To Ghost or To Be Ghosted: An Examination of the Social and Psychological Correlates Associated with Ghosting

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ABSTRACT

This paper examines the modern phenomenon known as "ghosting," which can be defined as avoiding another individual (such as a family member, friend, or partner) by suddenly cutting off communication without providing an explanation. From an evolutionary perspective, given that our ancestors lived in small-scale societies, cutting ties with others would have had devastating consequences. To address variables connected with this kind of outcome, we conducted a study with 292 participants (M age = 21.45, SD = 4.19; 26% male, 72.6% female, .3% not listed, 1% preferred not to say). Significant correlations were found between scales measuring particular psychological constructs (e.g., adult attachment, sociosexuality) and ghosting experiences. A regression analysis found that specific constructs independently predicted ghosting experiences. A notable finding was that the more one has ghosted, the more they have been ghosted themselves, with the reverse also being true that the more one has ghosted, the more they ghost others. Overall, in examining the social and psychological correlates associated with ghosting, our findings suggest that those who had been ghosted and those who had ghosted others had a proclivity toward relatively difficult social, emotional, and psychological functioning compared to those with fewer ghosting experiences.

KEYWORDS

Dark Triad, Light Triad, Ghosting, Estrangement, Big Five, Adult Attachment, Sociosexuality

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INTRODUCTION

This research examined the social and psychological correlates associated with ghosting and "ghosting experiences." Largely, this study is a conceptual replication of Geher et al. (2019), which explored the psychological and emotional correlates of social estrangements. Using an evolutionary framework, that study sought to address if a relatively high number of estrangements was associated with a broad array of adverse psychological and social outcomes. In light of the growing nature of social media and other novel communication mechanisms, ghosting may be emerging as a particularly common form of estrangement in the modern world. This study sought to see if the psychology surrounding ghosting parallels the psychology surrounding estrangements.

Evolutionary Psychology of Estrangements

Evolving from small scale, communal living groups, humans have capitalized on and have been defined by the ability to develop stable social connections (Geher et al., 2019). For much of human evolutionary history, humans lived within social groups estimated in size ranging from 20 to 200 individuals (Workman & Read, 2021). The limited size of these communities inhibited our ancestors' ability to choose their comrades; thus, driven by necessity, characteristics such as high levels of reciprocal altruism developed to foster and maintain social connections within group members (Geher et al., 2019). Failure to get along with group mates in ancestral times could have led to ostracism, resulting in fewer reproductive mating choices or even death; with such severe consequences, humans seem to have evolved to be hyper-aware of signals of social alienation (Geher & Wedberg, 2020).

Ubiquitous Correlates of Estrangements on Psychology and Emotions

Past research has shown that social estrangements can have far-reaching negative correlates connected with people's lives as a whole (Geher et al., 2019). More specifically, the number of estrangements that one has in their life is predictive of more depressive tendencies and less social support. The type and quality of the estranged relationship can also have different correlates. People who experience familial estrangement tend to experience considerable loss and social isolation (Agllias, 2017).

In terms of estrangements within friendships, Guitar et al. (2018) studied individuals' emotional responses within two types of virtual social environments; participants in a social-threat condition risked being ostracized, and participants in a social-opportunity condition were able to form allies. Overall, participants in the social-threat condition reported experiencing higher levels of negative emotions, such as shame and embarrassment, when compared to the participants in the social opportunity condition. This particular finding depicts how social alienation and social estrangements can adversely affect people's social and emotional livelihood.

Modern Communication Systems and Modern Form of Estrangements

Modern-day communication systems are advancing at a rapid rate, prompting continually evolving social behaviors. With virtual interfaces becoming increasingly utilized in daily life and in various ways, the environment one communicates within may play a substantial role in estrangement behavior and its correlates as well. Social media platforms have become an agent through which estrangements can easily be made possible. Unlike under the conditions in which we evolved, humans no longer solely estrange publicly, as estrangements can now be curated through various and discrete means. The complex nature of modern-day humans' involvement in the many available forms of online communication can allow for estrangements to become more covert and difficult to detect. In other words, modern communication systems may be conceptualized as highly evolutionarily mismatched from communication systems that were typical in ancestral contexts. Such modern communications, such as social media, may, thus, be problematic in ways that are hard for our modern minds to realize (Geher & Wedberg, 2020).

