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Relationship Dissolution Strategies: Comparing the Psychological Consequences of Ghosting, Orbiting, and Rejection

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Abstract

Ghosting and orbiting occur when a relationship is ended unilaterally by suddenly withdrawing from all communication and without explanation. However, in orbiting, the disengager still follows the victims on social networking sites after the breakup. With the advent of the digital era, these practices have become increasingly common, gaining attention from psychology research. Within the theoretical framework of social exclusion, the present study (N = 176) investigated victims' consequences of ghosting and orbiting, considering the two breakup strategies as instances of ostracism. Participants were invited to fill an online survey and randomly assigned to recall an episode of ghosting, orbiting, or rejection. Following the recall task, participants completed a series of questionnaires to measure the typical outcomes threatened by ostracism (i.e., emotions, basic psychological needs, breakup's cognitive evaluation, and aggressive inclinations). The results showed a consistent pattern across most of the constructs measured. Specifically, ghosting led to worse outcomes than rejection, whereas the disengagers' ambiguous signals characterizing orbiting seemed to buffer the victims partially from the consequences of relationship dissolution. Results are discussed in the light of social exclusion literature, adding to the growing research on ghosting.

Keywords: ghosting; orbiting; social exclusion; ostracism; digital technologies

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Introduction

Humans connect (e.g., friendship and romantic relationships) and disconnect (e.g., breakups) with each other through ways that are in constant evolution. Nowadays, many of our daily interactions with other people occur on social media and, more precisely, on social networking sites (SNSs). In 2020, 3.80 billion people (49% of the global population) were active SNS users and spent, on average, 2 hours and 24 minutes a day using these platforms (We Are Social & Hootsuite, 2020). Researchers have investigated a broad set of antecedents and consequences of SNS use during the last decade. So far, research has focused on, for instance, personality traits related to specific behaviors on SNSs (Liu & Baumeister, 2016; Liu & Campbell, 2017), new phenomena originated by the hyper-connection (e.g., the Fear of Missing Out; Przybylski et al., 2013), positive and negative consequences deriving from SNS use (Nowland et al., 2018; Waytz & Gray, 2018), and social dynamics that occur on these platforms (e.g., antisocial behavior, social comparison, self-disclosure, social influence; Craker & March, 2016; Fox & Vendemia, 2016; Kim & Dindia, 2011; Winter et al., 2015). Although SNSs were first created to facilitate social connections, these platforms could also foster social disconnections. Meenagh (2015) found that young people accept and are prone to use digital technologies to end relationships in the early stages. Texting the partner that you are not interested in him/her anymore or reducing the SNSs interactions until disappearing could be easier and safer than

a face-to-face breakup strategy. Accordingly, the present contribution aims to investigate the psychological consequences of two breakup strategies commonly enacted via SNSs characterized by the sudden disappearance of one partner, namely “ghosting” and “orbiting.”

Ghosting and Orbiting: A Literature Review

The end of a relationship has been considered one of the most distressing and painful events in humans' life (L. A. Baxter, 1982; Kendler et al., 2003). Breakups often evoke emotional reactions, such as sadness, anxiety, and anger. They could lead to physical consequences such as losing appetite and trouble sleeping (J. Baxter & Hewitt, 2015; Morris & Reiber, 2011). However, the effects of relational dissolution are influenced by many factors, such as the emotional investment in the relationship and opportunities of alternative relationships (Rhoades et al., 2011; Smart Richman & Leary, 2009). Also, how the breakup occurs might have a crucial role in determining the psychological outcomes in whom is left. What happens when one of the partners (from now on, the *disengager*) unilaterally decides to break up with the other partner (from now on, the *victim*) without explanation and avoiding any further contact from the victim? Ghosting and orbiting are two breakup strategies that share these features.

Specifically, one of the first definitions of ghosting appeared on Urban Dictionary (2016), which described the dissolution strategy as “when a person cuts off all communication with their friends or the person they're dating, with zero warning or notice beforehand. You'll mostly see them avoiding friend's phone calls, social media, and avoiding them in public”. Scientifically speaking, ghosting can be defined as the practice of breaking up with a romantic partner or a friend without providing any explanation and avoiding any communication attempt from the victim (LeFebvre, 2017; LeFebvre et al., 2019). In other words, people enacting ghosting (i.e., *ghosters*) simply disappear from their partners' (i.e., *ghostees*) lives.

This phenomenon is becoming increasingly frequent in the general population, as testified in a sample of 554 American participants (mean age of 33.86, $SD = 10.62$; balanced for gender), where 25.3% reported having experienced ghosting as victims and 21.7% as disengagers (Freedman et al., 2019). Recent research by Powell et al. (2021) showed that ghosting experiences are even more frequent among the American population. Across three adult samples (age range: 18–100 years old) balanced for gender ($N = 165, 247, \text{ and } 863$, respectively), the authors found that ghosting victims ranged between 28.5% and 47.0%, whereas ghosters ranged between 26.1% and 38.9%. This growth could be related to the spread of digital technologies, such as social networking sites and dating apps that facilitate the enactment of ghosting. For instance, texting the partner that you don't want to date him/her anymore (i.e., rejection) or progressively reducing online interactions until disappearing (i.e., ghosting) might be easier and safer than breaking up face-to-face. Accordingly, Meenagh (2015) found that young people accept and are prone to use digital technologies to end relationships in the early stages. Mobile dating apps represent a fertile ground for this phenomenon. Timmermans et al. (2021) showed that enacting ghosting on these platforms is not necessarily done with harmful intentions. Nevertheless, the authors also showed that being ghosted on a dating app is a painful experience that decreases self-esteem and mental well-being.

Despite its spread, this phenomenon has gained empirical attention only recently. A qualitative study by LeFebvre et al. (2019) aimed to clarify the phenomenon of ghosting both from victims' (i.e., *ghostees*) and disengagers' (i.e., *ghosters*) perspectives. This qualitative analysis helped create a definition of this practice, positioning ghosting among indirect breakup strategies. In ghosting, the ghoster avoids a direct and explicit communication of their intentions, preferring an implicit and indirect way out in which the ghostee is not involved. Frequently, the ghostees are not aware of what is happening and have to interpret by themselves the reasons for the interruption of communication (Freedman et al., 2019). The lack of discussion with the disengager leaves the victim without justification for the dissolution, leading to an aura of ambiguity and uncertainty that might induce ghostees' self-blame for the separation (LeFebvre, 2017). Ghostees' difficulties in the breakup's rationalization were confirmed in recent research by LeFebvre et al. (2020). The authors asked participants to provide reasons for the ghosting episode they were subject to, observing great difficulty in account-making, which, in turn, might increase psychological distress. LeFebvre and Fan (2020) have recently identified seven effective and ineffective strategies employed by ghosting victims to reduce the uncertainty of the breakup experience. The most common effective strategy was the “future-focused,” which entails the acceptance of the situation and the readiness to move forward and initiate alternative relationships. The most common ineffective strategy was the “no effects,” meaning that no actions were taken and the ghosting experience did not alter the victims' feelings.

