



Emotional experiences of ghosting

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ABSTRACT

Although ghosting (i.e., unilaterally ending a relationship by ceasing communication) has only recently entered the lexicon, it is a regularly used form of relationship dissolution. However, little research has examined the emotional experiences of ghosting, particularly the experiences of those on both sides of the ghosting process. In a multi-method study, participants who had both ghosted *and* been ghosted in previous romantic relationships ($N = 80$) provided narratives of their experiences and completed questionnaires. The narrative responses were analyzed by coders and by using LIWC. Ghosters and ghostees used similar overall levels of positively and negatively valenced words to describe their experiences, but ghosters were more likely to express guilt and relief, whereas ghostees were more likely to express sadness and hurt feelings. Ghostees also experienced more of a threat to their fundamental needs – control, self-esteem, belongingness, meaningful existence – than ghosters.

ARTICLE HISTORY

Received 6 February 2021
Accepted 17 May 2022

KEYWORDS

Ghosting; ostracism; emotions; hurt feelings; LIWC

I feel sad and helpless. I wasn't able to talk to her and tell her how I felt. I was also devastated.

—Participant describing being ghosted

It was a combination of relief and guilt. I was happy to not have to interact anymore, but I feel bad about how I went about it.

—Participant describing engaging in ghosting

Nearly everyone experiences relationship dissolution (Eastwick et al., 2008), often causing distress for both recipients and initiators (Eastwick et al., 2008; Sprecher, 1994; Sprecher et al., 1998). Although there are multiple methods for dissolving relationships (Baxter, 1982; Collins & Gillath, 2012), one relatively prominent method of relationship termination is “ghosting,” or ending a romantic relationship by unilaterally severing all contact (Freedman et al., 2019; Koessler et al., 2019b; LeFebvre, 2017; LeFebvre et al., 2019). Past research has focused mostly on characteristics of ghosters (Freedman et al., 2019; Powell et al., 2021), motivations behind ghosting (Koessler et al., 2019b; LeFebvre et al., 2019, 2020; Manning et al., 2019), and consequences of being ghosted (Koessler et al., 2019a; LeFebvre & Fan, 2020; Navarro et al., 2020). However, beyond documenting the uncertainty and distress experienced by those who have been ghosted (Koessler et al., 2019a; LeFebvre & Fan, 2020), less attention has been paid to the specific emotional experiences resulting from ghosting. Therefore, in the present research we examined individuals who have been both a ghoster (i.e., the individual engaging in ghosting) and a ghostee (i.e., the individual being ghosted) and how they described the emotional outcomes of ghosting.

Romantic dissolution strategies

There are many approaches initiators can take to dissolve a relationship and these strategies vary in their directness (Baxter, 1982; Collins & Gillath, 2012; Wilmot et al., 1985). One indirect strategy is avoidance/withdrawal (i.e., avoiding contact with the partner; Baxter, 1982). Compared to open confrontation strategies (e.g., verbal confrontation), avoidance/withdrawal tends to be perceived negatively by recipients and is associated with recipients experiencing more distress, such as anger and sadness, following the relationship dissolution (Collins & Gillath, 2012). An extreme version of avoidance/withdrawal is ghosting.

Ghosting has been the topic of an abundance of media attention (Borgueta, 2016; Roth, 2018; Safronova, 2015; Steinmetz, 2016; Tannen, 2017) and the focus of a growing number of studies (e.g., Freedman et al., 2019; Koessler et al., 2019b, 2019a; LeFebvre, 2017; LeFebvre et al., 2019; Manning et al., 2019; Navarro et al., 2020; Pancani et al., 2021; Powell et al., 2021; Timmermans et al., 2020). Previous research indicates that 20–25% of adults surveyed have engaged in ghosting or were themselves ghosted (Freedman et al., 2019) and is the method of rejection more than one-third of the time on dating apps (Halversen et al., 2021; De Wiele & Campbell, 2019). Both of these statistics may be an underestimation of actual rates, as ghosting is viewed negatively (Freedman et al., 2019; LeFebvre, 2017).

Emotional experiences of relationship dissolution

Emotions play a functional role in relationships (English et al., 2013) and change over time following ongoing interactions and fluctuations in interdependence. As relationships progress and become more interdependent, partners' reliance on one another for fulfillment of relational needs and goals increases (Drigotas & Rusbult, 1992), and as described by the Emotions-in-Relationships Model (Berscheid, 1983), emotions are experienced when action sequences related to relational goals are facilitated or disrupted (Le & Agnew, 2001). Thus, the emotions partners experience over time change as a function of the quality of the interactions within their relationships as well as their shifting appraisals, goals, needs, and expectations. These emotions experienced and expressed by partners, in turn, impact subsequent relationship dynamics. For example, expressing emotions in relationships is beneficial (Cameron & Overall, 2018) and suppression can undermine relationship quality (Girme et al., 2021). In addition, experiencing hurt can facilitate relationship repair, whereas anger can cause further relational damage (Lemay et al., 2012). Similarly, emotions signal a downturn in relationship quality that may occur prior to a breakup and are experienced in the aftermath of relationship dissolution as relational need fulfillment is disrupted.

Most prior research on the emotional experiences of relationship dissolution has not differentially examined emotional reactions based on the dissolution strategy. However, the research does indicate that the emotions experienced following a breakup tend to change across time: distress is highest when the breakup occurs and lessens over time (Eastwick et al., 2008; Field et al., 2009; Sprecher et al., 1998). Prior research on specific emotional reactions to relationship dissolution, though, has been mixed. On the one hand, some studies have found that initiator status was not associated with sadness or anger (Sbarra, 2006), distress (Eastwick et al., 2008; Tashiro & Frazier, 2003), emotional recovery (Sbarra & Emery, 2005), or growth (Tashiro & Frazier, 2003). However, other studies have demonstrated differences with recipients experiencing more distress than initiators (Boelen & Reijntjes, 2009; Davis et al., 2003; Field et al., 2009; Koessler et al., 2019a; Perilloux & Buss, 2008), especially when the breakup was unexpected (Boelen & Reijntjes, 2009; Field et al., 2009). Beyond distress, recipients experience more anger, confusion, and jealousy than initiators, who feel more happiness and guilt (Davis et al., 2003; Perilloux & Buss, 2008). Yet, Kansky and Allen (2018) found that initiators' peers reported that the initiators experienced more internalizing symptoms (e.g., anxiety and depression) than recipients. Finally, individuals whose relationships ended mutually experienced fewer negative and more positive emotions (Sprecher, 1994).

Thus, it is unclear whether initiators experience different emotions than recipients following a breakup. It is evident, though, that experiencing a breakup (i.e., being socially rejected) can impact the recipient's mental health (Kendler et al., 2003; Mirsu-Paun & Oliver, 2017; Slavich et al., 2010). Preliminary research suggests that the type of breakup may matter (Collins & Gillath, 2012): people on the receiving end of ghosting experience more distress than people who are rejected more directly (Koessler et al., 2019a).

Emotional experiences of ghosting and ostracism

Related to the current project's aims, a recent study found that young adults who had initiated a nonmarital relationship dissolution reported less distress and negative affect than recipients, and that initiators who dissolved the relationship directly (e.g., communicated their intentions) experienced more distress than those who dissolved the relationship by ghosting (Koessler et al., 2019a). Similar to the present study's methodology, Manning et al. (2019) sampled a subset of individuals who had both ghosted and been ghosted. They found that individuals viewed their experience differently based on the role they were describing. That is, when interviewed about being ghosted, participants described ghosting in a negative light and as something that was not justified, whereas when the same participants described engaging in ghosting, they spoke about the practicality of using ghosting and how it was an easier method of ending a relationship (Manning et al., 2019). Thus, the present research extends prior work on emotions in ghosting (Koessler et al., 2019a; Timmermans et al., 2020) and perceptions of both roles (Manning et al., 2019) to better understand the overall emotional picture of ghosting.

A well-researched, related experience to ghosting is ostracism – being ignored and excluded. The recipients of ostracism experience emotions including hurt feelings (Feeney, 2004; Leary et al., 1998; Smart Richman & Leary, 2009), anger (Buckley et al., 2004; Chow et al., 2008; Tang & Richardson, 2013), and sadness (Buckley et al., 2004; Hawkey et al., 2011). Additionally, when individuals are ostracized, four fundamental needs are threatened: belongingness, self-esteem, meaningful existence, and control (Hartgerink et al., 2015; Williams, 2009). Furthermore, ostracism causes distress not only for those who are on the receiving end, but also for those who initiate (Sommer et al., 2001; Zadro et al., 2016). For example, initiators of ostracism are more likely than recipients to experience guilt and remorse (Ciarocco et al., 2001; Zadro & Gonsalkorale, 2014). As ghosting and ostracism both involve ignoring another person's request for inclusion, it is likely that they may lead to similar downstream consequences. Therefore, it is possible that ghostees experience negative emotions and a threat to their sense of belongingness, self-esteem, meaningful existence, and control, and that ghosters may experience similar emotional distress, such as hurt feelings, anger, sadness, and guilt and less of a threat to their fundamental needs.

The present research

The present research builds on prior work on avoidance/withdrawal (Collins & Gillath, 2012) by considering a wider range of emotional consequences beyond distress, anger, and sadness. Furthermore, this research broadens the literature on ghosting and the emotional ramifications of using ghosting to terminate romantic relationships by examining the emotions experienced by individuals who have *both* ghosted and been ghosted. Prior research on ostracism has examined the experiences of targets and sources of ostracism (Gooley et al., 2015; Nezlek et al., 2012, 2015; Williams et al., 2000), but less research has examined the experiences of individuals who have been on both sides of the rejection (however, see, Sommer et al., 2001). By directly comparing the experiences of individuals who have been on both sides of the ghosting experience, we are able to control for individual differences between ghosters and ghostees and gain a more nuanced understanding of the full process of ghosting.