Modern day communication systems can increase modes of connection but also of alienation and avoidance. Ghosting may be thought of as a new way to estrange oneself from another individual. Individuals can now block someone with instant ease through the click of a button. Utilizing modern-day communication systems as a means of disappearing or withdrawing from a romantic partner has become increasingly popular with society's technological advancements, and likely for other forms of relationships as well (LeFebvre et al., 2019).

Psychological Correlates of Ghosting

Building off Lefebvre's (2019) original definition, ghosting is the act of avoiding another individual (e.g., family member, friend, or partner) without providing an explanation by abruptly cutting off communication. Some current research on this phenomenon has found that ghosting may have both positive and negative outcomes related to one's social world (Blue, 2020). One of the main negative outcomes for the person who was ghosted is the uncertainty that comes with figuring out why the previous connection was severed, which can lead to feelings of confusion and doubt.

A previous study has found additional emotional consequences to having been ghosted (Navarro, Larrañaga, Yubero, & Víllora, 2020). Some past work has found that people who experience both ghosting and related phenomena are less satisfied with life, feel lonelier, and feel more helpless compared to the control group (Navarro et al., 2020). There is also evidence to support that those who have been ghosted blame themselves and their own inadequacies and/or lose faith in humanity because the experience has made them more cautious toward dating in general (LeFebvre & Fan, 2020).

While less is known about the psychological correlates of initiating ghosting behavior, many individuals find justification for their actions despite viewing the practice in itself as deplorable (Manning, Denker, & Johnson, 2019). Categories that tend to emerge when the initiator is questioned behind their reasoning for ghosting include, but are not limited to: the seriousness of the relationship, meeting the other individual online through a dating app, and/or through protective justifications—such

as the individual who was ghosted being abusive (Manning et al., 2019). Most importantly, the intention to ghost another person has been found to be positively correlated with being ghosted, implying that this social phenomenon may be a learned behavior (Navarro et al., 2021).

The Current Study

The current study looks to contribute nuanced empirical evidence regarding ghosting within the field of psychology. In light of the existing body of literature on the psychology of ghosting, this research presents the concept of ghosting in terms of the emotional, social, and psychological correlates associated with the experiences of both ghosting others and the experience of being ghosted.

Given that ancestral humans lived in such small groups, in which estrangements would have had severe survival and reproductive consequences, the evolutionary psychology surrounding ghosting may be quite illuminating. Human connection to our ancestral history plays a critical role in shaping these aspects of our lives, as indicated in prior research, which is why the evolutionary context of ghosting and social media, compared to estrangements done face-to-face, is crucial to examine amongst this research. Given the highly accessible nature of social media, ghosting allows people to estrange others more easily than has ever been possible in the entire human experience. We propose that this evolutionary mismatch may have adverse psychological implications.

Specific variables, broadly framed, that were included here were based on past work speaking to correlates of estrangements (c.f., Geher et al., 2019). Specifically, we studied the Dark Triad of personality (including narcissism, Machiavellianism, and psychopathy; see Jonason & Webster, 2010), the Light Triad of personality (including Kantianism, humanism, and faith in humanity; Kaufman et al., 2019), adult attachment styles (Collins & Read, 1990), life history strategy (or the tendency to approach life as fast or slow; Giosan, 2006), the Big Five Personality Traits (extraversion, emotional stability, openminded-ness, agreeableness, and conscientiousness; c.f., Soto & John, 2017), non-clinical borderline personality tendencies (Zanarini et al., 2003), perceived social support (Zimet et al., 1988), non-clinical depressive tendencies (Zung, 1965), life satisfaction (Diener et al., 1985), and sociosexuality (Penke & Asendorpf, 2008). These variables address a broad suite of social and emotional factors that, based on past work (e.g., Geher et al., 2019), may be related to estrangements and ghosting experiences.

We predicted that individuals who had more ghosting-related experiences would show more adverse and negative social, emotional, and psychological functioning compared to those who have had fewer such experiences. This broad prediction is based very closely on the findings of Geher et al. (2019), which found that estrangements have adverse correlates across a broad array of psychological attributes.

METHOD

Participants

Participants were recruited both through the psychology department subject pool at our medium-sized college in the Northeast and via a mass email sent to the general university community, with a total of 292 students and faculty members who participated in the study. The minimum age was 18, and the maximum age was 45 (M = 21.46, SD = 4.19; 26% male, 72.6% female, .3% not listed, 1% preferred not to say). All participants were English-speakers.

