., 2020) and depressive tendencies (Lanciano et al., 2012). To conclude, we assume that ghosting can also be considered self-destructive behavior, despite

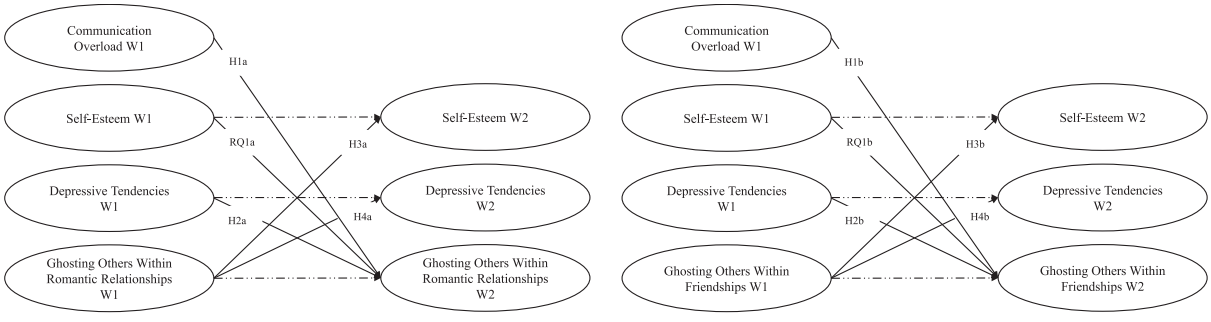

Fig. 1. Full theoretical model. Solid lines demonstrate paths that were tested as hypotheses/research questions, dashed lines demonstrate autoregressive paths that were included in the statistical analysis.

happening deliberately:

H3: Ghosting others within (a) romantic relationships and (b) friendships negatively predicts self-esteem over time.
H4: Ghosting others within (a) romantic relationships and (b) friendships positively predicts depressive tendencies over time.

The full theoretical model is displayed in Fig. 1.

3. Methods

Hypotheses and the research question were addressed with data from a two-wave panel survey on emerging adults' social media use and well-being. The study received approval by the Institutional Review Board (IRB) of the Department of Communication at the University of Vienna. (IRB_COM [20210315_019]). The anonymized clean data file, analysis script, and analysis output files are available at https://osf.io/649f2. The first wave was fielded from March to April 2021, the second wave took place between August to October 2021 ($M = 132.78$, $SD = 15.02$, range: 115–190 days between the two waves). This four-month interval has been shown to be fitting for investigating individual media effects (Schmuck et al., 2019).

3.1. Sampling and participants

A market research institute recruited a sample of German emerging adults. Quotas were not included because of feasibility issues; a "best effort" approach was followed instead to obtain a diverse sample concerning age, gender, and education. Respondents had to consent to taking part in the surveys; additionally, participants who were under 16 years or above 21 years old, and who had never been active on social media, were screened out. A total of $N = 1098$ individuals completed the first wave (out of $N = 1512$ who started the survey).

We applied several criteria to enhance data quality. Firstly, as a conservative time criterion, participants whose total response time fell below a third of the entire sample's median ($n = 77$) were excluded because it cannot be expected that they answered the items with sufficient attention. Secondly, at the end of the survey, participants were asked to state how concentrated they were while taking part and those who selected "not at all" ($n = 6$) were excluded. Finally, the survey included three infrequency attention checks based on suggestions from Beach (1989) and Dunn and colleagues (2018). The following items were hidden within the survey: "I know how to count to ten," "My birthday is on February 30", and "I have never used a computer before". Participants were required to state how much these statements apply to them on 5-point Likert scales (1 = not at all; 5 = completely). Depending on the item, anything other than a full or moderate affirmation (i.e., 4 or 5 for "I know how to count to ten") or rejection (i.e., 1 or 2 for "I have never used a computer before" and "My birthday is on February 30") was defined as failed. Following recommendations by Leiner (2019), only the "worst respondents" were excluded, that is, those who failed all three attention checks ($n = 37$) because that all but guarantees that only unreliable responses are excluded. Notably, exclusion criteria were applied after Wave 1 only because previous two-wave inquiries had found that carefully responding participants typically continue doing so (Koban et al., 2021).