Participants reflected on the most recent time they engaged in ghosting and the most recent time they were ghosted in the context of romantic relationships. Recall paradigms are frequently used in social rejection research to induce feelings of rejection (e.g., Bernstein et al., 2008; Godwin et al., 2014;

Riva et al., 2011; Yang et al., 2021) and are a useful method for understanding the emotional effects of social rejection. The emotions experienced as a ghoster and ghostee were examined using three methods: quantitative self-reports of emotional experiences, a quantitative analysis of word count, and coding of responses for emotional content. The preregistered hypotheses that were tested and reported here are a subset of research questions from a larger preregistered study. Specifically, the present study tested two sets of preregistered hypotheses along with exploratory research questions. The first set of preregistered hypotheses was based on quantitative self-reports of emotion about the experiences of ghosting:

H1: After reflecting on being ghosted, compared to engaging in ghosting, participants will report being more frustrated, less proud, lonelier, sadder, and less happy.

H2: After reflecting on being ghosted, compared to engaging in ghosting, participants will report lower belongingness, lower self-esteem, less control, and reduced meaningful existence.

The second set of preregistered hypotheses were based on a quantitative analysis of word count in the narratives using the Linguistic Inquiry Word Count (LIWC; (Pennebaker et al., 2015):

H3: When reflecting on being ghosted, participants will use more negative emotion words than when reflecting on being a ghoster.

H4: When reflecting on emotions during ghosting and emotions now, ghostees will report more positive emotions now than when they were ghosted.¹

The main exploratory questions were based on the coding of responses for emotional content by two trained coders:

Exploratory Question 1: Are there differences in participants' usage of the coded emotions (i.e., happiness, relief, apathy, guilt, and hurt) between their reflections as a ghoster and a ghostee?

Exploratory Question 2: Are there changes in participants' usage of the coded emotions (i.e., happiness, relief, apathy, guilt, and hurt) between how they felt during the ghosting experience and how they feel now within their reflections as a ghoster and a ghostee?

Method

Participants

Participants were recruited from a sample of 863 individuals who had completed a previous survey on Prolific about ghosting in October of 2018. The second author's Institutional Review Board approved the research protocol and provided a waiver of consent for this study. In this prior study, 738 participants had heard of ghosting (85.5%); 74 were ghosters (8.6%), 171 were ghostees (19.8%), 151 were both ghosters and ghostees (17.5%), and 466 had neither ghosted nor been ghosted (54.0%), with one participant not responding to the question. Only those who indicated in the first survey that they had *both* ghosted and been ghosted by a romantic partner (i.e., a ghoster and a ghostee) and provided an ID number that allowed them to be contacted again ($n = 143$) were eligible to participate. The sample size for this follow-up study was also based on the number of participants who responded to the survey within seven days of it being posted on Prolific. The goal was to have approximately 100 participants in this study. Data were collected from November 30, 2018 to December 6, 2018. The

desired sample size and the stopping rule were preregistered on OSF, and all data and materials are available on OSF. Of the 143 participants who were invited to participate this study, 102 began it, and 92 participants completed it.

Of the 92 who completed it, one participant was excluded for writing about friendship experiences, two participants were excluded for responding to the questions in a way that did not make sense (e.g., “nice deal” or “yes, very romantic” in response to “how did you feel”), and nine were excluded for not writing about both ghosting and being ghosted, leaving a final sample of 80 participants (38.8% men, 60% women, one did not indicate gender; $M_{age} = 33.73$ years, $SD = 11.44$; 10.0% African American, 8.8% Asian or Asian American, 5.0% Hispanic/Latinx, 1.3% Native American, 62.5% White, 8.8% Multiracial, 1.3% responded with another category, two did not provide race/ethnicity). Most of the sample (68.8%) indicated romantic interest in individuals of a different gender, 11.3% indicated romantic interest in same-gender individuals, and 18.8% of the sample indicated romantic interest in multiple genders. In terms of current relationship status, 31.3% of the participants were single, 10.0% were casually dating, 16.3% were seriously dating, 2.5% were engaged, and 38.8% were married or in a long-term committed relationship (one person did not respond).

Two coders coded responses for how long the participants had known the target of their ghosting ($\kappa = .71$): 2.5% just met, 11.3% had known each other for a week or less, 30.0% had known each other for a few weeks, 22.5% had known each other for a few months, 6.3% had known each other for less than a year but more than a few months, 27.5% had known each other for a year or more. For ghostee narratives, the same process was used to code for length of time ($\kappa = .61$): 5.2% had just met, 9.1% had known each other for a week or less, 24.7% had known each other for a few weeks, 24.7% had known each other for a few months, 11.7% had known each other for less than a year but more than a few months, 24.7% had known each other for a year or more (3 participants did not provide information that could be coded for type of relationship). A paired samples t-test on relationship length revealed no significant difference between ghosters ($M = 2.97$, $SD = 1.46$) and ghostees ($M = 3.03$, $SD = 1.49$; $t(76) = .29$, $p = .775$, $d = .04$). However, the longer the participants' relationship length prior to ghosting, the more both ghosters and ghostees endorsed feeling sad, frustrated, and angry, as well as reported a reduced sense of belongingness and meaningful existence (see, [Table 1](#) for associations between relationship length and the main study variables).

Table 1. Correlations between the questionnaire variables and relationship length and time since ghosting occurred.

Emotion/Need	Ghoster Relationship Length	Ghostee Relationships Length	Ghoster Time Since Ghosting	Ghostee Time Since Ghosting
Overall positive (felt then)	.039	-.261*	-.015	-.106
Overall negative (felt then)	-.020	.080	.112	-.076
Overall positive (feel now)	-.042	.014	-.105	.051
Overall negative (feel now)	.243*	.036	.078	.051
Proud	.082	.042	-.096	-.152
Lonely	.365***	.195	.077	.141
Happy	.062	-.142	-.084	-.072
Sad	.359**	.291*	.251*	.176
Frustrated	.277*	.280*	.125	.159
Guilty	.008	.216	.036	-.059
Uncomfortable	.052	.238*	.181	.243*
Angry	.411***	.367**	.004	.193
Belongingness	-.285*	-.341**	-.036	-.148
Self-esteem	-.119	-.129	-.094	-.160
Meaningful existence	-.276*	-.347**	-.053	-.132
Control	-.023	-.289*	-.091	-.190

* $p < .05$, ** $p < .005$, *** $p < .001$

Although there was a wide range of time since the ghosting experiences had occurred (0 years to 56 years), a paired samples *t*-test found no significant difference in length of time since ghosting between when participants were ghosters ($M = 6.33$ years, $SD = 9.42$) and when participants were ghostees ($M = 7.54$ years, $SD = 10.01$; $t(74) = 1.83$, $d = .12$, $p = .072$). Additionally, the length of time since the ghosting experiences had occurred were not significantly associated with the main study variables, with the exception of sadness being positively associated with time since being the ghoster and feeling uncomfortable being positively associated with time since being the ghostee (see, [Table 1](#)).

In addition, the coders coded the ghoster responses for the type of relationship ($\kappa = .56$): 22.1% were just talking online, 9.1% were hooking up or friends with benefits, 39.0% were casually dating, 27.3% were in a committed relationship, 2.6% were married (three participants did not provide information that could be coded for type of relationship). The coders also coded the ghostee responses for type of relationship ($\kappa = .55$): 10.4% were just talking online, 15.6% were hooking up or friends with benefits, 39.0% were casually dating, 32.5% were in a committed relationship, 2.6% were married (three participants did not provide information that could be coded for type of relationship). A paired samples *t*-test on relationship type revealed no significant differences between ghosters ($M = 1.80$, $SD = 1.16$) and ghostees ($M = 2.03$, $SD = 1.01$; $t(75) = 1.55$, $d = .21$, $p = .126$).

To examine potential differences for relationship type among the main study variables, relationship type was collapsed into two categories: short-term (talking online, hooking up or friends with benefits, casually dating; Ghoster $n = 54$, Ghostee $n = 50$) and long-term (committed relationship, married; Ghoster $n = 23$, Ghostee $n = 27$). Independent samples *t*-tests were conducted to compare the short-term to long-term relationships on emotions and needs. For ghosters, participants who were in short-term relationships felt less lonely, sad, frustrated, and angry than those in long-term relationships in response to the ghosting episode. No other differences were significant (see, [Table 2](#)). For ghostees, participants who were in short-term relationships used more positive words to describe how they felt. They also felt happier and less sad, and they felt more belonging, self-esteem, meaningful existence, and control than those in long-term relationships in response to the ghosting episode. No other differences were significant (see, [Table 2](#)).

Procedure

In the survey, participants were asked to think about the first time they had an experience with ghosting and to indicate whether they: ghosted someone before they were ghosted ($n = 25$), were ghosted before they ghosted someone ($n = 32$), could not remember which one happened first ($n = 17$), or whether they were ghosted and did the ghosting at the same time ($n = 6$). Participants also had the option of selecting “other” and providing information about that response, but no participant chose that option.

For the narrative descriptions of ghosting, participants were randomly assigned to first write about their experience as a ghoster ($n = 44$) or as a ghostee ($n = 36$; analyses indicated no order effects, all $p > .07$). For both sets of questions, ghosting was defined for participants using a definition adapted from the popular press: “ending the relationship by cutting off all forms of communication” (Safronova, 2015). Participants were instructed to write about their most recent experience as a ghoster and as a ghostee, as it pertained to a romantic partner. To encourage participants to write in more detail about their experiences, we posed a set of questions rather than instructing them to write one long narrative (see, [Table 3](#) for the list of questions). After responding to the ghoster and ghostee questions, participants completed a series of questionnaires about their experiences with ghosting. The study was estimated to take participants 15 minutes to complete ($M_{\text{duration}} = 18.18$ minutes, $SD = 8.35$ minutes), and participants were paid \$1.63 for their participation.

Coding

Analysis of the narratives was conducted using two complementary methods. First, the narratives were analyzed via LIWC. LIWC is a text analysis program that counts words included within dictionary categories (Pennebaker et al., 2015). For example, within the LIWC2015 dictionary there are five

Table 2. Means and standard deviations in responses to the emotion and need threat questionnaires based on relationship type.