Materials

The study was created and conducted online via Qualtrics surveys. Participants completed 12 measures, as follows:
1. Number of ghosting experiences that one initiated was defined for our participants as "avoiding another individual (such as a family member, friend, or partner) without providing an explanation, by suddenly cutting off communication" while number of ghosting experiences that one reported falling prey to use this same definition but asked people how many times this kind of experience had happened to them.
2. We used the Light Triad (Kaufman et al., 2019), a 12-item measure that assessed "Kantianism" (e.g., "I don't feel comfortable overtly manipulating people to do something I want"), "humanism" (e.g., "I tend to applaud the success over people"), and "faith in humanity" (e.g., "I tend to trust that other people will deal fairly with me"). The scale is scored on a Likert scale of 1-7, where 1 = strongly disagree and 7 = strongly agree. We predicted high scores on each light triad facet to correspond to relatively low scores on both kinds of ghosting experiences.
3. To measure the Dark Triad of personality traits, we used The Dirty Dozen: A Concise Measure of the Dark Triad (Jonasan & Webster, 2010), a 12-item measure of the dark triad which assessed "Machiavellianism" (e.g., "I tend to manipulate others to get my way"), "narcissism" (e.g., "I tend to expect special favors from others"), and "psychopathy" (e.g., "I tend to lack remorse"). The scale is scored on a Likert scale of 1-7, where 1 = strongly disagree and 7 = strongly agree. We predicted high scores on each dark triad facet to correspond to relatively high scores on both kinds of ghosting experiences.
4. The two-item ghosting scale was used, which assessed an individual's ghosting-related experiences. This scale was created by our team for the purpose of this research. The two items were: "How many people have you ghosted in your lifetime?" and "How many people have ghosted you in your lifetime?" The total score was simply the mean of these two items. Note that we also, as mentioned above, utilized these two separate facets of ghosting experiences as independent indices.

5. The next measure was the Big-5 Inventory-2 Short Form (Soto & John, 2017), a 30-item scale that measured the big five personality traits: "open-mindedness" (e.g., "I am someone who is fascinated by art, literature, or music"), "conscientiousness" (e.g., "I am someone who is reliable, can always be counted on"), "extraversion" (e.g., "I am someone who is outgoing, sociable"), "agreeableness" (e.g., "I am someone who is compassionate, has a soft heart"), and "negative emotionality" (e.g., "I am someone who worries a lot"). The scale is scored on a Likert scale of 1-5, where 1 = strongly disagree and 5 = strongly agree. We did not have specific predictions regarding the relationships between these traits and ghosting-related outcomes; rather, we included this measure as these traits have been found to be so foundational in the human personality experience.

6. The next measure was the High-K Strategy Scale: A Measure of the High-K Independent Criterion of Fitness (Giosan, 2006), a 24-item scale that measured traits associated with long-term thinking and planning, such as commitment to relationships, parental investment, existence of social support structures, adherence to social rules, and consideration of risks (e.g., "the activities I engage with both at work and elsewhere are safe (not life threatening)"). The scale is scored on a Likert scale of 1-7, where 1 = strongly disagree and 7 = strongly agree. We predicted scores indicative of a slow life history strategy to correspond to relatively low scores on both kinds of ghosting experiences.

7. The next measure was the 7-item McLean Screening Instrument for Borderline Personality Disorder (MSI-BPD) (Zanarini et al., 2003), which measured traits associated with borderline personality disorder (e.g., "I feel chronically empty"). The scale is scored on a Likert scale of 1-5, where 1 = strongly disagree and 5 = strongly agree. Importantly, as was the case in the study by Sung et al. (2021), this measure was not meant as a clinical marker of BPD but, rather, as a research-based index of traits that have been shown to be predictive of borderline tendencies. We predicted high scores on this measure to correspond to relatively high scores on both kinds of ghosting experiences.

8. The next measure was the 17-item (originally 18-item) Adult Attachment Scale (Collins & Read, 1990), which measured attachment styles, such as: "close" (e.g., "I find it relatively easy to get close to others"), "anxious" (e.g., "I often worry that romantic partners don't really love me"), and "dependent" (e.g., "I am comfortable depending on others"). This scale is scored on Likert scale of 1-7, where 1 = strongly disagree and 7 = strongly agree. One item from the original scale was missing from our survey. Note that the particular question, "In relationships, I often worry that my partner does not really love me," was not included in the *anxiety* section of the scale in our Qualtrics survey due to research error. To correct for this error in our analysis, the means were used to represent the composite score of each subscale, rather than the sum of each question in a particular

subscale. We predicted high scores on the secure facet to correspond to fewer ghosting experiences while we predicted high scores on the insecure facets to correspond to relatively high numbers of ghosting experiences.