The final sample of the first wave then consisted of $N = 978$ participants (age: $M = 19.08$, $SD = 1.57$, range: 16–21; self-identified gender: 54.81% female, 44.48% male, 0.72% non-binary). Education was recoded to low-level (incomplete lower secondary or vocational school education or completed lower secondary education, or less; 28.53%), medium-level (incomplete upper secondary education or completed advanced lower secondary education; 40.80%) and high-level (completed upper secondary or university education, 30.67%). A total of $N = 415$ of these participants (age: $M = 18.91$, $SD = 1.55$, range: 16–21; 58.31% female, 41.69% male; 26.51% with low-level education, 42.41% with medium-level education, 31.08% with high-level education) completed the second wave (57.57% attrition rate).

Chi-square and Welch's t-tests were used to assess differences between those who took part in both waves ($n = 415$) and those who only took part in the first wave ($n = 563$). The differences for gender ($\chi^2(2) = 8.04$, $p = .018$, *Cramér's* $V = 0.09$) and age ($t(900.18) = -2.79$, $p = .005$, *Cohen's* $d = -0.18$) were significant, yet small. Female participants were more likely to complete both waves (first wave only: 52.2%; both waves: 58.3%) and older participants were more likely to drop out (first wave only: $M = 19.20$, $SD = 1.58$; both waves: $M = 18.91$, $SD = 1.55$). The two samples did not differ significantly in education ($\chi^2(2) = 1.53$, $p = .465$, $V = 0.04$), ghosting others in romantic relationships ($t(898.58) = -1.96$, $p = .051$, $d = -0.13$) or friendships ($t(882.48) = -0.97$, $p = .333$, $d = -0.06$), communication overload ($t(888.99) = 0.40$, $p = .686$, $d = 0.03$), self-esteem ($t(875.70) = 0.56$, $p = .578$, $d = 0.04$), and depressive tendencies ($t(887.82) = -1.24$, $p = .215$, $d = -0.08$). Thus, no systematic dropouts were assumed.

3.2. Measures

This dataset originates from a more extensive two-wave panel survey, however, only measures relevant to the current research are reported. Except for ghosting, all items were adapted from established scales, which were shortened by selecting high-loading items to achieve high measurement quality while keeping response fatigue as unlikely as possible. All variables were measured using 5-point Likert scales ranging from "1 = not at all" to "5 = completely" (for communication overload, self-esteem, and depressive tendencies) and "1 = never" to "5 = all the time" (for ghosting). Notably, all scales were identical across waves.

3.2.1. Ghosting

For lack of an established scale, self-constructed items were used to measure frequency of ghosting (asking for "how often have you been in the following situations"). Ghosting others within romantic relationships was measured using two items: "I have suddenly

completely stopped replying to a partner from a casual or steady relationship on social media without that person knowing the reasons," and "I suddenly stopped writing back to a partner from a casual or committed relationship on social media to without explaining why." (W1: $M = 1.95$, $SD = 1.08$, Spearman-Brown's $\rho = 0.83$; W2: $M = 1.94$, $SD = 1.07$, $\rho = 0.80$). Similarly, two items were used for ghosting others within friendships: "I have broken off contact on social media with someone in my circle of friends or acquaintances without giving a reason for doing so," and "I suddenly stopped responding to a person in my circle of friends or acquaintances on social media without that person knowing why." (W1: $M = 2.21$, $SD = 1.09$, $\rho = 0.75$; W2: $M = 2.14$, $SD = 1.07$, $\rho = 0.78$). Importantly, participants were not explicitly asked about *ghosting* to avoid socially desirable responses but introduced to the general phenomenon to ensure similar understandings.

3.2.2. Communication overload

Based on Cao and Sun (2018), three items were used to assess participants' communication overload on social media: "I am often overwhelmed by the fact that too many people are contacting me at the same time through social media," "I often feel overwhelmed by the flood of personal messages on social media," and "It stresses me out when I receive a lot of personal messages on social media." (W1: $M = 2.21$, $SD = 0.99$, McDonald's $\omega = 0.79$).