Emotion/Need	Ghoster Perspective			Ghostee Perspective		
	Short-term	Long-term	Difference	Short-term	Long-term	Difference
Overall positive (felt then)	4.91 (5.66)	4.90 (4.18)	$t(75) = 0.01, p = .996, d < .001$	4.27 (7.30)	1.82 (2.63)	$t(67.93) = 2.13, p = .037, d = 0.19$
Overall negative (felt then)	11.54 (16.16)	10.42 (15.17)	$t(75) = 0.28, p = .777, d = 0.07$	14.20 (21.30)	13.60 (20.13)	$t(75) = 0.12, p = .903, d = 0.03$
Overall positive (feel now)	6.53 (15.09)	8.06 (9.50)	$t(75) = -0.45, p = .654, d = 0.11$	4.13 (4.59)	4.49 (4.73)	$t(75) = -0.32, p = .747, d = 0.08$
Overall negative (feel now)	5.88 (15.67)	5.28 (8.51)	$t(75) = 0.17, p = .863, d = 0.04$	5.83 (15.71)	4.69 (5.68)	$t(75) = 0.36, p = .719, d = 0.09$
Proud	1.74 (1.13)	2.35 (1.72)	$t(30.53) = -1.57, p = .128, d = 0.51$	1.37 (0.73)	1.15 (0.36)	$t(73.45) = 1.75, p = .084, d = 0.35$
Lonely	2.21 (1.26)	3.48 (1.34)	$t(74) = -3.96, p < .001, d = 0.99$	3.53 (1.50)	3.78 (1.25)	$t(74) = -0.73, p = .469, d = 0.18$
Happy	1.87 (1.16)	2.26 (1.39)	$t(74) = -1.28, p = .206, d = 0.32$	1.59 (0.96)	1.11 (0.32)	$t(64.61) = 3.21, p = .002, d = 0.60$
Sad	2.48 (1.45)	3.57 (1.47)	$t(73) = -2.98, p = .004, d = 0.75$	3.55 (1.50)	4.37 (1.01)	$t(71.03) = -2.84, p = .006, d = 0.61$
Frustrated	2.91 (1.45)	4.23 (1.15)	$t(48.95) = -4.19, p < .001, d = 0.95$	3.47 (1.47)	4.11 (1.31)	$t(74) = -1.89, p = .063, d = 0.45$
Guilty	3.43 (1.50)	3.04 (1.52)	$t(74) = 1.04, p = .303, d = 0.26$	2.24 (1.45)	2.70 (1.46)	$t(74) = -1.32, p = .192, d = 0.32$
Uncomfortable	3.36 (1.42)	3.48 (1.28)	$t(74) = -0.35, p = .728, d = 0.09$	3.37 (1.40)	3.81 (1.36)	$t(74) = -1.35, p = .181, d = 0.32$
Angry	1.92 (1.22)	3.78 (1.31)	$t(74) = -5.95, p < .001, d = 1.49$	2.86 (1.54)	3.52 (1.40)	$t(74) = -1.85, p = .068, d = 0.44$
Belongingness	3.28 (0.69)	2.87 (1.04)	$t(30.81) = 1.75, p = .090, d = 0.51$	2.31 (0.86)	1.81 (0.72)	$t(74) = 2.58, p = .012, d = 0.62$
Self-esteem	2.55 (0.95)	2.62 (1.20)	$t(74) = -0.29, p = .771, d = 0.07$	1.80 (0.81)	1.47 (0.49)	$t(73.29) = 2.22, p = .029, d = 0.46$
Meaningful existence	3.27 (0.80)	3.15 (1.09)	$t(32.76) = 0.49, p = .628, d = 0.13$	2.45 (0.93)	1.92 (0.82)	$t(74) = 2.47, p = .016, d = 0.59$
Control	3.39 (0.76)	3.36 (1.24)	$t(29.57) = 0.13, p = .898, d = 0.03$	2.02 (0.73)	1.55 (0.75)	$t(74) = 2.71, p = .008, d = 0.64$

Note. For analyses that failed Levene's test for equality of variances, tests not assuming homogeneity of variance were conducted.

Table 3. Questions for the ghoster and ghostee narratives.

Ghoster	Ghostee
First, when did this ghosting incident occur (e.g., how many hours, days, weeks, months, years ago)?	First, when did this ghosting incident occur (e.g., how many hours, days, weeks, months, years ago)?
Describe how close you were to the person before ghosting them. (For example, – how long you had known them, how regularly did you interact, what types of interactions did you have—chat, phone, face-to-face, when did your romantic relationship begin?)	Describe how close you were to the person before you were ghosted. (For example, – how long you had known them, how regularly did you interact, what types of interactions did you have—chat, phone, face-to-face, when did your romantic relationship begin?)
Do you currently interact with this person? If so, how? (For example, – are you in a romantic relationship with them again, are you friends, do you see each other at social functions or work?)	Do you currently interact with this person? If so, how? (For example, – are you in a romantic relationship with them again, are you friends, do you see each other at social functions or work?)
Explain why you ghosted as opposed to taking a different approach. (How did you arrive at the decision to ghost? What factors led you to that decision? What had the person you ghosted done? What were you doing? Were other people involved? Was it something you thought about for a while, was it more in the moment, or was it inadvertent?)	Describe the situation that you believe led them to ghosting you. (Why do you think the person ghosted you as opposed to taking another approach? What were you doing? What had they done? Were other people involved? Do you think when the person decided to ghost, it was something they had thought about for a while, was more in the moment, or was inadvertent?)
Think back to when you ghosted the person. How did you feel? What emotions did you experience?	Think back to when you were ghosted. How did you feel? What emotions did you experience?
Think about how you feel now. How do you feel about having ghosted the person? What emotions are you experiencing?	Think about how you feel now. How do you feel about having been ghosted? What emotions are you experiencing?
How long do you think it took until the other person realized you had ghosted them (e.g., number of hours, days, weeks, months, or years)?	How long did it take until you realized you had been ghosted (e.g., number of hours, days, weeks, months, or years)?

categories that correspond to emotions: positive affect, negative affect, anxiety, anger, and sadness (Pennebaker et al., 2015). In the present research, we submitted the ghoster and ghostee narratives to LIWC to quantify the frequency of emotion related words in those five categories. However, LIWC does not have categories for the other discrete emotions that are relevant for the present study.

Thus, to supplement the LIWC analyses, we enlisted the assistance of coders. Two independent coders, unaware of hypotheses, coded participants' responses on the dimensions described below. The coders were trained on a randomly chosen subset of four participants' responses. They coded for a variety of dimensions as part of the larger study, but the present analyses focus on the emotional response coding. The coders indicated for each narrative whether the following emotions were present (scored as a "1") or absent (scored as a "0"): happiness (i.e., happiness, satisfaction, joy), relief (i.e., relief, freedom, liberated, calm), apathy (i.e., apathy, indifferent, distant), guilt (i.e., guilt, shame, embarrassed, remorse), and hurt (i.e., hurt, lonely, betrayed). The emotions in the coding scheme represented emotions previously connected to rejection experiences (Baumeister et al., 1993; Buckley et al., 2004; Chow et al., 2008; Vangelisti et al., 2005). The coders demonstrated acceptable inter-rater reliability (average *Cohen's kappa* = .69). Disagreements between coders were resolved via discussion.

Measures

Participants indicated the extent to which they felt a set of emotions (frustrated, proud, guilty, uncomfortable, lonely, happy, sad, angry) when they were ghosters and when they were ghostees on a 1 (*not at all*) to 5 (*extremely*) scale. Participants were randomly assigned to first complete the ghoster items ($n = 39$) or the ghostee items ($n = 41$; analyses indicated no order effects; all $p > .05$). These emotions were selected based on prior research on ostracism and social rejection indicating that they may be the emotions most relevant to the experience of ghosting (Baumeister et al., 1993; Buckley et al., 2004; Ciarocco et al., 2001; Tang & Richardson, 2013; Williams, 2007).

In addition, participants completed a modified version of the Need Threat Scale (Williams, 2009). The scale was completed twice, once in response to the how the participant felt as a ghoster and once in response to how the participant felt as a ghostee. Participants were randomly assigned to first complete the ghoster items ($n = 39$) or the ghostee items ($n = 41$ analyses indicated no order effects; all $p > .25$). Participants indicated their agreement with the following items, presented in a random order, on a 1 (*not at all*) to 5 (*extremely*) scale: I felt “disconnected”; I felt rejected; I felt like an outsider; I felt a sense of belongingness; I felt good about myself; My self-esteem was high; I felt liked; I felt insecure; I felt satisfied; I felt invisible; I felt meaningless; I felt non-existent; I felt important; I felt useful; I felt powerful; I felt I had control over the course of the interaction; I felt I had the ability to significantly alter events; I felt I was unable to influence the action of others; I felt the other person decided everything. Composite scores were created for Belongingness (ghoster $\alpha = .60$; ghostee $\alpha = .72$), Self-Esteem (ghoster $\alpha = .79$; ghostee $\alpha = .79$), Meaningful Existence (ghoster $\alpha = .75$; ghostee $\alpha = .78$), and Control (ghoster $\alpha = .68$; ghostee $\alpha = .69$). As part of the larger study, participants also completed a modified Blame Scale (Poon & Chen, 2015). This scale is not included in analyses.

Data analysis

The emotions experienced as a ghoster and ghostee were examined using three methods: self-reports of emotional experiences, a quantitative analysis of word count in the narratives using LIWC, and coding of responses for emotional content by two trained coders. Preregistered hypotheses are denoted (H1-4) and the other analyses are exploratory. Data analyses consisted of repeated measures ANOVAs, paired samples t -tests, and Cochran’s Q tests with McNemar’s tests.