Consistent with the research on difficulties in account-making, Koessler (2018) observed that ghosting could have more detrimental effects on victims' post-breakup personal growth than direct dissolution techniques (e.g.,

motivated rejection). Moreover, individual differences related to attachment style and the dark triad of personality (i.e., Machiavellianism, psychopathy, and narcissism) were associated with different ghosting experiences. Specifically, individuals with an anxious attachment style were more likely victims of ghosting, whereas machiavellian and psychopathological individuals were more likely to ghost other people (Koessler, 2018). Recent multi-study research deepens the link between attachment and ghosting, showing that ghostees were characterized by higher attachment anxiety, whereas ghosters by attachment avoidance (Powell et al., 2021). Similarly, Navarro et al. (2021) examined the link between a series of individual, interpersonal, and relationship factors (e.g., self-esteem, moral disengagement, assertiveness, and conflict resolution styles) and ghosting behavior and intention. The authors found weak to no associations for most of the considered relationships, even though they detected an association ($r = .50$) between being ghosted and enacting ghosting.

Concerning orbiting, the scientific literature is exceptionally scarce. Indeed, to our knowledge, we conducted the only empirical study on orbiting so far (Pancani et al., 2021), namely a qualitative research on ghosting and orbiting, comparing these breakup strategies with motivated rejection. We considered ghosting and orbiting as mostly overlapping, but found that the latter is characterized by a different dynamic that strictly requires digital technologies. Once the breakup occurs, the disengagers (i.e., *orbiters*) still visibly orbit in the victims' (i.e., *orbitees*) SNS life. Orbiters view orbitees' stories on social networking sites, share their contents, and like their posts, producing notifications that make orbitees aware of orbiters' behavior. Accordingly, this awareness might increase orbitees' confusion, leaving them in an even more ambiguous situation than ghosting. For instance, orbitees might interpret orbiters' behavior as an attempt of relational repair, preventing a complete closure of the relationship, which can have either good (e.g., *s/he misses me*) or bad (e.g., *s/he bothers me*) implications for orbitees' psychological well-being.

Although disengagers' unwanted contacts characterize both orbiting and cyberstalking, the latter is considered a crime that involves highly repetitive intrusive communications that often result in fear of being victimized by those who receive the stalker's attention (for a review, see Kaur et al., 2021). Conversely, orbiting consists of periodically following the victims on SNSs, without starting any direct communication with them.

Using thematic content analysis, we identified three stages through which ghosting and orbiting victims elaborate on the relationship dissolution (Pancani et al., 2021). Each stage was characterized by peculiar psychological reactions: surprise and confusion for the first stage, guilt, anger, and sadness for the second one, and acceptance, disengagement, and investments in new relationships for the last one. We identified these stages applying a theoretical framework that is not commonly used to investigate relationship dissolution, namely social exclusion.

Looking at Ghosting and Orbiting Through the Lenses of Social Exclusion Frameworks

Both ghosting and orbiting represent relational dissolution practices classifiable as avoidance strategies. Indeed, these phenomena core feature is avoiding contact with the victims, which recalls the classical withdrawal/avoidance dissolution strategy (L. A. Baxter, 1982). Accordingly, the literature on ghosting has mainly contextualized this phenomenon under the theoretical framework of relational dissolution strategies. Specifically, LeFebvre et al. (2019) have conceptualized ghosting as an indirect, self-oriented (i.e., the ghoster is concerned only about him/herself, without considering the partner) strategy to disengage from an unwanted relationship. Although relational dissolution literature is fundamental in describing both ghosting and orbiting, we proposed a different approach that might give new insights into these two phenomena, namely the social exclusion framework (Pancani et al., 2021). According to Riva and Eck (2016), being socially excluded means being kept apart from other people. This condition may occur in one of two main ways: excluded individuals can be explicitly told that they are not wanted, or they can be ignored. The former instance is called rejection, whereas the latter is called ostracism (Riva & Eck, 2016). Ostracism is the act of voluntarily excluding and ignoring a person (Williams, 2009). This definition perfectly fits the behavior of ghosters, who stop interacting with their counterparts and ignore every communication attempt coming from them. The overlap between ghosting and ostracism was also acknowledged by Freedman et al. (2019), who hypothesized that the two phenomena might have similar consequences for individuals' well-being. Similarly, orbiters ignore direct communication attempts of orbitees, even though their occasional and unilateral actions on SNSs might moderate the victims' perception of ostracism.

The literature on social exclusion mainly refers to two theoretical models: the Temporal Need-Threat Model, proposed by Williams (2009), and the Multi-Motive Model of responses to rejection, proposed by Smart Richman and Leary (2009). According to the Temporal Need-Threat Model, an exclusionary event leads to three consecutive phases: reflexive, reflective, and resignation stages. In the reflexive stage, the individual detects ostracism, which

evokes feelings of social pain and other negative emotions (e.g., sadness and anger). At the same time, exclusion jeopardizes an individual's basic needs, including the need to (1) connect with others in a stable and significant way (i.e., need to belong; Baumeister & Leary, 1995), (2) maintain an adequate level of self-esteem, (3) perceive being in control of his/her own life, and (4) have a meaningful and worthy existence. Only in the second stage (reflective), the individual tries to restore their threatened needs by coping with the exclusionary situation. The last stage is called resignation and occurs when the exclusionary status persists over time. In this detrimental condition, the individual is resigned and gives up any attempt to restore his/her own needs. Consistent with Williams' (2009) theory, the Multi-Motive Model (Smart Richman & Leary, 2009) theorizes that exclusion has an immediate negative impact on victims' self-esteem and emotions. However, this model focuses on the factors (i.e., *construals*) that determine different reactions to exclusionary events. The *construals* theorized by the authors represent victim's cognitive evaluations following the rejection episode. Specifically, the individual evaluates the rejection experience, weighing the separation costs, the perpetrator's importance, and the likelihood of a possible relationship repair. Moreover, the perceived fairness of the episode and its chronicity might influence excluded individual's reactions. Finally, the perceived opportunity to develop alternative relationships represents a further factor that might soften the adverse effects of rejection. Among these effects, being excluded or rejected reduces self-regulation (Baumeister et al., 2005; Stenseng et al., 2015), often eliciting aggressive behaviors towards the perpetrator of exclusion (Warburton et al., 2006). Overall, the Temporal Need-Threat Model and the Multi-Motive Model offer predictions that complement each other and, in our opinion, are both relevant for investigating ghosting and orbiting.