3.2.3. Self-esteem

Self-esteem was measured with four items taken from the Rosenberg Self-Esteem Scale (Rosenberg, 1965): "All in all, I am satisfied with myself," "I possess a number of good qualities," "I can do many things just as well as most other people," and "I have found a positive attitude towards myself." (W1: $M = 3.50$, $SD = 0.82$, $\omega = 0.80$; W2: $M = 3.55$, $SD = 0.81$, $\omega = 0.79$).

3.2.4. Depressive tendencies

The measure for depressive tendencies was based on the Center for Epidemiologic Studies Depression Scale (CES-D; Radloff, 1977). The following four items were used and participants were asked to refer to the previous week: "I was bothered by things that usually don't bother me," "I had trouble keeping my mind on what I was doing," "I felt depressed," and "I felt sad." (W1: $M = 2.99$, $SD = 1.06$, $\omega = 0.81$; W2: $M = 2.75$, $SD = 1.04$, $\omega = 0.81$).

3.2.5. Control variables

Age, self-identified gender, which was recoded into a single variable (male and non-binary = 0, female = 1), and education, which we recoded into two binary variables (lower: 0 = medium- and high-level education, 1 = low-level education; higher: 0 = low- and medium-level education, 1 = high-level education), were controlled for to account for possible effects related to gender (Twenge and Martin, 2020), age (Orben et al., 2022), and education differences (Feng et al., 2019).

3.3. Statistical analysis

The data were cleaned and analyzed in R. Two separate structural equation models with robust full information maximum likelihood estimation were calculated using the *lavaan* package (Rosseel, 2012), controlling for sociodemographics (age, gender, low and high education) and autoregressive effects. Since they were highly positively skewed, all ghosting variables were log-transformed (skewness range before transformation: 0.57–0.96; after transformation: 0.06–0.45).

4. Results

Results obtained by structural equation modeling are provided in Table 1 and Table 2. Tables 3a and 3b, as well as Tables 4a and 4b, display correlations between latent variables in the structural equation model.

Table 1
Results of the structural equation model for ghosting others within romantic relationships.

Predictors	Ghosting Others Within Romantic Relationships (W2)		Self-Esteem (W2)		Depressive Tendencies (W2)	
	b (SE)	β	*b (SE)*	β	*b (SE)*	β
Ghosting Others Within Romantic Relationships (W1)	0.35 (0.06)***	0.41	-0.13 (0.23)	-0.03	0.45 (0.24)	0.11
Communication Overload (W1)	0.03 (0.02)*	0.15				
Self-Esteem (W1)	0.02 (0.01)	0.08	0.57 (0.06)***	0.60		
Depressive Tendencies (W1)	0.01 (0.02)	0.04			0.52 (0.07)***	0.50
Age	0.02 (0.01)***	0.20	0.02 (0.03)	0.03	0.01 (0.03)	0.03
Gender	-0.01 (0.02)	-0.04	-0.07 (0.09)	-0.04	-0.01 (0.08)	-0.01
Lower Education	0.02 (0.02)	0.05	-0.04 (0.11)	-0.02	0.06 (0.11)	0.03
Higher Education	-0.05 (0.02)*	-0.13	0.08 (0.11)	0.04	0.07 (0.10)	0.04

Notes: W1 = Wave 1, W2 = Wave 2; $N_{W1} = 978$, $N_{W2} = 415$; * $p < .05$, ** $p < .01$, *** $p < .001$. Gender coded: 0 = male and non-binary, 1 = female; lower education coded: medium- and high-level = 0, low-level = 1; higher education coded: low- and medium-level = 0 vs. high-level = 1. Ghosting others within romantic relationships was log-transformed.

4.1. Model fit and measurement invariance testing

Since we treated ghosting others within romantic relationships and within friendships as distinct phenomena, we ran two separate models. According to Hu and Bentler (1999), global fit of both models can be considered acceptable to good (romantic relationships: $\chi^2(283) = 569.50$, $p < .001$, RMSEA = 0.033 (90%-CI[0.029; 0.037]), CFI = 0.952, SRMR = 0.051; friendships: $\chi^2(283) = 582.98$, $p < .001$, RMSEA = 0.034 (90%-CI[0.030; 0.038]), CFI = 0.947, SRMR = 0.050). Constraining factor loadings at W1 and W2 did not yield any significant declines in global fit (romantic relationships: $\Delta\chi^2(7) = 13.77$, $p = .055$; friendships: $\Delta\chi^2(7) = 6.24$, $p = .512$), leading us to assume metric measurement invariance.