A series of power analyses were conducted in G*Power using the mean effect size reported in social psychology ($r = .21$, $f = .21$; Richard et al., 2003) at 95% power. For the repeated measures ANOVA in H1, a power analysis with two groups (ghoster, ghostee) and five emotions (frustration, proud, lonely, happy, sad) with an $r = .43$ correlation between measures revealed that 36 participants were needed to find an effect. For the repeated measures ANOVA in H2, a power analysis with two groups (ghoster, ghostee) and four needs (belonging, self-esteem, meaningful existence, control) with an $r = .60$ correlation between measures revealed that 30 participants were needed to find an effect. Finally for the paired samples t -tests in H3 and H4, a power analysis revealed that 76 participants were needed to find an effect.

Results

Questionnaire analyses

Emotion questionnaire

To test H1 (after reflecting on being ghosted, compared to engaging in ghosting, participants will report being more frustrated, less proud, lonelier, sadder, and less happy), a 2 (Role: ghostee, ghoster) x 5 (Emotion: frustration, proud, lonely, happy, sad) repeated measures ANOVA was conducted. The analysis found a main effect of Emotion ($F(4, 304) = 59.11$, $p < .001$, $\eta_p^2 = .44$) and a main effect of Role ($F(41, 76) = 7.17$, $p = .009$, $\eta_p^2 = .09$), which were qualified by an interaction of Role and Emotion ($F(4, 304) = 24.87$, $p < .001$, $\eta_p^2 = .25$). As predicted, when participants reflected on being a ghostee, they reported feeling less proud ($M_{diff} = -0.65$, $SE = 0.16$, $p < .001$, 95% CI $[-0.96, -0.34]$), lonelier ($M_{diff} = 0.99$, $SE = 0.18$, $p < .001$, 95% CI $[0.64, 1.34]$), less happy ($M_{diff} = -0.55$, $SE = 0.14$, $p < .001$, 95% CI $[-0.82, -0.27]$), and sadder ($M_{diff} = 1.07$, $SE = 0.18$, $p < .001$, 95% CI $[0.71, 1.42]$) than when participants reflected on being a ghoster (see, Table 3). Contrary to predictions, there was no significant difference in feelings of frustration when reflecting on being a ghoster and a ghostee ($M_{diff} = 0.35$, $SE = 0.20$, $p = .086$, 95% CI $[-0.05, 0.75]$).

Exploratory analyses. For the three exploratory emotions, a 2 (Role: Ghoster, Ghostee) x 3 (Emotion: guilty, uncomfortable, angry) repeated measures ANOVA found a main effect of emotion ($F(2, 156) = 11.09, p < .001, \eta_p^2 = .12$) such that participants reported feeling more uncomfortable ($M = 3.39, SD = 1.21$) than guilty ($M = 2.82, SD = 1.20, M_{diff} = 0.57, SE = 0.14, p < .001, 95\% CI [0.29, 0.85]$) or angry ($M = 2.75, SD = 1.26; M_{diff} = 0.64, SE = 0.14, p < .001, 95\% CI [0.37, 0.91]$). The main effect of Emotion was qualified by an interaction of Role and Emotion: $F(2, 156) = 16.95, p < .001, \eta_p^2 = .18$. Ghosters felt more guilt ($M = 3.29, SD = 1.49$) than ghostees ($M = 2.35, SD = 1.46; M_{diff} = 0.94, SE = 0.19, p < .001, 95\% CI [0.55, 1.32]$), and ghostees felt more anger ($M = 3.01, SD = 1.54$) than ghosters ($M = 2.49, SD = 1.50; M_{diff} = 0.52, SE = 0.19, p = .008, 95\% CI [0.14, 0.90]$). There were no differences in level of discomfort between ghosters and ghostees ($M_{diff} = -0.15, SE = 0.16, p = .349, 95\% CI [-0.47, 0.17]$). The main effect of Role was not significant: $F(1, 156) = 0.74, p = .392, \eta_p^2 = .01$.

Need-Threat questionnaire

To test H2 (reflecting on being ghosted, compared to engaging in ghosting, participants will report lower belongingness, lower self-esteem, less control, and reduced meaningful existence), a 2 (Role: ghostee, ghoster) x 4 (Fundamental Need: belonging, self-esteem, meaningful existence, control) repeated measures ANOVA was conducted. The analysis found main effects of Role ($F(1, 78) = 111.87, p < .001, \eta_p^2 = .59$) and Fundamental Need ($F(3, 234) = 37.43, p < .001, \eta_p^2 = .32$), which were qualified by an interaction of Role and Fundamental Need ($F(3, 234) = 13.56, p < .001, \eta_p^2 = .15$). As predicted, when reflecting on being ghosted, participants felt less belongingness ($M_{diff} = -0.99, SE = 0.10, p < .001, 95\% CI [-1.20, -0.79]$), lower self-esteem ($M_{diff} = -0.88, SE = 0.12, p < .001, 95\% CI [-1.11, -0.65]$), less meaningful existence ($M_{diff} = -0.96, SE = 0.13, p < .001, 95\% CI [-1.21, -0.71]$), and less control ($M_{diff} = -1.50, SE = .14, p < .001, 95\% CI [-1.78, -1.22]$) than when reflecting on being a ghoster (see, Table 4).

LIWC analyses

To test H3 (when reflecting on being ghosted, participants will use more negative emotions than when reflecting on being a ghoster), a paired samples *t*-test on overall negative emotion in the ghoster and ghostee narratives was conducted. Contrary to predictions, no difference in overall negative emotion using LIWC was found between the ghoster ($M = 3.23, SD = 3.14$) and ghostee ($M = 3.08, SD = 2.46; t(79) = 0.46, p = .644, d = 0.05, 95\% CI [-0.48, 0.77]$) narratives.

To test H4 (when reflecting on emotions during ghosting and emotions now, ghostees will report more positive emotions now than when they were ghosted), a paired samples *t*-test on positive emotions was conducted. Contrary to predictions, when writing about being a ghostee, there was no

Table 4. Differences in responses to the emotion and need threat questionnaires based on reflecting on being the ghoster versus being the ghostee.

Emotion/Need	Ghoster Perspective		Ghostee Perspective	
	<i>M</i> (<i>SD</i>)	Range	<i>M</i> (<i>SD</i>)	Range
Proud*	1.97 (1.38)	1–5	1.30 (0.65)	1–4
Lonely*	2.56 (1.40)	1–5	3.53 (1.46)	1–5
Happy*	2.03 (1.26)	1–5	1.44 (0.83)	1–4
Sad*	2.76 (1.53)	1–5	3.78 (1.46)	1–5
Frustrated	3.23 (1.50)	1–5	3.62 (1.48)	1–5
Guilty*	3.29 (1.50)	1–5	2.35 (1.46)	1–5
Uncomfortable	3.32 (1.40)	1–5	3.47 (1.40)	1–5
Angry*	2.49 (1.50)	1–5	3.01 (1.54)	1–5
Belongingness*	3.17 (0.82)	1.00–4.50	2.18 (0.89)	1.00–4.25
Self-esteem*	2.59 (1.02)	1.00–4.80	1.71 (0.72)	1.00–3.80
Meaningful existence*	3.25 (0.89)	1.00–5.00	2.29 (0.92)	1.00–4.00
Control*	3.40 (0.91)	1.00–5.00	1.89 (0.78)	1.00–3.80

* $p < .005$

significant difference in positive emotion expressed when reflecting on how it felt at the time ($M = 3.70$, $SD = 6.94$) compared to how they feel now ($M = 4.10$, $SD = 4.59$; $t(79) = -0.42$, $p = .677$, $d = 0.07$, 95% $CI [-2.29, 1.49]$).

Exploratory analyses

A follow-up exploratory 2 (Role: Ghoster, Ghostee) x 2 (Time: Felt Then, Feel Now) x 2 (Emotion: Positive Emotion, Negative Emotion) repeated measures ANOVA was conducted to examine the other potential interactions of role, time, and emotion. There was a significant main effect of Time ($F(1, 79) = 9.13$, $p = .003$, $\eta_p^2 = .10$) and a main effect of Emotion ($F(1, 79) = 6.43$, $p = .013$, $\eta_p^2 = .08$), but no main effect of Role ($F(1, 79) = 0.63$, $p = .430$, $\eta_p^2 = .01$). Participants used more emotion words when writing about how they felt at the time ($M = 8.31$, $SD = 7.75$) than when writing about how they feel now ($M = 5.56$, $SD = 6.72$). They also recounted more negative emotions ($M = 8.94$, $SD = 12.41$) than positive emotions ($M = 4.93$, $SD = 4.14$). These main effects were qualified by an interaction of Time and Emotion ($F(1, 79) = 17.10$, $p < .001$, $\eta_p^2 = .18$) such that participants used more negative emotion words when writing about how they felt ($M = 12.24$, $SD = 16.04$) than when writing about how they feel now ($M = 5.63$, $SD = 12.32$; $M_{diff} = 6.60$, $SE = 1.59$, $p < .001$, 95% $CI [3.44, 9.76]$), but there was no difference for positive emotions: $M_{diff} = -1.09$, $SE = 0.94$, $p = .248$, 95% $CI [-2.95, 0.77]$. The Role x Time ($F(1, 79) = 3.80$, $p = .055$), Role x Emotion ($F(1, 79) = 3.10$, $p = .082$) and Role x Time x Emotion ($F(1, 79) = 0.40$, $p = .531$) interactions were not significant.