The Present Research

The present study investigated the psychological consequences of ghosting and orbiting victims. Specifically, we explored whether and how the typical psychological impacts of social exclusion (i.e., negative emotions, basic needs threat, *construals* of the event, and aggressiveness) are experienced by ghosting and orbiting victims. To do so, we compared these breakup strategies with an explicit relationship dissolution strategy (from now on, rejection) in which disengagers communicate their decision to break up, providing their reasons to do so. The present study originated from a previously published work (Pancani et al., 2021) and employed a similar methodology, namely a recall task in which participants were asked to recall an episode that occurred to them as victims of ghosting, orbiting, or rejection (see the measures section for further details). In contrast with Pancani et al. (2021), present study participants were then asked to complete a survey measuring the primary outcomes of social exclusion (i.e., emotions, the threat of basic psychological needs, *construals*, and aggressive inclinations).

Given the limited literature, we advanced a general hypothesis about possible differences between ghosting and rejection. Prior studies showed that people prefer to receive negative attention than no attention (Zadro, 2004; Zadro et al., 2005). Consistently, we expected that ghosted individuals would report more negative emotions and a higher threat of psychological needs than rejected ones. Moreover, ghosting should be perceived as more unexpected and unfair than rejection given its intrinsic characteristics. Indeed, ghosting generally occurs suddenly, without prior notice, and it is perceived as highly unfair given the lack of ghosters' communication of intention to break up (Pancani et al., 2021). We did not advance specific hypotheses concerning orbiting due to the lack of prior studies on this phenomenon.

H1: Ghosted individuals will report more negative emotions and a higher threat of psychological needs than rejected ones.

H2: Ghosting should be perceived as more unexpected and unfair than rejection.

Methods

Participants and Procedure

Two hundred and seventy-eight individuals were enrolled via the pool management software Sona Systems (<http://www.sona-systems.com/>). The only inclusion criterion was to be of legal age. Participants were initially asked to read and sign the consent form approved by the ethical committee of a large Italian university. Once signed, participants were redirected to an online survey on Qualtrics (Provo, UT, USA). The majority of the sample was composed of Italians (98.9%; 66.9% females, 21.9% males, 11.2% did not answer) with ages between 18 and

36 years ($M = 23.22$; $SD = 2.75$). Participants were randomly assigned to one of three conditions (i.e., ghosting, orbiting, or rejection), asking to recall and describe an episode in which they have been victims of the specific breakup strategy associated with their condition. Throughout the present paper, we will refer to ghosting victims (or ghostees), orbiting victims (or orbitees), and rejected individuals based on the experimental condition the participants were assigned to, without any assumption about the frequency by which they have been victims of these breakup strategies in their lives. Following the recall task, participants were presented with a questionnaire measuring a set of constructs related to social exclusion and aggressiveness inclinations towards the disengager. The order of presentation of these measures was not randomized, and it followed the order in which the scales are described in the following section.

Measures

Recall Task

The present study adopted the same recall task developed in our previous study (Pancani et al., 2021). Participants were asked to recall an episode that occurred in the last five years in which they were victims of one of the three breakup strategies (i.e., ghosting, orbiting, or rejection). If they did not have any direct experience of the specific strategy, they were asked to imagine themselves in that situation. Then, they were asked to describe the experience they lived (or imagined), describing their thoughts, behaviors, and emotions. No time or word limits were given for the task.

Participants were initially presented with a short description of the breakup strategy associated with the experimental condition they were in (i.e., ghosting, orbiting, or rejection) to ensure that the definition of the three strategies was the same. Ghosting was defined as a practice in which, in a romantic or friendship relationship between two persons, one of the partners (i.e., the disengager) decides to quit without explaining and ignoring any communication attempts from the other person. The same definition was provided for orbiting, further specifying that, after the breakup, the disengager still visibly follows the former partner's social networking activities, occasionally reacting to his/her multimedia contents (e.g., liking posts). In contrast with ghosting, rejection was described as a practice in which the disengager directly communicates the decision to quit the romantic or friendship relationship, providing explicit explanations.

Emotions

The Rejected-Related Emotion Scale (Buckley et al., 2004) was adapted to measure the following clusters of feelings: exclusion (e.g., *I felt excluded*; Cronbach's $\alpha = .71$), anger (e.g., *I felt angry*; Cronbach's $\alpha = .88$), pain (e.g., *I felt hurt*; Cronbach's $\alpha = .91$), anxiety (e.g., *I felt tense*; Cronbach's $\alpha = .80$), sadness (e.g., *I felt depressed*; Cronbach's $\alpha = .87$), guilt (e.g., *I felt responsible*; Cronbach's $\alpha = .80$), shame (e.g., *I was ashamed*; Cronbach's $\alpha = .75$), and happiness (e.g., *I felt happy*; Cronbach's $\alpha = .91$). The 24 items (three for each cluster) were rated on a 7-point Likert scale (from 1 = *not at all* to 7 = *extremely*). Higher scores indicate higher levels of emotions.

Need-Threat

The Need-Threat Scale (Williams, 2009) assesses the general satisfaction of the four fundamental human needs defined by Williams (2009): belonging (e.g., *I felt rejected*; Cronbach's $\alpha = .61$), self-esteem (e.g., *My self-esteem was high*, reverse-scored item; Cronbach's $\alpha = .80$), meaningful existence (e.g., *I felt useless*; Cronbach's $\alpha = .77$), and control (e.g., *I felt I was unable to influence the actions of others*; Cronbach's $\alpha = .71$). The 20 items (five for each need) were rated on a 7-point Likert scale (from 1 = *not at all* to 7 = *extremely*), with high scores indicating a lower fulfillment of basic needs (i.e., higher threat).