4.2. Hypotheses and research question tests

We found that communication overload is a significant predictor for ghosting others within romantic relationships ($b = 0.03$, $SE = 0.02$, $\beta = 0.15$, $p = .030$), but not within friendships ($b = 0.03$, $SE = 0.02$, $\beta = 0.10$, $p = .172$). Thus, H1a is supported, H1b is not. These results indicate that experiencing communication overload may motivate ghosting one's romantic partners, but not one's friends.

Conversely, there was no longitudinal effect of self-esteem on ghosting one's romantic partners ($b = 0.02$, $SE = 0.01$, $\beta = 0.08$, $p = .172$), but on ghosting friends ($b = 0.03$, $SE = 0.02$, $\beta = 0.13$, $p = .048$). Answering RQ1a and RQ1b, these findings suggest that self-esteem plays no clear role in predicting whether or not someone engages in ghosting within romantic relationships, while people with greater self-esteem are more likely to ghost their friends. Furthermore, in contrast to our hypotheses, depressive tendencies did not emerge as a significant predictor of either form of ghosting (romantic relationships: $b = 0.01$, $SE = 0.02$, $\beta = 0.04$, $p = .592$; friendships: $b = 0.03$, $SE = 0.02$, $\beta = 0.13$, $p = .088$). Both H2a and H2b are rejected as depressive tendencies had no predictive influence.

Ghosting others did not affect self-esteem in either romantic relationships ($b = -0.13$, $SE = 0.23$, $\beta = -0.03$, $p = .552$) or friendships ($b = -0.21$, $SE = 0.25$, $\beta = -0.05$, $p = .394$) over time. Since this suggests that ghosting others has no clear impact on ghosters' self-esteem, H3a and H3b are rejected. Ghosting others within romantic relationships also did not predict depressive tendencies ($b = 0.45$, $SE = 0.24$, $\beta = 0.11$, $p = .060$). Hence, H4a needs to be rejected. However, ghosting one's friends did predict depressive tendencies over time ($b = 0.78$, $SE = 0.26$, $\beta = 0.18$, $p = .003$). Accordingly, we found support for H4b. Participants who reported that they ghosted their friends at W1 had greater depressive tendencies at W2.

4.3. Covariate testing

We found that older respondents were more likely ($b = 0.02$, $SE = 0.01$, $\beta = 0.20$, $p < .001$), while highly educated respondents were less likely to ghost others within romantic relationships ($b = -0.05$, $SE = 0.02$, $\beta = -0.13$, $p = .034$). Self-esteem and depression as well as ghosting within friendships did not differ based on sociodemographics.

5. Discussion

Smartphones and their potential for near-constant connectedness on social media (Vorderer et al., 2017) have impacted both friendships and romantic relationships. Ghosting is a notable example: Although similar relationship dissolution strategies were enacted long before mobile devices got smart, let alone existed (Baxter, 1982), smartphone affordances play a facilitating role in why people ghost (Campaioli et al., 2022; Timmermans et al., 2021). Notwithstanding how common ghosting is (LeFebvre et al., 2019) and that harmful correlates have been documented (e.g., Astleitner et al., 2023; Freedman et al., 2022b; Konings et al., 2023; Pancani et al., 2021; Thomas and Dubar, 2021), it is still under-researched. Thus, this project contributes to an emerging field: It provides (a) first longitudinal insights on antecedents and consequences regarding (b) ghosters' well-being—a previously disregarded perspective—and (c) distinguishes ghosting within romantic relationships from friendships.

Conducting autoregressive structural equation modeling using data from a two-wave panel survey among emerging adults, we

Table 2
Results of the structural equation model for ghosting others within friendships.