We also examined the three discrete emotions provided by the LIWC 2015 dictionary: anxiety, anger, and sadness. Specifically, we tested whether ghostees and ghosters differed in their use of those emotions and how that varied based on whether they were reflecting about how they felt versus how they feel now. A 2 (Role: Ghoster, Ghostee) x 2 (Time: Felt Then, Feel Now) x 3 (Emotion: Anxiety, Anger, Sadness) repeated measures ANOVA found a main effect of Time ($F(1, 79) = 12.98$, $p = .001$, $\eta_p^2 = .14$) such that participants expressed more emotions when recalling how they felt ($M = 3.35$, $SD = 4.78$) than how they feel now ($M = 1.59$, $SD = 4.13$). The main effect was qualified by an interaction of Role and Time ($F(1, 79) = 5.09$, $p = .027$, $\eta_p^2 = .06$) such that when recalling how they felt, ghostees expressed more emotion ($M = 4.12$, $SD = 6.89$) than ghosters ($M = 2.57$, $SD = 4.32$; $M_{diff} = 1.55$, $SE = 0.71$, $p = .033$, 95% $CI [0.13, 2.97]$); however, there was no difference between ghosters and ghostees for how they feel now: $M_{diff} = -0.09$, $SE = 0.37$, $p = .806$, 95% $CI [-0.83, 0.65]$. Finally, there was an interaction between Role and Emotion ($F(1, 158) = 3.39$, $p = .036$, $\eta_p^2 = .04$) such that ghostees used more sadness related words ($M = 3.51$, $SD = 5.92$) than ghosters ($M = 1.73$, $SD = 4.47$; $M_{diff} = 1.79$, $SE = 0.78$, $p = .025$, 95% $CI [0.23, 3.34]$), but there were no significant differences in usage of anxiety related words ($M_{diff} = -0.99$, $SE = 0.80$, $p = .217$, 95% $CI [-2.58, 0.60]$) or anger related words ($M_{diff} = 1.40$, $SE = 0.82$, $p = .090$, 95% $CI [-0.22, 3.02]$) between ghosters and ghostees. The main effect of Role ($F(1, 79) = 2.80$, $p = .098$), main effect of Emotion ($F(2, 79) = 1.56$, $p = .214$), Time x Emotion interaction ($F(2, 158) = 1.21$, $p = .301$), and Role x Time x Emotion interaction ($F(2, 158) = 1.64$, $p = .198$) were not significant.

Exploratory coding analyses

A set of exploratory analyses examined whether there were differences in participants' usage of the coded emotions (i.e., happiness, relief, apathy, guilt, and hurt) between their reflections as a ghoster and a ghostee for how they felt at the time and how they feel now (see, [Figure 1](#)). For each emotion, we conducted an omnibus Cochran's Q test followed by pairwise McNemar's tests with Bonferroni adjustment² as appropriate (Adedokun & Burgess, 2012; Feuer & Kessler, 1989; Stephen & Aduce, 2018).

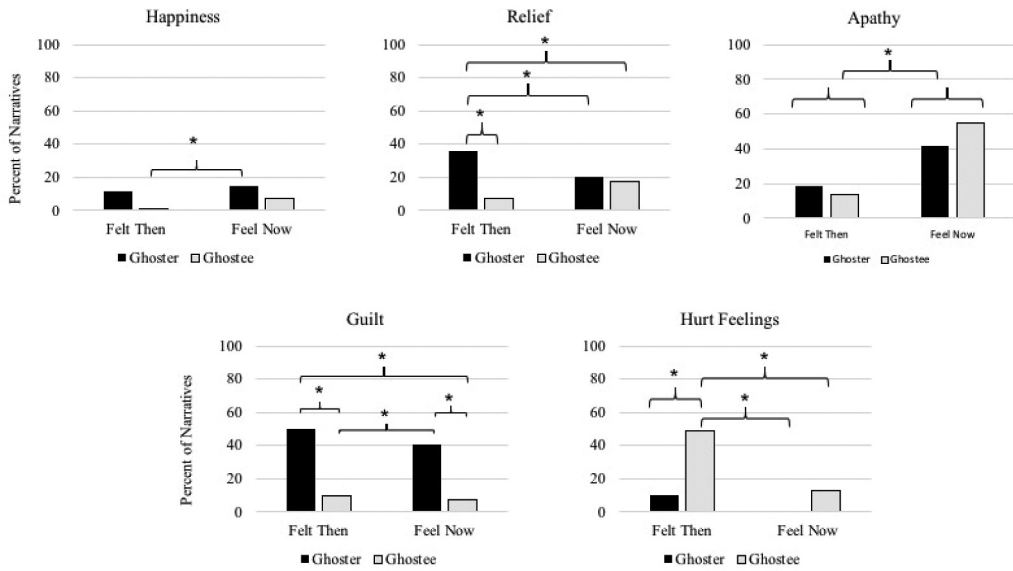


Figure 1. Comparing participants’ usage of coded emotions (recalled and current) between their ghoster and ghostee reflections. Note: * $p < .05$, adjusted

Happiness

The omnibus Cochran’s test was significant for happiness: $Q(3) = 12.00, p = .007$. Pairwise comparisons showed that ghosters’ accounts of how they feel now were more likely to include happiness than ghostee’s accounts of how they felt at the time: McNemar’s $X^2 = 3.32, p = .005$. No other pairwise comparisons were significant (all $p > .09$).

Relief

The omnibus Cochran’s test was significant for relief: $Q(3) = 23.55, p < .001$. Pairwise comparisons showed that ghosters’ accounts of how they felt at the time were more likely to include relief than ghosters’ accounts of how they feel now (McNemar’s $X^2 = 2.70, p = .041$). Ghosters’ accounts of how they felt at the time were also more likely to include relief than ghostees’ accounts of how they felt at the time (McNemar’s $X^2 = 4.78, p < .001$) or feel now (McNemar’s $X^2 = 3.12, p = .011$). No other pairwise comparisons were significant (all $p > .20$).

Apathy

The omnibus Cochran’s test was significant for apathy: $Q(3) = 48.33, p < .001$. Pairwise comparisons showed that ghostees’ accounts of how they feel now were more likely to include apathy than ghostees’ accounts of how they felt (McNemar’s $X^2 = 5.96, p < .001$) or ghosters’ accounts of how they felt (McNemar’s $X^2 = 5.42, p < .001$). Additionally, ghosters’ accounts of how they feel now were more likely to include apathy than ghosters’ accounts of how they felt (McNemar’s $X^2 = 3.43, p < .001$) or ghostees’ accounts of how they felt (McNemar’s $X^2 = 3.97, p < .001$). No other pairwise comparisons were significant (all $p > .20$).

Guilt

The omnibus Cochran’s test was significant for guilt: $Q(3) = 55.85, p < .001$. Pairwise comparisons showed that ghosters’ accounts of how they felt were more likely to include guilt than ghostees’ accounts of how they felt (McNemar’s $X^2 = 5.72, p < .001$) or ghostees’ accounts of how they feel now (McNemar’s $X^2 = 6.07, p < .001$). Additionally, ghosters’ accounts of how they feel now were more

likely to include guilt than ghostees' accounts of how they felt (McNemar's $X^2 = 4.29, p < .001$) or ghostees' accounts of how they feel now (McNemar's $X^2 = 4.65, p < .001$). No other pairwise comparisons were significant (all $p > .90$).

Hurt

The omnibus Cochran's test was significant for hurt: $Q(3) = 74.28, p < .001$. Pairwise comparisons showed that ghostees' accounts of how they felt were more likely to include hurt feelings than ghostees' accounts of how they feel now (McNemar's $X^2 = 5.98, p < .001$), ghosters' accounts of how they felt at the time (McNemar's $X^2 = 6.40, p < .001$), and ghosters' accounts of how they feel now (McNemar's $X^2 = 8.05, p < .001$). No other pairwise comparisons were significant (all $p > .20$).

Discussion

In the present research, we examined how engaging in ghosting and being on the receiving end of ghosting relate to individuals' subsequent emotions and fundamental needs. To account for potential differences that may exist between individuals who choose to ghost and individuals who themselves are ghosted, we examined ghosting using a unique methodology: assessing the emotional reactions reported by individuals in response to ghosting – as the initiator (i.e., ghoster) *and* as the recipient (i.e., ghostee). The present research adds to the growing body of research on understanding rejection processes from the perspectives of both target and source (e.g., Gooley et al., 2015; Grahe, 2015; Manning et al., 2019; Nezlak et al., 2015; Poulsen & Kashy, 2012; Zadro & Gonsalkorale, 2014). By collecting and analyzing the emotional accounts of ghosting from individuals who have both ghosted and been ghosted using a multi-method approach, we were able to provide a more nuanced picture of the emotional experiences at play when people find themselves on either side of the ghosting equation.

Although previous research on ghosting has included individuals who have ghosted, been ghosted, or both (e.g., Freedman et al., 2019; Manning et al., 2019; Powell et al., 2021; Timmermans et al., 2020) researchers have not explicitly focused on the individuals who have experienced both sides of ghosting. Furthermore, although some researchers have examined aspects of the emotional experience of being ghosted (Koessler et al., 2019a; Pancani et al., 2021; Timmermans et al., 2020), the present research is the first to take a quantitative two-sided approach to considering the discrete emotions involved in the ghosting experience. We find that ghosters and ghostees' accounts reveal similar levels of positive and negative valence but ghosters' accounts involve more guilt and relief, whereas ghostees' accounts are more likely to include sadness and hurt feelings. Moreover, this is the first paper to explore how the experience of ghosting and being ghosted impacts individuals' fundamental needs. As predicted, we found that individuals experienced greater threat to each of the needs – control, belongingness, self-esteem, meaningful existence – when reflecting on being ghosted than when reflecting on ghosting a romantic partner.

Not finding a difference in overall positive or negative valence of the accounts between ghosters and ghostees contrasts with prior research showing breakup recipients experience more distress than initiators (Boelen & Reijntjes, 2009; Davis et al., 2003; Field et al., 2009; Koessler et al., 2019a; Perilloux & Buss, 2008), but is consistent with other prior research showing no differences between initiators and recipients in breakups (Sbarra, 2006; Tashiro & Frazier, 2003). It also aligns with ostracism research suggesting that both parties experience emotional distress (Sommer et al., 2001; Zadro et al., 2016). One potential explanation for the null result in overall valence is that ghosters and ghostees may both experience positive and negative emotions but the intensity of those emotions may differ. However, our study did not directly examine emotion intensity; instead, we examined the presence of emotions. Similarly, we did not find the expected increase in overall positive emotion when comparing how ghostees felt at the time to how they feel now. It is possible that the act of recalling a ghosting experience affected participants' narratives and the negative feelings associated with being ghosted were therefore present in both the recall of how they felt at the time as well as the description of how they feel now. Yet, the present study had a limited sample,

and the findings cannot necessarily be generalized to broader populations or individuals who have only ghosted or only been ghosted. Furthermore, it is difficult to draw conclusions from null results; thus, more research is needed to understand overall emotional experiences across time for ghosters and ghostees.