Construals

Based on the Multi-Motive model of Smart Richman and Leary (2009), we created an ad-hoc scale to assess how participants evaluated the exclusionary event, the source of rejection, and the context of rejection. From the original model, we selected the more adequate construals for our investigation. Given that the exclusionary event concerned a specific relationship, the chronicity of the exclusion was considered irrelevant for our purposes; thus,

no questions on this dimension were asked. Moreover, we added a measure of expectancy (which was not included among the original construals of Smart Richman and Leary, 2009) because the predictability of the exclusion (i.e., breakup) could influence the victim's experience of the event. Six items (one per construal) were presented on a 7-point Likert scale to the participants. The question stem was: *Think about the recalled event and rate how you perceive it on the following continuums*. The items measured: (1) expectancy of the event (*The event was: 1 = completely unexpected to 7 = completely expected*), (2) value of the relationship (*The relationship was: 1 = not important to me at all to 7 = very important to me*), (3) perceived fairness (*The event was: 1 = completely unfair to 7 = completely fair*), (4) perceived cost of the breakup (*The breakup was: 1 = a big gain to 7 = a big loss*), (5) expectation of relational repair (*1 = I won't be able to maintain the relationship to 7 = I will be able to maintain the relationship*), and (6) possibility of alternative relationships (*1 = There were no other people to turn to to 7 = There were many other people to turn to*).

Aggressive Inclination

Aggressive inclination towards the disengager was measured using the *voodoo doll task* (VDT; DeWall et al., 2013). Specifically, a doll image was presented to participants using the "heat map" option on Qualtrics. Participants were asked to imagine the doll as representing the disengager and were then asked to stab 0 to 10 pins by clicking with the mouse wherever they wished on the doll's body, supposing that each pin would have inflicted harm to the disengager.

Sociodemographic

Participants were asked to provide sociodemographic information, namely gender, age, marital status (single vs. in a relationship), and nationality (Italian vs. not Italian). Finally, participants were asked some details about the recalled event: (1) whether the event was real or imagined, (2) the length of the recalled relationship (in months), (3) how much time (in months) passed from the breakup, and (4) the type of relationship (i.e., romantic or friendly).

Analysis Plan

A set of one-way ANOVAs was conducted to test whether the three breakup strategies were associated with different outcomes for the victims in terms of emotions, threatened basic needs, and construals related to the exclusionary event. Bonferroni-corrected post-hoc tests were used to detect significant differences among pairs of conditions. Based on these analyses, we ran an *a priori* power analysis using the software G*Power, version 3.0 (Faul et al., 2007). The required sample size to find a medium effect size ($f = .25$) with an alpha level equal to .05 and a power of .80 is $N = 159$; thus, we planned to involve a minimum of 53 individuals per condition.

Concerning aggressive inclination towards the disengager, considering the count nature of the dependent variable (i.e., number of clicks) and the high number of observations with a zero frequency (i.e., participants who did not click at all), we opted for a zero-inflated Poisson (ZIP) model. Specifically, the ZIP combines two regression models. The inflated model consists of a logit regression that estimates the cases' probability of being a so-called "certain zero" or, in other words, the cases' probability of being in the group of those who did not stab any pin on the doll. The Poisson model aims to predict the counts (i.e., number of clicks) for the cases not classified as *certain zeros*, that is, the number of pins stabbed by those who stabbed at least one pin. The ZIP model's dependent variable was the total number of clicks on the target (i.e., excluding all the clicks outside the doll's body). The condition was the only predictor, and it was dummy coded into two binary variables, considering rejection as the reference group. A further complementary ZIP model was run, setting ghosting as the reference group to test differences between ghosting and orbiting.

SPSS (version 26), and Mplus (version 7) were used to conduct the ANOVAs and the ZIP models, respectively.

Results

Preliminary Analysis

None of the participants left the recall task question blank. The texts' length varied between 5 and 344 words ($M = 101.15$, $SD = 78.04$). The amount of time spent by participants in completing the survey ranged between 7 minutes and 25 seconds and 57 minutes and 42 seconds (average time: 22 minutes and 55 seconds). We conducted a preliminary qualitative analysis of the texts produced by participants. This first step aimed at selecting the sample on which to conduct the main analysis by dropping all the participants who met at least one of the two following exclusion criteria: (1) the event described was imagined or reported the experience of an acquaintance, (2) the event described was different from the one defined by the experimental condition, and (3) the participant was not the victim of the breakup. From the initial sample size ($N = 278$), we dropped 43 participants who reported never having experienced the requested event (e.g., orbiting). From those who described a real event, we dropped 36 participants based on criterion 2, 16 based on criterion 3, and 7 based on criteria 2 and 3. Thus, the final sample was composed of 176 participants (69.3% females, 21.6% males, 9.1% did not answer), with an age range between 18 and 36 years ($M = 23.39$; $SD = 2.78$), divided into the three conditions: 59 (33.5%) rejection, 63 (35.8%) ghosting, and 54 (30.7%) orbiting. The number of participants in each condition was in line with the required sample size calculated with the *a priori* power analysis. Descriptive statistics of each condition are reported in Table 1.

The three conditions did not differ on age, $F(2, 173) = 1.11$, $p = .33$, $\eta_p^2 = .013$, gender, $\chi^2(2) = 1.21$, $p = .55$, $\phi = .087$, marital status, $\chi^2(2) = 1.89$, $p = .390$, $\phi = .103$, nationality, $\chi^2(2) = 4.01$, $p = .135$, $\phi = .151$, length of relationship, $F(2, 146) = 0.01$, $p = .99$, $\eta_p^2 < .001$, and time from breakup, $F(2, 148) = 0.44$, $p = .64$, $\eta_p^2 = .006$. We found a significant difference only in the type of relationship, $\chi^2(2) = 7.33$, $p = .026$, $\phi = .204$. Based on adjusted standardized residuals (asr), participants in the ghosting condition were more likely to recall friendship (vs. romantic) breakups, $asr = |2.6|$, whereas participants in the rejection condition were more likely to recall romantic (vs. friendship) breakups, $asr = |2.0|$, compared to what was expected from a random distribution. Therefore, the type of relationship was included among predictors in both the ANOVAs and the ZIP models to control for a possible confounding effect.

Table 1. Sociodemographic and Event Characteristics for the Three Conditions: Mean (and Standard Deviation) Were Reported for Continuous Variables, Frequency (and Percentage) for Binary Ones.