Predictors	Ghosting Others Within Friendships (W2)		Self-Esteem (W2)		Depressive Tendencies (W2)	
	b (SE)	β	*b (SE)*	β	*b (SE)*	β
Ghosting Others Within Friendships (W1)	0.48 (0.08)***	0.48	-0.21 (0.25)	-0.05	0.78 (0.26)**	0.18
Communication Overload (W1)	0.03 (0.02)	0.10				
Self-Esteem (W1)	0.03 (0.02)*	0.13	0.57 (0.06)***	0.60		
Depressive Tendencies (W1)	0.03 (0.02)	0.13			0.50 (0.07)***	0.48
Age	0.01 (0.01)	0.11	0.02 (0.03)	0.03	0.01 (0.03)	0.02
Gender	-0.01 (0.02)	-0.03	-0.07 (0.09)	-0.04	-0.01 (0.08)	-0.01
Lower Education	-0.01 (0.03)	-0.02	-0.03 (0.11)	-0.01	0.03 (0.11)	0.02
Higher Education	-0.02 (0.03)	-0.06	0.08 (0.11)	0.05	0.06 (0.10)	0.03

Notes: W1 = Wave 1, W2 = Wave 2; $N_{W1} = 978$, $N_{W2} = 415$; * $p < .05$, ** $p < .01$, *** $p < .001$. Gender coded: 0 = male and non-binary, 1 = female; lower education coded: medium- and high-level = 0, low-level = 1; higher education coded: low- and medium-level = 0 vs. high-level = 1. Ghosting others within friendships was log-transformed.

Table 3a
Correlations between Wave 1 latent constructs in the structural equation model for ghosting within romantic relationships.

Variables	1	2	3
1. Communication Overload (W1)			
2. Ghosting Others Romantic (W1)	0.46***		
3. Self-Esteem (W1)	-0.07	-0.10**	
4. Depressive Tendencies (W1)	0.24***	0.18***	-0.46***

Notes: W1 = Wave 1; $N_{W1} = 978$; * $p < .05$, ** $p < .01$, *** $p < .001$.

Table 3b
Correlations between Wave 2 latent constructs in the structural equation model for ghosting within romantic relationships.

Variables	1	2
1. Ghosting Others Romantic (W2)		
2. Self-Esteem (W2)	-0.08	
3. Depressive Tendencies (W2)	0.08	-0.29***

Notes: W2 = Wave 2; $N_{W2} = 415$; * $p < .05$, ** $p < .01$, *** $p < .001$.

Table 4a
Correlations between Wave 1 latent constructs in the structural equation model for ghosting others within friendships.

Variables	1	2	3
1. Communication Overload (W1)			
2. Ghosting Others Within Friendships (W1)	0.41***		
3. Self-Esteem (W1)	-0.07	-0.12**	
4. Depressive Tendencies (W1)	0.24***	0.24***	-0.47***

Notes: W1 = Wave 1; $N_{W1} = 978$; *$p < .05$, ** $p < .01$, *** $p < .001$.

Table 4b
Correlations between wave 2 latent constructs in the structural equation model for ghosting others within friendships.

Variables	1	2
1. Ghosting Others Within Friendships (W2)		
2. Self-Esteem (W2)	-0.06	
3. Depressive Tendencies (W2)	0.09	-0.29***

Notes: W2 = Wave 2; $N_{W2} = 415$; * $p < .05$, ** $p < .01$, *** $p < .001$.

found that psychological correlates may differ between ghosting romantic partners and friends: Communication overload positively predicted ghosting romantic partners, but not friends, while self-esteem was a significant predictor of ghosting friends, but not romantic partners. Unexpectedly, depressive tendencies were unrelated to ghosting over time. While neither form of ghosting yielded a longitudinal effect on self-esteem, ghosting friends subsequently came with higher depressive tendencies. Moving forward, we will discuss these findings and elaborate on theoretical and practical implications.