However, our analyses did reveal that ghosters and ghostees differ in the specific emotions experienced. Aligning with previous research on romantic relationship dissolutions (Davis et al., 2003; Perilloux & Buss, 2008; Sbarra & Emery, 2005; Sprecher et al., 1998), reflections on being a ghoster were more likely to contain words related to guilt and relief, whereas reflections on being a ghostee were more likely to contain words related to sadness and hurt. Furthermore, when reflecting on being a ghoster, participants were more likely to express guilt and, when reflecting on being a ghostee, participants were more likely to express having hurt feelings. However, as predicted, participants indicated that they felt prouder, happier, but also guiltier as a ghoster, and more lonely, sadder, and angrier as a ghostee. These differences in the discrete emotions may be another explanation for the lack of a difference in overall valence between ghosters and ghostees. Contrary to hypotheses, ghostees did not report higher levels of frustration than ghosters. Ghosting may be a frustrating process for both ghosters and ghostees: ghosters may use ghosting because ghostees have not “taken a hint,” and ghostees may feel frustrated by the lack of closure.

Finally, as predicted from ostracism research (Williams, 2009), participants’ fundamental needs were threatened more when they had been ghostees than when they had been ghosters. As such, participants indicated they had higher self-esteem, sense of belonging, meaningful existence, and control as a ghoster than as a ghostee. These results replicate prior work arguing that individuals view their role differently when describing a time they ghosted compared to a time when they were ghosted by a romantic partner (Manning et al., 2019) and extends it to identify specific fundamental needs.

Furthermore, our analyses replicated that emotions experienced change over time (Eastwick et al., 2008; Field et al., 2009; Sprecher et al., 1998). Specifically, participants expressed more negative emotion when writing about how they felt at the time of the ghosting experience, as both a ghoster and a ghostee, than when writing about how they feel now. Additionally, when reflecting on being a ghostee, participants were less likely to express hurt feelings and more likely to express apathy when describing how they feel now compared to how they felt at the time. Finally, ghosters were less likely to express relief and more likely to express apathy when describing how they feel now compared to how they felt at the time.

Clearly ghosting can have negative emotional consequences for both ghosters and ghostees, which leads to the question of why people ghost in the first place. Both ghosters and ghostees agree that ghosting can occur for several reasons. For example, ghosting may occur due to the type of relationship (e.g., met and communicated online), a lack of seriousness in the relationship, the ghoster having met or reconnected with someone else, an undesirable trait or behavior of the ghostee (e.g., disrespectful, aggressiveness), or an attempt to avoid hurting the ghostee’s feelings (Manning et al., 2019; Timmermans et al., 2020).

Another factor that may influence the emotional experience of romantic relationships and their dissolution (e.g., via ghosting) is technology. Individuals can select potential partners through online dating apps and websites, can maintain communication with romantic partners via texting and video calling, and can acknowledge dissolutions by changing their relationship status and un-tagging posted photos (Collins & Gillath, 2012; Garimella et al., 2014; Luo & Tuney, 2015; Sas & Whittaker, 2013; Sharabi & Dykstra-Devette, 2019; Smith & Duggan, 2013; De Wiele & Campbell, 2019). Thus, technology may afford individuals an easier opportunity of engaging in ghosting (Thomas & Dubar, 2021). Ghosting may also affect individuals in different ways depending on the role of technology in the relationship. For example, being ghosted after only communicating with a romantic interest over text may feel qualitatively different than being ghosted after seeing someone in person, even if the individuals knew each other for the same amount of time.

Limitations and future directions

The present research provides an analysis of individuals' emotional experiences in response to being both the initiator and the recipient of ghosting. It also employed a multi-method approach in analyzing their emotional experiences. However, there are some limitations to consider. First, although the study was adequately powered to test the main hypotheses, the sample of individuals who engaged in both sides of ghosting was relatively small, and there was a great deal of variation in the time since their most recent ghosting experiences. Yet, preliminary analyses revealed that time since their most recent ghosting experiences was not associated with the main variables in this project. Second, although we purposely recruited participants who had experienced both sides of ghosting, it is possible that the experiences of individuals who have only been ghosters or ghostees may be different. This sampling decision, though, allowed us to control for individual differences that may exist between those who would choose to ghost but have not been ghosted and vice versa (Freedman et al., 2019; Powell et al., 2021). We also did not include a group of participants who had recently been socially included to directly examine the effects of ghosting or being ghosted compared to including or being included. Third, some of the internal reliabilities for the basic need subscale for both ghostee and ghoster were lower than what others have found in their research (Gerber et al., 2017). As such, we acknowledge that the results based on subscales with lower alphas should be interpreted with greater caution.

Moreover, we cannot draw causal conclusions about how ghosting directly affects emotional experiences. It would be unethical to subject individuals to being ghosted by a romantic partner or to encourage individuals to ghost their partner. However, by drawing upon the experiences of people who have both ghosted and been ghosted, we can more clearly delineate the different types of emotional experiences that people may have in the ghosting process. As researchers continue to examine both sides of ghosting, it will be important to use longitudinal studies that can more thoroughly map the emotional experience of ghosting across time and the impact of ghosting experiences on subsequent relationships.

In the future, researchers should consider comparing the emotional experiences of ghosters, ghostees, and those who have been both. They may also consider sampling shortly after a ghosting experience and examine differences in participants' affective forecasting. In addition, it will be important to examine how ghosting compares directly to other more explicit forms of rejection. For example, being the target or source in ghosting may differ from being the target or source in explicit rejection (Koessler et al., 2019a), but how do they differ in terms of the specific emotions experienced?

Furthermore, much of the research to date on why individuals choose to ghost or believe they have been ghosted has been qualitative (e.g., Manning et al., 2019; Timmermans et al., 2020). The themes noted across those studies could be used to create a quantitative measure of reasons for ghosting or to experimentally manipulate situations in which individuals might choose to ghost and, in both, if there are differences in the emotions expressed/felt in response to the reasons for ghosting.

Conclusion

The present research examines ghosting, a relationship dissolution strategy of increasing focus (Freedman et al., 2019; Koessler et al., 2019a, 2019b; LeFebvre, 2017; LeFebvre et al., 2019; Manning et al., 2019; Powell et al., 2021). In fact, some dating websites provide users with descriptions of ghosting and prompts to avoid it (Roth, 2018), given it is often seen as an unacceptable method of relationship dissolution (Freedman et al., 2019). We found that, although ghosters and ghostees describe their experiences with similar levels of positive and negative affect, they differ in the specific emotions experienced. Ghosters tend to feel guilt and relief, whereas ghostees feel sadness and hurt and lower levels of fundamental needs. Furthermore, some level of emotion still remains when

reflecting on one's ghosting experiences, even some time after it has occurred. Taken together, the present research highlights the need to better understand different strategies of relationship dissolution and how they jointly and differentially affect both parties.

Notes

1. A third LIWC hypothesis was preregistered but was inadvertently specified in the opposite direction. The hypothesis written in the preregistration stated "When reflecting on emotions during ghosting and emotions now, ghosters will report more negative emotions now than when they ghosted" when the authors meant to write, "... ghosters will report more negative emotions *when they ghosted than now*." Therefore, this hypothesis is being treated as an exploratory question.
2. Although the Bonferroni adjustment reduces the likelihood of a Type I error and is recommended for pairwise comparisons following the Cochran's Q test (Stephen & Adruce, 2018), the likelihood of a Type II error is increased. Without the Bonferroni adjustment, three additional pairwise comparisons are significant: Ghosters' accounts of how they felt were more likely to include happiness than ghostees' accounts of how they felt (McNemar's $X^2 = 2.41$, $p = .016$, unadjusted); ghosters' accounts of how they feel now were more likely to include relief than ghostees' accounts of how they feel now (McNemar's $X^2 = 2.10$, $p = .038$, unadjusted); and ghostees' accounts of how they feel now were more likely to include apathy than ghosters' accounts of how they feel now (McNemar's $X^2 = 1.99$, $p = .047$, unadjusted).

Acknowledgments

We gratefully acknowledge the research assistants who assisted with the data coding.

Ethics committee

The Roanoke College Institutional Review Board approved the research reported in this manuscript (IRB #16122).

Declarations

On behalf of all authors, the corresponding author states that there is no conflict of interest.

Disclosure statement

No potential conflict of interest was reported by the author(s).

Funding

The author(s) reported there is no funding associated with the work featured in this article.

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Data availability statement

The data described in this article are openly available in the Open Science Framework at osf.io/tscd8.

Open Scholarship



This article has earned the Center for Open Science badges for Open Data, Open Materials and Preregistered. The data and materials are openly accessible at <https://osf.io/tscd8>.