	Rejection	Orbiting	Ghosting
Age	23.8 (3.0)	23.2 (2.3)	23.2 (2.9)
Gender			
Female	42 (71.2%)	37 (68.5%)	43 (68.3%)
Male	12 (20.3%)	9 (16.7%)	17 (27.0%)
No answer	5 (8.5%)	8 (14.8%)	3 (4.8%)
Marital Status			
Single	50 (84.7%)	49 (90.7%)	58 (92.1%)
In a relationship	9 (15.3%)	5 (9.3%)	5 (7.9%)
Nationality			
Italian	57 (96.6%)	54 (100%)	63 (100%)
Not Italian	2 (3.4%)	0 (0%)	0 (0%)
Length of relationship in months	35.1 (36.5)	34.1 (43.7)	35.5 (49.9)
Time from breakup in months	24.4 (19.7)	25.9 (19.9)	28.3 (23.2)
Type of relationship			
Romantic	45 (76.3%)	38 (70.4%)	34 (54.0%)
Friendship	14 (23.7%)	16 (29.6%)	29 (46.0%)

Breakup Strategies' Outcomes

Means, standard deviations, and results of the Bonferroni-corrected post-hoc tests for each outcome are reported in Table 2.

Emotions

The analysis revealed that only one cluster of emotions significantly differed among conditions, namely feeling of exclusion, $F(2, 172) = 5.93, p = .003, \eta_p^2 = .065$. Specifically, the Bonferroni post-hoc test showed that participants in the ghosting condition reported more intense feelings of exclusion than did those in the rejection condition. In contrast, participants in the orbiting condition did not differ from others. The three conditions did not differ in the level of the remaining negative emotions: anger, $F(2, 172) = 0.72, p = .49, \eta_p^2 = .008$, pain, $F(2, 172) = 0.22, p = .80, \eta_p^2 = .003$, anxiety, $F(2, 172) = 1.09, p = .34, \eta_p^2 = .013$, sadness, $F(2, 172) = 0.46, p = .86, \eta_p^2 = .002$, guilt, $F(2, 172) = 0.54, p = .58, \eta_p^2 = .006$, shame, $F(2, 172) = 0.48, p = .62, \eta_p^2 = .006$, and happiness, $F(2, 172) = 2.25, p = .11, \eta_p^2 = .026$. The type of relationship did not influence any of the emotions: exclusion, $F(1, 172) = 1.53, p = .22, \eta_p^2 = .009$, anger, $F(1, 172) = 0.28, p = .60, \eta_p^2 = .002$, pain, $F(1, 172) = 0.52, p = .47, \eta_p^2 = .003$, anxiety, $F(1, 172) = 0.77, p = .38, \eta_p^2 = .004$, sadness, $F(1, 172) = 0.67, p = .41, \eta_p^2 = .004$, guilt, $F(1, 172) = 0.96, p = .33, \eta_p^2 = .006$, shame, $F(1, 172) = 2.20, p = .14, \eta_p^2 = .013$, and happiness, $F(1, 172) = 1.75, p = .19, \eta_p^2 = .010$.

Table 2. Differences Among the Three Conditions: Means, Standard Deviation (in Brackets), and Results of Bonferroni-Corrected Post-Hoc.

	Rejection	Orbiting	Ghosting	Post Hoc
Rejected-Related Emotions				
Exclusion	3.61 (1.59)	4.14 (1.41)	4.63 (1.48)	G > R
Anger	3.02 (1.84)	3.36 (1.76)	3.41 (1.68)	-
Pain	3.97 (2.01)	3.73 (1.87)	3.85 (1.58)	-
Anxiety	3.22 (1.60)	3.65 (1.81)	3.33 (1.39)	-
Sadness	3.41 (1.88)	3.36 (1.82)	3.49 (1.54)	-
Guilt	2.65 (1.67)	2.54 (1.55)	2.41 (1.47)	-
Shame	2.44 (1.42)	2.65 (1.69)	2.61 (1.49)	-
Happiness	2.24 (1.67)	1.71 (0.91)	1.85 (1.23)	-
Threat to basic needs				
Belonging	4.03 (1.18)	4.27 (0.99)	4.62 (1.07)	G > R
Self-Esteem	4.63 (1.46)	4.83 (1.24)	5.03 (1.31)	-
Meaningful Existence	3.70 (1.25)	4.03 (1.38)	4.23 (1.31)	-
Control	3.99 (1.22)	4.23 (1.10)	4.70 (1.06)	G > R
Construals				
Event Expectancy	3.95 (1.99)	3.09 (1.77)	2.90 (2.02)	G < R
Value of the Relationship	5.80 (1.82)	5.13 (2.03)	4.79 (2.13)	G < R
Perceived Fairness	3.68 (1.94)	2.94 (1.58)	2.68 (1.74)	G < R
Perceived Cost of the Breakup	3.66 (1.76)	4.24 (1.82)	4.57 (1.81)	G > R
Expectation of Relational Repair	3.31 (2.06)	2.96 (1.68)	2.92 (1.79)	-
Possibility of Alternative Relationship	4.08 (2.12)	4.69 (2.07)	3.98 (2.08)	-

Note. R = Rejection; G = Ghosting; O = Orbiting.

Need-Threat

The ANOVAs showed significant results for belonging, $F(2, 172) = 3.53, p = .032, \eta_p^2 = .039$, and control, $F(2, 172) = 5.50, p = .005, \eta_p^2 = .060$, whereas self-esteem, $F(2, 172) = 1.06, p = .35, \eta_p^2 = .012$, and meaningful existence, $F(2, 172) = 2.00, p = .14, \eta_p^2 = .023$ did not differ among conditions. Specifically, belonging and control were more threatened in the ghosting condition compared to the rejection one, whereas orbiting did not differ from both other conditions. As for emotion, the type of relationship did not influence the threat to any of the

needs: belonging, $F(1, 172) = 2.00, p = .16, \eta_p^2 = .011$, self-esteem, $F(1, 172) = 0.64, p = .43, \eta_p^2 = .004$, meaningful existence, $F(1, 172) = 1.15, p = .28, \eta_p^2 = .007$, control, $F(1, 172) = 0.77, p = .38, \eta_p^2 = .004$.