5.1. Antecedents of ghosting others in romantic relationships and friendships

We considered cognitive (i.e., communication overload) and self-conceptual reasons (i.e., self-esteem and depressive tendencies) for ghosting. Partly supporting our hypotheses, communication overload significantly predicted ghosting romantic partners, but not friends, where previous research also highlighted time and resource conflicts as primary reasons for ghosting (Agarwal and Lu, 2020). While individuals may ghost unintentionally due to unmanageable amounts of messages, said differential results indicate that communication overload likely leads to deliberate engagement in ghosting (Šiša, 2022). This relates to dating app users mentioning application affordances (i.e., access to countless possible romantic partners and features that allow for contact removal without explanation) as a reason for ghosting (Timmermans et al., 2021). The distinctive effects between romantic relationships and friendships could also be explained by how communicatively demanding they typically are for young people. Both romantic relationships and friendships play pivotal roles in this life stage (Connolly et al., 1999). However, romantic relationships often come with immense communication demands that may create resource conflicts (Baker and Carreño, 2016). When these conflicts surmount what individuals are able or willing to handle, ghosting may seem like the easiest way out, particularly since people may still be exploring partnerships at this age (Furman and Rose, 2015). In contrast, interacting with friends is often less demanding (Van Cleemput, 2010).

This reasoning also suggests that communication overload may be less easily manageable with romantic partners (assuming that a temporary slowdown may be more legitimate among friends), so ghosting may occur more frequently as a means of avoiding harms inherent to communication overload.

As for self-conceptual predictors, we put forth multiple possible mechanisms through which self-esteem may affect ghosting others based on its association with approach or avoidance strategies (Heimpel et al., 2006; Roth and Cohen, 1986). Compared to Freedman and Dainer-Best (2022) who reported a negative correlation with perceived difficulty yet no significant correlation with participants' likelihood of ghosting a romantic partner across vignette scenarios, our results demonstrate a positive longitudinal effect of self-esteem on ghosting friends, but no relationship with ghosting within romantic relationships. As one's number of friends typically surpasses the number of current romantic partners, it may be easier for individuals with high self-esteem (who tend to pursue approach strategies) to ghost friends they do not want to stay in contact with and turn to others compared to people with low self-esteem (who are more likely to avoid conflicts via ghosting; for different results, see Navarro et al., 2021 or Thomas and Dubar, 2021). Within romantic relationships, self-esteem may not be a relevant ghosting predictor at all, as may be suggested by similar null findings in Freedman and Dainer-Best's (2022) vignette studies. Alternatively, individuals pursuing approach and avoidance strategies, respectively, may have canceled each other out (Valkenburg et al., 2021).

Concerning depressive tendencies, we argued for an association with avoidance that might yield a longitudinal effect on both types of ghosting; however, we found no significant statistical relationship between the two in our data. These non-significant findings mirror those of Freedman and Dainer-Best (2022) whose participants revealed no meaningful tendency to preference for ghosting when examining varying anhedonic depression levels. We acknowledge that mental health threats are also associated with seeking support via social media (Zhang, 2017), which makes ghosting unlikely. However, opposing mechanisms (i.e., turning to others to receive social support versus withdrawing) may again have counter-balanced each other. Further research is needed to look deeper into this non-relationship.

5.2. Consequences of ghosting others in romantic relationships and friendships

Concerning ghosting effects, we presumed negative over-time consequences on self-esteem and depressive tendencies. Unexpectedly, self-esteem was not affected longitudinally by either form of ghosting. While this result stands in contrast to findings concerning ghostees in Timmermans and colleagues (2021) or Thomas and Dubar (2021), it aligns with the notion that ghosting has become a new normal across different relationship contexts (Šiša, 2022; Yap et al., 2021). Despite these null findings, we propose taking a closer look: Particularly within romantic relationships, being interested in other people than the ghostee can be a reason for ghosting (Timmermans et al., 2021). Any effect of ghosting others on self-esteem may thus be a double-edged sword, depending on how alternatives develop: Successfully pursuing new relational partners after ghosting previous ones may increase self-esteem, while failing could be detrimental; additionally, successes and failures may cancel each other out.

Interestingly, ghosting friends positively predicted depressive tendencies (in line with Flannery and Smith, 2021), yet there was no temporal relationship between ghosting romantic partners and depressive tendencies. Bearing in mind that cross-sectional research established depressive tendencies as potential long-term effects of being ghosted (Timmermans et al., 2021), our findings complement recent findings showing that being a ghoster indeed might be less consequential in this regard (Freedman et al., 2022b).