References

- Adedokun, O. A., & Burgess, W. D. (2012). Analysis of paired dichotomous data: A gentle introduction to the McNemar Test in SPSS. *Journal of MultiDisciplinary Evaluation*, 8(17), 125–131.
- Baumeister, R. F., Wotman, S. R., & Stillwell, A. M. (1993). Unrequited love: On heartbreak, anger, guilt, scriptlessness, and humiliation. *Journal of Personality and Social Psychology*, 64(3), 377–394. <https://doi.org/10.1037/0022-3514.64.3.377>
- Baxter, L. A. (1982). Strategies for ending relationships: Two studies. *Western Journal of Speech Communication*, 46(3), 223–241. <https://doi.org/10.1080/10570318209374082>
- Bernstein, M. J., Young, S. G., Brown, C. M., Sacco, D. F., & Claypool, H. M. (2008). Adaptive responses to social exclusion: Social rejection improves detection of real and fake smiles. *Psychological Science*, 19(10), 981–983. <https://doi.org/10.1111/j.1467-9280.2008.02187.x>
- Berscheid, E. (1983). Emotion. In H. H. Kelley, E. Berscheid, A. Christensen, J. H. Harvey, T. L. Huston, G. Levinger, E. McClintock, L. A. Peplau, & D. R. Peterson (Eds.), *Close relationships* (pp. 110–168). Freeman.
- Boelen, P. A., & Reijntjes, A. (2009). Negative cognitions in emotional problems following romantic relationship break-ups. *Stress and Health*, 25(1), 11–19. <https://doi.org/10.1002/smi.1219>
- Borgueta, M. (2016). *The psychology of ghosting: Why people do it and a better way to break up*. Huffington Post.
- Buckley, K. E., Winkel, R. E., & Leary, M. R. (2004). Reactions to acceptance and rejection: Effects of level and sequence of relational evaluation. *Journal of Experimental Social Psychology*, 40(1), 14–28. [https://doi.org/10.1016/S0022-1031\(03\)00064-7](https://doi.org/10.1016/S0022-1031(03)00064-7)
- Cameron, L. D., & Overall, N. C. (2018). Suppression and expression as distinct emotion-regulation processes in daily interactions: Longitudinal and meta-analyses. *Emotion*, 18(4), 465–480. <https://doi.org/10.1037/emo0000334>
- Chow, R. M., Tiedens, L. Z., & Govan, C. L. (2008). Excluded emotions: The role of anger in antisocial responses to ostracism. *Journal of Experimental Social Psychology*, 44(3), 896–903. <https://doi.org/10.1016/j.jesp.2007.09.004>
- Ciarocco, N. J., Sommer, K. L., & Baumeister, R. F. (2001). Ostracism and ego depletion: The strains of silence. *Personality and Social Psychology Bulletin*, 27(9), 1156–1163. <https://doi.org/10.1177/0146167201279008>
- Collins, T. J., & Gillath, O. (2012). Attachment, breakup strategies, and associated outcomes: The effects of security enhancement on the selection of breakup strategies. *Journal of Research in Personality*, 46(2), 210–222. <https://doi.org/10.1016/j.jrp.2012.01.008>
- Davis, D., Shaver, P. R., & Vernon, M. L. (2003). Physical, emotional, and behavioral reactions to breaking up: The roles of gender, age, environmental involvement, and attachment style. *Personality and Social Psychology Bulletin*, 29(7), 871–884. <https://doi.org/10.1177/0146167203029007006>
- De Wiele, C. V., & Campbell, J. F. (2019). From swiping to ghosting: Conceptualizing rejection in mobile dating. In A. Hetsroni & M. Tuncez (Eds.), *It happened on Tinder: Reflections and studies on internet-infused dating* (pp. 158–175). Institute of Network Cultures. <http://www.networkcultures.org>
- Drigotas, S. M., & Rusbult, C. E. (1992). Should I stay or should I go? A dependence model of breakups. *Journal of Personality and Social Psychology*, 62(1), 62–87. <https://doi.org/10.1037/0022-3514.62.1.62>
- Eastwick, P. W., Finkel, E. J., Krishnamurti, T., & Loewenstein, G. (2008). Mispredicting distress following romantic breakup: Revealing the time course of the affective forecasting error. *Journal of Experimental Social Psychology*, 44(3), 800–807. <https://doi.org/10.1016/j.jesp.2007.07.001>

- English, T., John, O. P., & Gross, J. J. (2013). Emotion regulation in close relationships. In J. A. Simpson & L. Campbell (Eds.), *The Oxford handbook of close relationships* (pp. 500–513). Oxford University Press.
- Feeney, J. A. (2004). Hurt feelings in couple relationships: Towards integrative models of the negative effects of hurtful events. *Journal of Social and Personal Relationships*, 21(4), 487–508. <https://doi.org/10.1177/0265407504044844>
- Feuer, E. J., & Kessler, L. G. (1989). Test statistic and sample size for a two-sample McNemar Test. *Biometrics*, 45(2), 629–636. <https://doi.org/10.2307/2531505>
- Field, T., Diego, M., Pelaez, M., Deeds, O., & Delgado, J. (2009). Breakup distress in university students. *Adolescence*, 44(176), 705–727.
- Freedman, G., Powell, D. N., Le, B., & Williams, K. D. (2019). Ghosting and destiny: Implicit theories of relationships predict beliefs about ghosting. *Journal of Social and Personal Relationships*, 36(3), 905–924. <https://doi.org/10.1177/0265407517748791>
- Garimella, V. R. K., Weber, I., & Dal Cin, S. (2014). From “I love you babe” to “leave me alone”—Romantic relationship breakups on Twitter. In M. D. A. L.m (Ed.), *Social Informatics* (pp. 199–215). Springer. https://doi.org/10.1007/978-3-319-13734-6_14
- Gerber, J. P., Chang, S.-H., & Reimel, H. (2017). Construct validity of Williams’ ostracism needs threat scale. *Personality and Individual Differences*, 115, 50–53. doi:10.1016/j.paid.2016.07.008
- Girme, Y. U., Peters, B. J., Baker, L. R., Overall, N. C., Fletcher, G. J. O., Reis, H. T., Jamieson, J. P., & Sigal, M. J. (2021). Attachment anxiety and the curvilinear effects of expressive suppression on individuals’ and partners’ outcomes. *Journal of Personality and Social Psychology*, 121(3), 524–547. <https://doi.org/10.1037/pspi0000338>
- Godwin, A., MacNevin, G., Zadro, L., Iannuzzelli, R., Weston, S., Gonsalkorale, K., & Devine, P. (2014). Are all ostracism experiences equal? A comparison of the autobiographical recall, Cyberball, and O-Cam paradigms. *Behavior Research Methods*, 46(3), 660–667. <https://doi.org/10.3758/s13428-013-0408-0>
- Gooley, S. L., Zadro, L., Williams, L. A., Svetieva, E., & Gonsalkorale, K. (2015). Ostracizing for a reason: A novel source paradigm for examining the nature and consequences of motivated ostracism. *The Journal of Social Psychology*, 155(5), 410–431. <https://doi.org/10.1080/00224545.2015.1060933>
- Grahe, J. E. (2015). Commentary on sources of ostracism research. *The Journal of Social Psychology*, 155(5), 403–409. <https://doi.org/10.1080/00224545.2015.1064069>
- Halversen, A., King, J., & Silva, L. (2021). Reciprocal self-disclosure and rejection strategies on Bumble. *Journal of Social and Personal Relationships*, 39(5), 1324–1343. doi:10.1177/02654075211055759.
- Hartgerink, C. H. J., van Beest, I., Wicherts, J. M., & Williams, K. D. (2015). The ordinal effects of ostracism: A meta-analysis of 120 Cyberball studies. *PLoS ONE*, 10(5), e0127002. <https://doi.org/10.1371/journal.pone.0127002>
- Hawley, L. C., Williams, K. D., & Cacioppo, J. T. (2011). Responses to ostracism across adulthood. *Social Cognitive and Affective Neuroscience*, 6(2), 234–243. <https://doi.org/10.1093/scan/nsq045>
- Kansky, J., & Allen, J. P. (2018). Making sense and moving on: The potential for individual and interpersonal growth following emerging adult breakups. *Emerging Adulthood*, 6(3), 172–190. <https://doi.org/10.1177/2167696817711766>
- Kendler, K. S., Hettema, J. M., Butera, F., Gardner, C. O., & Prescott, C. A. (2003). Life event dimensions of loss, humiliation, entrapment, and danger in the prediction of onsets of major depression and generalized anxiety. *Archives of General Psychiatry*, 60(8), 789–796. <https://doi.org/10.1001/archpsyc.60.8.789>
- Koessler, R. B., Kohut, T., & Campbell, L. (2019a). When your boo becomes a ghost: The association between breakup strategy and breakup role in experiences of relationship dissolution. *Collabra: Psychology*, 5, 1–29. <https://doi.org/10.1525/collabra.230>
- Koessler, R. B., Kohut, T., & Campbell, L. J. (2019b). Integration and expansion of qualitative analyses of relationship dissolution through ghosting. <https://doi.org/10.31234/osf.io/3kvdx>
- Le, B., & Agnew, C. R. (2001). Need fulfillment and emotional experience in interdependent romantic relationships. *Journal of Social and Personal Relationships*, 18(3), 423–440. <https://doi.org/10.1177/0265407501183007>
- Leary, M. R., Springer, C., Negel, L., Ansell, E., & Evans, K. (1998). The causes, phenomenology, and consequences of hurt feelings. *Journal of Personality and Social Psychology*, 74(5), 1225–1237. doi:10.1037/0022-3514.74.5.1225.
- LeFebvre, L. E. (2017). Ghosting as a relationship dissolution strategy in the technological age. In N. M. Punyanunt-Carter & J. S. Wrench (Eds.), *The impact of social media in modern romantic relationships*. Lexington Books, pp. 219–236.
- LeFebvre, L. E., Allen, M., Rasner, R., Garstad, S., Wilms, A., & Parrish, C. (2019). Ghosting in emerging adults’ romantic relationships: The digital dissolution disappearance strategy. *Imagination, Cognition and Personality: Consciousness in Theory, Research, and Clinical Practice*, 39(2), 125–150. <https://doi.org/10.1177/0276236618820519>
- LeFebvre, L. E., Rasner, R. D., & Allen, M. (2020). “I guess I’ll never know . . .”: Non-initiators account-making after being ghosted. *Journal of Loss and Trauma*, 25(5), 395–415. doi:10.1080/15325024.2019.1694299.
- LeFebvre, L. E., & Fan, X. (2020). Ghosted?: Navigating strategies for reducing uncertainty and implications surrounding ambiguous loss. *Personal Relationships*, 27(2), 433–459. <https://doi.org/10.1111/per.12322>
- Lemay, E. P., Overall, N. C., & Clark, M. S. (2012). Experiences and interpersonal consequences of hurt feelings and anger. *Journal of Personality and Social Psychology*, 103(6), 982–1006. <https://doi.org/10.1037/a0030064>