Construals

The ANOVAs showed significant differences in three construals. Specifically, differences were found for event expectancy, $F(2, 172) = 4.33, p = .015, \eta_p^2 = .048$, value of relationship, $F(2, 172) = 4.16, p = .017, \eta_p^2 = .046$, and perceived fairness, $F(2, 172) = 3.98, p = .020, \eta_p^2 = .044$. Bonferroni post-hoc tests showed that, compared to those in the rejection condition, participants in the ghosting condition reported a significantly lower expectancy of relationship dissolution, perceived the relationship as less valuable, and the breakup as less fair. In contrast, the orbiting condition did not differ from the other conditions. No significant differences were found for the perceived cost of the breakup, $F(2, 172) = 2.96, p = .054, \eta_p^2 = .033$, the expectancy of relational repair, $F(2, 172) = 0.86, p = .42, \eta_p^2 = .010$, and the possibility of alternative relationship, $F(2, 172) = 1.82, p = .17, \eta_p^2 = .021$. The type of relationship showed a significant effect for fairness, $F(1, 172) = 4.36, p = .038, \eta_p^2 = .025$, indicating that the breakup was perceived as less fair in friendship, $M = 2.61, SD = 1.61$, than romantic relationships, $M = 3.34, SD = 1.86$. However, the general prevalence of romantic breakups and the limited sample size did not allow to deepen this effect (e.g., by including interaction terms with the experimental conditions). No other significant effects of the type of relationship were found: event expectancy, $F(1, 172) = 0.86, p = .36, \eta_p^2 = .005$, value of relationship, $F(1, 172) = 0.51, p = .48, \eta_p^2 = .003$, perceived cost of the breakup, $F(1, 172) = 3.81, p = .053, \eta_p^2 = .022$, expectancy of relational repair, $F(1, 172) = 0.34, p = .56, \eta_p^2 = .002$, and possibility of alternative relationship, $F(1, 172) = 0.02, p = .90, \eta_p^2 = .000$.

Aggressive Inclination

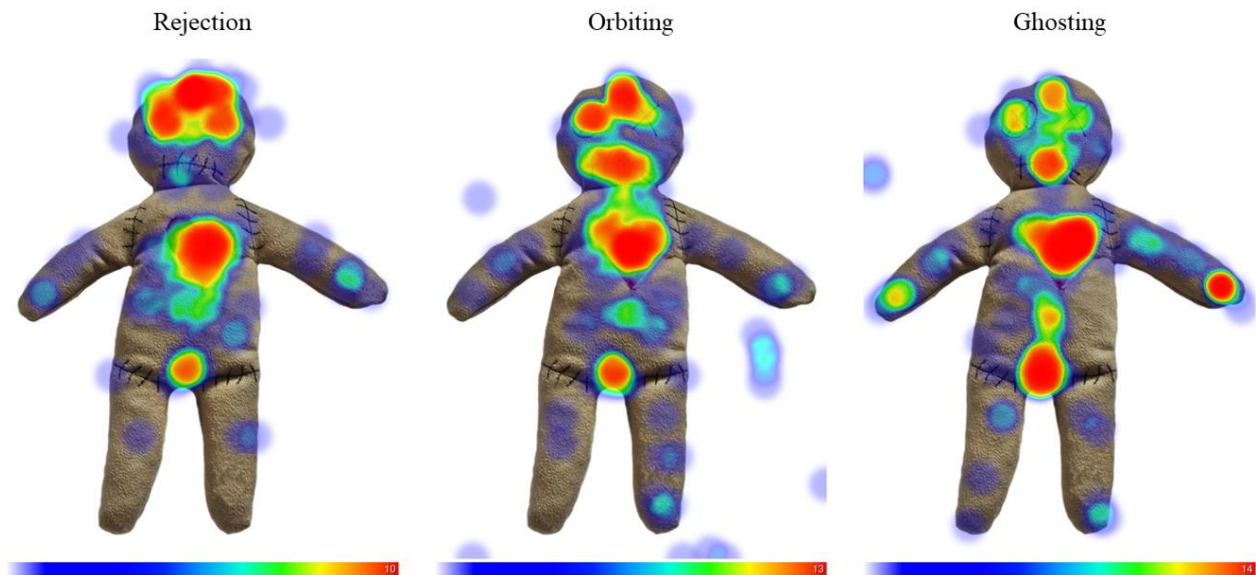
The total number of clicks on the target ranged between 0 and 10, with 0 clicks representing the mode of both the whole sample (42.6%) and each of the three conditions (rejection: 50.8%; orbiting: 42.6%; ghosting: 34.9%). Figure 1 displays the heat maps regarding the pins stabbed in each condition, and Table 3 reports the results of the two complementary ZIP models. Concerning the inflated portion, the probability of stabbing at least one pin was almost identical to that of not stabbing any pin (i.e., being a “certain zero”) in the rejection condition. The chance of stabbing at least one pin (vs. no pins) in the ghosting condition significantly differed from rejection, and its probability was about twice that observed in rejection. As for most of the other outcomes, orbitees probability of stabbing at least one pin did not significantly differ from what was observed in the other two conditions, although it was 1.44 times higher than that of rejected participants. Concerning the Poisson portion, namely the part of the model that referred to those who were not classified as certain zeros, participants in the rejection condition stabbed about five pins on average. According to the Poisson model, participants in the rejection condition stabbed significantly more pins than those in the ghosting condition (about 3.9 pins on average). Once again, orbiting (about 4.6 pins on average) did not differ from the other two conditions.

Table 3. The Results of the Two Complementary ZIP Models.

	Estimate	SE	p-value	Exp(<i>b</i>)
Inflated Model				
Intercept	0.27	0.37	.469	1.31
Ghosting vs. Rejection	-0.78	0.39	.047	0.46
Orbiting vs. Rejection	-0.37	0.39	.344	0.70
Orbiting vs. Ghosting	0.41	0.40	.302	1.51
Type of Relationship	-0.33	0.34	.340	0.72
Poisson Model				
Intercept	1.63	0.11	< .001	5.12
Ghosting vs. Rejection	-0.26	0.12	.030	0.78
Orbiting vs. Rejection	-0.09	0.12	.453	0.91
Orbiting vs. Ghosting	0.17	0.12	.163	1.18
Type of Relationship	-0.04	0.10	.733	0.97

Note. The type of relationship was coded as 0 = *friendship*, 1 = *romantic*.