Concerning the positive path for ghosting friends, we point to the importance of social connections for well-being (Sandstrom and Dunn, 2014)—by ceasing communication with others, ghosters rob themselves of (to some extent unforeseen) benefits of these interactions. In other words, ghosting friends might predict depressive tendencies by self-induced unfulfilled relational needs. What may be even worse, even only slightly vulnerable ghosters may select ghostees based on a presumed absence of depressive tendencies, losing beneficial influences and being left with friends whose mental issues reinforce theirs (Van Zalk et al., 2010). Since they typically constitute a smaller part of one's social environment, a similar self-selection dynamic may be less likely for romantic partners, explaining the differential effects. Said divergent effects could also be explained by social sanctions related to ghosting: Although being ghosted by romantic partners often causes intense psychological harms (Pancani et al., 2021), sanctions for ghosting romantic partners and thus being "a bad partner" may only be enacted by ghostees and their closest confidants. While being ghosted by one's friends may provoke less harm for ghostees (Flannery and Smith, 2021), being considered "a bad friend" due to ghosting friends could raise concerns against being treated similarly among other friends and acquaintances, leading to a poor reputation among peers, and, ultimately, loss of trust and relational victimization. Future research will have to clarify which of these (or whether other) explanations are behind the distinctive consequences documented by this study.

5.3. Limitations

The study comes with several limitations. For one, we used a heterogeneous, yet not fully representative German sample of 16-to-21-year-olds, so our findings are likely somewhat biased and not generalizable to young people beyond that age range around the world. Our measures consisted of short scales to avoid response fatigue, and we had to rely on self-reports, which—importantly for sensitive topics like ghosting—are subject to social desirability. Also, despite using only high-loading items from established scales where possible, they may not depict multi-faceted concepts in their full dimensionality. The results are based on two-wave panel data, and although these initial longitudinal insights contribute to our understanding of ghosting, we could not test for possible mediators. Surveys with more measurement points will be necessary to investigate more complex mechanisms, for instance, concerning potential links between antecedents of ghosting friends (e.g., self-esteem) and its consequences (e.g., depressive tendencies). Our findings might hint toward such coupled mechanisms; however, two-wave panel data are not suited for testing such assumptions. Relatedly, although

a four-month interval between waves has been shown to be suitable for investigating relationships between well-being and social media use (Schmuck et al., 2019), in being the first to study psychological antecedents and consequences of ghosting over time, we cannot determine whether some of the relationships we tested might exist within a shorter time frame or, conversely, may take longer to unfold. On a similar note, our measurement of ghosting frequency cannot specifically address antecedents and consequences of a single or series of ghosting instances because it is uncertain when they happened. Instead, the measure more generally accounts for people's proclivity toward ghosting others, so that its additive character makes it less dependent on idiosyncrasies inherent to distinct ghosting events while highlighting how frequently they occur. Finally, we deliberately opted to cover the often-neglected ghosters' perspective. We acknowledge that this exclusive focus on ghosting others may conceal that many ghosters have also been ghostees (see, e.g., LeFebvre et al., 2019) and that our findings may thus not fully reflect the complex and dynamic interplay of both experiences (see Freedman et al., 2022b; Manning et al., 2019). Investigating this interplay properly would likely require more advanced statistical techniques (e.g., latent transition analysis) as well as longer intervals between waves that allow for meaningful variance in latent class membership. Despite these methodological challenges, such an inquiry could be fruitful avenue for future research.

6. Conclusion

Public and scientific discourse about ghosting predominantly cover negative consequences for ghostees and focus on romantic relationships; however, why ghosting occurs, possible detrimental implications for ghosters, and ghosting among friends are overlooked. Our longitudinal findings indicate that the latter may be a different phenomenon that should be treated accordingly: Depending on the relationship ghosting occurs in, it is rooted in different antecedents and can have distinct detrimental effects for ghosters' well-being. These insights are suited to inform both future studies on ghosting and theory-building concerning, for example, digital stress (see Steele et al., 2020) or relational decision-making (see Liu et al., 2023), which may offer productive theoretical backgrounds. Lastly, our findings may also have practical implications as they may prompt individuals to reflect on their own ghosting behavior as well as app designers to minimize unforeseen harms that may come not only with being ghosted but also with ghosting others (see Powell et al., 2022), particularly friends.

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Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

The data and code are available under the OSF link shared in the manuscript.

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