- Luo, S., & Tuney, S. (2015). Can texting be used to improve romantic relationships?—The effects of sending positive text messages on relationship satisfaction. *Computers in Human Behavior, 49*, 670–678. <https://doi.org/10.1016/j.chb.2014.11.035>
- Manning, J., Denker, K. J., & Johnson, R. (2019). Justifications for ‘ghosting out’ of developing or ongoing romantic relationships: Anxieties regarding digitally-mediated romantic interaction. In A. Hetsroni & M. Tuncez (Eds.), *It happened on Tinder: Reflections and studies on internet-infused dating* (pp. 114–132). Institute of Network Cultures.
- Mirsu-Paun, A., & Oliver, J. A. (2017). How much does love really hurt? A meta-analysis of the association between romantic relationship quality, breakups and mental health outcomes in adolescents and young adults. *Journal of Relationships Research, 8*, E5. <https://doi.org/10.1017/jrr.2017.6>
- Navarro, R., Larrañaga, E., Yubero, S., & Villora, B. (2020). Psychological correlates of ghosting and breadcrumbing experiences: A preliminary study among adults. *International Journal of Environmental Research and Public Health, 17*(3), 1116. <https://doi.org/10.3390/ijerph17031116>
- Nezlek, J. B., Wesselmann, E. D., Wheeler, L., & Williams, K. D. (2012). Ostracism in everyday life. *Group Dynamics: Theory, Research, and Practice, 16*(2), 91–104. <https://doi.org/10.1037/a0028029>
- Nezlek, J. B., Wesselmann, E. D., Wheeler, L., & Williams, K. D. (2015). Ostracism in everyday life: The effects of ostracism on those who ostracize. *The Journal of Social Psychology, 155*(5), 432–451. <https://doi.org/10.1080/00224545.2015.1062351>
- Pancani, L., Mazzoni, D., Aureli, N., & Riva, P. (2021). Ghosting and orbiting: An analysis of victims’ experiences. *Journal of Social and Personal Relationships, 38*(7), 1987–2007. <https://doi.org/10.1177/02654075211000417>
- Pennebaker, J. W., Boyd, R. L., Jordan, K., & Blackburn, K. (2015). *The development and psychometric properties of LIWC2015*. University of Texas at Austin.
- Perilloux, C., & Buss, D. M. (2008). Evolutionary psychology breaking up romantic relationships: Costs experienced and coping strategies deployed. *Evolutionary Psychology, 6*(1), 164–181. <https://doi.org/10.1177/147470490800600119>
- Poon, K.-T., & Chen, Z. (2015). How does the source of rejection perceive innocent victims? *The Journal of Social Psychology, 155*(5), 515–526. <https://doi.org/10.1080/00224545.2015.1061972>
- Poulsen, J. R., & Kashy, D. A. (2012). Two sides of the ostracism coin: How sources and targets of social exclusion perceive themselves and one another. *Group Processes and Intergroup Relations, 15*(4), 457–470. <https://doi.org/10.1177/1368430211430517>
- Powell, D. N., Freedman, G., Williams, K. D., Le, B., & Green, H. (2021). A multi-study examination of attachment and implicit theories of relationships in ghosting experiences. *Journal of Social and Personal Relationships, 38*(7), 2225–2248. doi:10.1177/02654075211009308.
- Richard, F. D., Bond, C. F., & Stokes-Zoota, J. J. (2003). One hundred years of social psychology quantitatively described. *Review of General Psychology, 7*(4), 331–363. <https://doi.org/10.1037/1089-2680.7.4.331>
- Riva, P., Wirth, J. H., & Williams, K. D. (2011). The consequences of pain: The social and physical pain overlap on psychological responses. *European Journal of Social Psychology, 41*, 681–687. doi:10.1002/ejsp.837.
- Roth, J. (2018). *A guide to ghosting: What it looks like and how to avoid doing it*. Bumble. <https://bumble.com/the-buzz/what-is-ghosting-and-how-not-to-do-it-dating>
- Safronova, V. (2015). Exes explain ghosting, the ultimate silent treatment. *The New York Times*.
- Sas, C., & Whittaker, S. (2013). Design for forgetting: Disposing of digital possessions after a breakup. *Proceedings of the SIGCHI conference on human factors in computing systems (CHI '13)*, 1823–1832. <https://doi.org/10.1145/2470654.2466241>
- Sbarra, D. A., & Emery, R. E. (2005). The emotional sequelae of nonmarital relationship dissolution: Analysis of change and intraindividual variability over time. *Personal Relationships, 12*(2), 231–232. <https://doi.org/10.1177/0146167203029007006>
- Sbarra, D. A. (2006). Predicting the onset of emotional recovery following nonmarital relationship dissolution: Survival analyses of sadness and anger. *Personality and Social Psychology Bulletin, 32*(3), 298–312. <https://doi.org/10.1177/0146167205280913>
- Sharabi, L. L., & Dykstra-Devette, T. A. (2019). From first email to first date: Strategies for initiating relationships in online dating. *Journal of Social and Personal Relationships, 36*(11–12), 3389–3407. <https://doi.org/10.1177/0265407518822780>
- Slavich, G. M., O’Donovan, A., Epel, E. S., & Kemeny, M. E. (2010). Black sheep get the blues: A psychobiological model of social rejection and depression. *Neuroscience and Biobehavioral Reviews, 35*(1), 39–45. <https://doi.org/10.1016/j.neubiorev.2010.01.003>
- Smart Richman, L., & Leary, M. R. (2009). Reactions to discrimination, stigmatization, ostracism, and other forms of interpersonal rejection: A multimotive model. *Psychological Review, 116*(2), 365–383. <https://doi.org/10.1037/a0015250>
- Smith, A., & Duggan, M. (2013). Washington, D.C.: Pew Research Center. <https://www.pewresearch.org/internet/Reports/2013/Online-Dating.aspx>.
- Sommer, K. L., Williams, K. D., Ciarocco, N. J., & Baumeister, R. F. (2001). When silence speaks louder than words: Explorations into the intrapsychic and interpersonal consequences of social ostracism. *Basic and Applied Social Psychology, 23*(4), 225–243. https://doi.org/10.1207/S15324834BASP2304_1

- Sprecher, S. (1994). Two sides to the breakup of dating relationships. *Personal Relationships*, 1(3), 199–222. <https://doi.org/10.1111/j.1475-6811.1994.tb00062.x>
- Sprecher, S., Felmlee, D., Metts, S., Fehr, B., & Vanni, D. (1998). Factors associated with distress following the breakup of a close relationship. *Journal of Social and Personal Relationships*, 15(6), 791–809. <https://doi.org/10.1177/0265407598156005>
- Steinmetz, K. (2016). This new text bot will do your ghosting for you. *Time Magazine*. <https://time.com/4373561/how-to-ghost-burner-app/>
- Stephen, D., & Aduce, S. Z. (2018). Cochran's Q with pairwise McNemar for dichotomous multiple responses data: A practical approach. *International Journal of Engineering & Technology*, 7(3.18), 4. <https://doi.org/10.14419/ijet.v7i3.18.16662>
- Tang, H. H. Y., & Richardson, R. (2013). Reversing the negative psychological sequelae of exclusion: Inclusion is ameliorative but not protective against the aversive consequences of exclusion. *Emotion*, 13(1), 139–150. doi:10.1037/a0029521.
- Tannen, D. (2017). Why friends ghost on even their closest pals. *Time Magazine*. <https://time.com/4779713/friendship-ghosting/>
- Tashiro, T., & Frazier, P. (2003). “I'll never be in a relationship like that again”: Personal growth following romantic relationship breakups. *Personal Relationships*, 10(1), 113–128. <https://doi.org/10.1111/1475-6811.00039>
- Thomas, J. O., & Dubar, R. T. (2021). Disappearing in the age of hypervisibility: Definition, context, and perceived psychological consequences of social media ghosting. *Psychology of Popular Media*, 10(3), 291–302. <https://doi.org/10.1037/ppm0000343.supp>
- Timmermans, E., Hermans, A. M., & Oprea, S. J. (2020). Gone with the wind: Exploring mobile daters' ghosting experiences. *Journal of Social and Personal Relationships*, 38(2), 783–801. <https://doi.org/10.1177/0265407520970287>
- Vangelisti, A. L., Young, S. L., Carpenter-Theune, K. E., & Alexander, A. L. (2005). Why does it hurt? The perceived causes of hurt feelings. *Communication Research*, 32(4), 443–477. <https://doi.org/10.1177/0093650205277319>
- Williams, K. D., Bernieri, F. J., Faulkner, S. L., Gada-Jain, N., & Grahe, J. E. (2000). The Scarlet Letter study: Five days of social ostracism. *Journal of Personal and Interpersonal Loss*, 5(1), 19–63. <https://doi.org/10.1080/10811440008407846>
- Williams, K. D. (2007). Ostracism. *Annual Review of Psychology*, 58(1), 425–452. <https://doi.org/10.1146/annurev.psych.58.110405.085641>
- Williams, K. D. (2009). Ostracism: A temporal need-threat model. In M. Zanna (Ed.), *Advances in Experimental Social Psychology* (pp. 279–314). Academic Press.
- Wilmot, W. W., Carbaugh, D. A., & Baxter, L. A. (1985). Communicative strategies used to terminate romantic relationships. *The Western Journal of Speech Communication*, 49(3), 204–216. <https://doi.org/10.1080/10570318509374195>
- Yang, Y., Wang, L., Passmore, H.-A., Zhang, J., Zhu, L., & Cai, H. (2021). Viewing nature scenes reduces the pain of social ostracism. *The Journal of Social Psychology*, 161(2), 197–215. <https://doi.org/10.1080/00224545.2020.1784826>
- Zadro, L., & Gonsalkorale, K. (2014). Sources of ostracism: The nature and consequences of excluding and ignoring others. *Current Directions in Psychological Science*, 23(2), 93–97. <https://doi.org/10.1177/0963721413520321>
- Zadro, L., Godwin, A., Svetieva, E., Sethi, N., Iannuzzelli, R., & Gonsalkorale, K. (2016). Creating the silence: Ostracism from the perspective of the source. In K. D. Williams & S. A. Nida (Eds.), *Ostracism, social exclusion and rejection*. Psychology Press, pp. 130–145.