Figure 1. *The Heat Maps of the Pins Stabbed in the Three Conditions.*



Discussion

Nowadays, a great deal of our sociality occurs on SNSs. Digital platforms, such as Facebook and WhatsApp, are commonly used to communicate with friends and relatives, share content with known and unknown users, find a partner, make new friendships, and strengthen existing relationships. However, research has recently become aware that SNSs might also have a role in breaking up relationships. Ghosting and orbiting are paradigmatic examples of relationship dissolution via SNSs. However, research on these breakup strategies is still at its early stages. Therefore, based on the theoretical models of rejection and ostracism (Smart Richman & Leary, 2009; Williams, 2009), the present study investigated the psychological consequences of ghosting and orbiting, two increasingly frequent relationship dissolution strategies (Freedman et al., 2019) typically enacted through SNSs. Specifically, we compared ghosting, orbiting, and rejection victims on the typical reactions to social exclusion, namely the threat of basic psychological needs, rejection-related emotions, construals, and aggressive inclination. Our findings highlighted both similarities and differences among the three breakup strategies, adding to the recent growing but still limited literature.

The main similarity among the three strategies concerns the outcomes related to the emotional reactions to the breakup. The results showed that levels of rejection-related emotions commonly observed after an exclusionary event (Buckley et al., 2004; Smart Richman & Leary, 2009; Williams, 2009) did not vary across conditions. This result might indicate that the end of a relationship hurts irrespectively from the breakup's specific characteristics. Our finding is also consistent with the literature on relationship dissolution, which considers breakups among the most distressing events in humans' life (L. A. Baxter, 1982; Kendler et al., 2003). Results also align with theoretical models of rejection and ostracism, both of which are thought to induce negative feelings (Smart Richman & Leary, 2009; Williams, 2009).

However, we found that feelings of exclusion were stronger for ghosted than rejected participants. This result might suggest that ghosting represents a more threatening exclusionary experience. This would be in line with our initial hypothesis, according to which receiving negative attention (i.e., being rejected) should be less harmful than not receiving attention at all (i.e., being ostracized as in ghosting). Consistently, studies on silent treatment have shown that the victims usually prefer negative attention (i.e., being insulted and even being the target of physical violence) than being ignored entirely (Zadro, 2004; Zadro et al., 2005). As observed by Sommer et al. (2001), this difference might be due to the victims' difficulty attributing ostracism to a specific cause, which is instead communicated in a rejection episode. According to the authors, not finding reasons for ostracism causes greater pain than attributing the exclusionary event to a specific cause. Similarly, the account-making process (i.e., identifying reasons underlying the disengager's behavior) is crucial in relationship dissolution because it helps individuals interpret the event and recover from it (Blackburn et al., 2014; Rollie & Duck, 2006). The lack of communication that characterizes ghosting makes this process extremely complex, generating confusion and

uncertainty in victims and making them less able to overcome the breakup (LeFebvre, 2017). Thus, difficulties in account-making might explain why ghosting victims felt more excluded than rejected ones.

Concerning orbiting, victims' level of exclusion was in-between those felt by ghostees and rejected individuals. However, this pattern was not statistically significant. This might mean that the effect is not there, thus orbiting is not different from rejection and not from ghosting, while rejection and ghosting are different from each other. Another possibility is linked with the dimension of the effects that could have been too small to be detected in our study. In this case, future studies capable of testing even very small effects should explore this option. Finally, future studies should adopt different paradigms than recall to explore the potential differences among rejection, orbiting, and ghosting. Accordingly, speculating about this tendency is relevant for laying the foundations for future research. In line with the literature mentioned above on silent treatment, the sporadic attention received online by orbitees could be sufficient to reduce their feeling of exclusion compared to ghosting. Although receiving occasional *likes* on social networking sites or having some stories viewed do not help the account-making process, the orbiters' behaviors reveal a sort of residual interest in victims. Orbitees might interpret these behaviors in various ways (e.g., "s/he is still interested in me," "s/he want to come back," or "s/he is spying on me") and might react differently, from hoping to start over the relationship to blocking the orbiters on SNSs (Pancani et al., 2021). Irrespective of whether orbiters' behaviors are perceived as positive or negative, they still represent a form of attention. Thus, contrary to what occurs in ghosting, orbiting victims still receive some attention following the ostracism episode, which could soften to some extent feelings of exclusion. At the same time, the sporadic attention received online prevents orbitees from definitely closing the relationship, which might lead them to long-lasting feelings of exclusion.

A similar pattern of results was observed for most of the other outcomes, even though results reached significance only for some. Among the basic needs, belonging and control were more threatened in ghosting than rejection, whereas orbiting did not significantly differ from these two conditions. The sense of control deserves particular attention, as it was the need most affected by our manipulation, and it was associated with medium effect size. This result emphasizes the crucial characteristic of ghosting (and orbiting), namely the disengager's disappearance. Indeed, the lack of confrontation leaves the victims at the total mercy of the disengagers' decision to break up, significantly reducing the victims' possibility of perceived control of the situation.

As hypothesized, ghosting was perceived as more unexpected and unfair than rejection. In line with extant research (LeFebvre, 2017), the unexpectedness likely derived from the sudden disappearance of the ghosters. Moreover, the lack of clear and satisfying reasons could represent the primary source of unfairness perceived by ghostees, increasing the perceived unfairness of the former partner. Although reasons might be absent also in rejection (e.g., the disengager could simply say: "I don't want to date you anymore"), the disengagers explicitly state their intention to break up. Direct communication might be seen as an assumption of responsibility that reduces victims' negative construals related to the event. Orbitees' perception of unexpectedness and unfairness fell in between those of ghostees and rejected individuals, although it did not significantly differ from them. Following the same reasoning proposed about feelings of exclusion, this non-significant tendency could suggest that the sporadic unilateral online contacts might reduce orbitees' adverse reactions to the partner's disappearance. Once again, the same pattern was observed for a further construal, namely the relationship's value. At first glance, this result seems contradictory. If ghostees perceived the breakup as more unexpected and unfair, they would have likely considered the past relationship more valuable. However, the low value attributed by ghostees to the past relationship might represent a reasonable outcome of adopting either a reciprocal behavior or a coping strategy. Reciprocity is a process that rules people's interactions (Cialdini, 1993; Falk & Fischbacher, 2006) that implies mirroring other people's behaviors. Devaluing the past relationship might be perceived as a reasonable response to the ghosters' disappearance, the most viable way ghostees can reciprocate the ostracism experienced. The devaluation could also derive from a specific coping strategy, namely the cognitive reappraisal of the past relationship. Literature about cognitive reappraisal showed that reframing the event helps individuals reinterpret their emotional reactions, reducing the distress (Gross, 1998; Troy et al., 2010), even in the relationship dissolution context (Finkel et al., 2013). The lack of information and the uncertainty in which ghostees are in pushes them to look for possible reasons underlying the ghosters' decision to break up (Freedman et al., 2019; LeFebvre, 2017; LeFebvre et al., 2020). Therefore, rationalizing the past relationship, ghostees might have increased their emotional distance, overcoming the adverse consequences of the breakup (Denson et al., 2012; Richards et al., 2003).

Concerning aggressiveness, we observed that both the probability of hostile intention (stabbing at least one pin vs. no pins) and aggressiveness intensity (i.e., the number of pins stabbed on the doll) were significantly higher for

rejected individuals than for ghostees. Aggressive behaviors manifest emotions such as anger and shame directed towards a target (Baumeister & Bushman, 2007). In our study, these emotions did not differ among conditions; thus, victims' feelings did not seem responsible for different aggressive intentions. Again, the difference that distinguishes rejection from ghosting was the presence of an explicit breakup reason or, at least, direct communication of the disengager's intentions. Being told why disengagers left them offers the victims specific motives and a target to direct their aggressiveness. Similarly, being told that disengagers want to break up reduces the uncertainty and ambiguity of the situation, offering a specific episode (i.e., the communication of disengagers' intention) to direct aggressiveness. Conversely, the uncertainty generated by the lack of information might have made it challenging to identify motives for hostility and, consequently, a specific target of aggressiveness. However, this is only a possible explanation of victims' aggressiveness in ghosting and rejection, and further studies are needed to deepen this phenomenon. Once again, compared to rejected participants and ghostees, orbitees showed medium levels of probability and intention of aggressive behaviors, reinforcing the speculation that the sporadic attention on SNSs could buffer the adverse effects related to the disengage disappearance.

Limitations and Future Directions

Concerning the present study's limitations, the first pertains to the difference in the type of relationship recalled among the three conditions. The majority of our sample recalled a romantic relationship, but the number of participants recalling friendship in ghosting was higher than expected by chance. However, our data align with Powell et al. (2021), who observed that 44.8% of their sample was ghosted by a friend. According to these data, ghosting might represent a common breakup strategy in friendship. Thus, although almost neglected so far, future studies should focus on investigating possible differences compared to ghosting in romantic relationships. Conversely, romantic relationships were recalled more likely to be recalled in the rejection condition. Given the different distribution of the two types of relationship among conditions, this variable was included among predictors in our analyses, showing a significant effect only for the perceived breakup fairness. Specifically, the breakup was perceived as less fair when the disengager was a friend rather than a romantic partner. This result contrasts with (Freedman et al., 2019), who found that ghosting in friendship was perceived as more acceptable than in romantic relationships. However, differently from Freedman and colleagues, we asked participants to think deeply about a specific breakup that occurred to them. The task has likely induced participants to recall the most significant breakup in the last five years, the most emotionally salient, irrespectively of whether it concerned a friendship or romantic relationship. Indeed, except for fairness perception, the outcomes were not influenced by the type of relationship, indicating similar levels of negative consequences for both types of relationship. However, caution is warranted in interpreting these effects, and further studies are needed to investigate a possible role of the type of relationship.

Second, the time passed from the breakup was quite long (two years on average), and it could have softened the psychological consequences of the event. However, the temporal distance was statistically similar across conditions, reducing its confounding role. Moreover, the end of a relationship is highly distressful (L. A. Baxter, 1982; Kendler et al., 2003). Its recalling could be sufficient to evoke feelings similar to what was experienced during the event.

Third, our sample consisted of young people, and women were overrepresented. Therefore, our findings should be interpreted with caution and cannot be generalized to other populations. For instance, older individuals might be less exposed to ghosting and orbiting and might react to them differently compared to younger people. Future research might consider more varied sample compositions to check whether our results are confirmed.

Fourth, we did not measure factors that could have a role in determining the likelihood and frequency of experiencing ghosting and orbiting, such as technology and social networking sites use. For instance, the frequency of SNSs usage might increase the opportunity to be victims of ghosting and orbiting and the victims' awareness about the disengagers' orbiting behavior. Although we did not measure these constructs, the similarities of participants' characteristics in the three conditions (especially in terms of age and gender) should have limited possible confounding effects due to the different use of digital devices and platforms. Similarly, we did not investigate individual differences, such as emotion regulation, coping strategies, and relational patterns, that could moderate reactions to different breakup strategies. Finally, future studies should investigate how ghosting, orbiting, and rejection are experienced by disengagers, asking participants to recall an event in which they ended up a relationship using one of these strategies.

Fifth, our sample mainly reported breakups of long-term relationships. Indeed, although we observed high variability, the average relationship length was about three years in all the conditions. Although ghosting is commonly thought of as a breakup strategy of short-term relationships, the literature on this phenomenon showed that it could occur even in long-term relationships. Indeed, LeFebvre (2017) conceptualized ghosting characteristics along two axes, one representing the sudden vs. gradual disappearance of the disengager and the other representing the length of the relationship (short- vs. long-term). Moreover, Freedman et al. (2019) investigated the acceptability of ghosting as a breakup strategy, showing that individuals with stronger (vs. weaker) destiny beliefs have stronger intentions to use ghosting to end a long-term relationship. Nevertheless, our findings primarily refer to the breakup of long-term relationships and should not be generalized to victims of ghosting and orbiting in emerging relationships or what might occur on dating apps after a few days (or less) of messaging.

Conclusion

The present research adds to recent literature that interprets ghosting and orbiting as forms of ostracism. The findings indicated that not every breakup strategy hurts the same way, showing that, compared to rejection, ghosting generally leads to worse outcomes, such as a higher threat to basic needs and feelings of exclusion. Breakup's negative effects seemed to be attenuated in orbiting, where the disengager's ambiguous signals might protect the victim from worse experiences of sudden separation. However, we could not exclude that sporadic attention received online might be mitigated only because orbiting's negative effects are dragged out for a long time. Our findings represent only a first step in this field, and future research is needed to overcome the limitations of our study and better address similarities and differences between ghosting, orbiting, and rejection. Research on this topic is paramount to broaden knowledge about how digital technologies (i.e., SNSs) might be used to undermine face-to-face relationships.

Conflict of Interest

The Authors declare that there is no conflict of interest.

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