9. The next measure was the 9-item Revised Sociosexual Orientation Inventory (SOI-R) (Penke & Asendorpf, 2008), which measures individual differences in the tendency to have casual, uncommitted sexual relationships (e.g., "With how many partners have you had sex within the past 12 months?"). We predicted high scores on this measure to correspond to high scores on both kinds of ghosting experiences.

10. The next measure was the 5-item Satisfaction with Life Scale (Diener et al., 1985), that assessed an individual's satisfaction with their life (e.g., "In most ways, my life is close to my ideal"). The scale is scored on a Likert scale of 1-7, where 1 = strongly disagree and 7 = strongly agree. We predicted high scores on this measure to correspond to relatively low scores on the ghosting measures.

11. The next measure was the 20-item Self-Rating Depression Scale (Zung, 1965), that measured psychological and somatic symptoms linked to depression (e.g., "I feel downhearted and blue"). The scale was scored on a 1-4 Likert scale, where 1 = a little of the time 4 = most of the time. We predicted high scores on this measure to correspond to relatively high scores on the ghosting measures.

12. We used the 12-item Multidimensional Scale of Perceived Social Support (Zimet et al., 1988), which identifies an individual's perceived level of support from family, friends, and significant others (e.g., "There is a special person who is around when I am in need"). This scale is scored on a 1-7 Likert scale, where 1 = very strongly disagree and 7 = very strongly agree. We predicted high scores on these measures to correspond to relatively low scores on the indices of ghosting experiences.

Procedure

Participants read the information regarding the purpose of the study, procedure, potential risks and benefits, and confidentiality statement before beginning. Upon receiving informed consent through the first section of the survey, participants completed demographic questions (e.g., gender and age). Following the demographic questions, participants completed the scales listed above.

RESULTS

This study examined various dispositional correlates of being ghosted as well as ghosting others. In terms of basic descriptive statistics for the ghosting variables, the mean number of people who our participants had ghosted was 8.09 (*SD* = 12.56)

while the mean number of people who had ghosted our participants was, reportedly, 8.40 (*SD* = 14.60).

We used several scales related to social, emotional, and psychological functioning to tap the predictor variables in this research. These variables include: facets of the light triad, facets of the dark triad, the Big Five personality traits, life history strategy, sociosexuality, perceived social support, adult attachment styles, depressive tendencies, satisfaction with life, and borderline personality tendencies. We also developed two ghosting measures for the purpose of this research. Our primary analyses included (a) zero-order correlations between the predictor variables and the three ghosting-related variables (number of people the participant had ghosted, number of others that the participant reported being ghosted by, and a sum of these two aforementioned ghosting measures), and (b) standard multiple regressions designed to predict ghosting experiences from the various predictor variables.

Note that we did not use biological sex as a predictor variable in this research. This decision was largely based on the fact that no such differences were found in the study that this work was based on (Geher et al., 2019) and was not a focus of our basic hypotheses.

Dispositional Correlates of Being Ghosted

The first set of analyses examined the zero-order correlations between each of the predictor variables and each of the ghosting outcome variables. Several significant correlations were found when the frequency of being ghosted was correlated with our personality scales. When correlated with the three facets of the Light Triad and the total Light Triad score, all facets were correlated in the in the directed predicted in the hypothesis with humanism holding statistical significance $r(258) = -.149$, $p = .008$. See Table 1 for a summary of all correlations (as well as alpha coefficients speaking to the internal reliability for each subscale).

Table 1. Zero-Order Correlates of Ghosting Behaviors

Scale	Sub Scale	Correlation with # of People Who Ghosted the Participant	Correlation with # of People One Ghosted	Correlation with # of Total Ghosting Experiences	Cronbach's Alphas for all Subscales
# of People You Ghosted	--	--	.701** (255)	--	N/A

# of People Who Ghosted You	--	.701** (255)	--	--	N/A
# of Total Ghosting Experiences	--	.935** (261)	.910** (260)	--	.819
Light Triad	Humanism	-.149* (259)	-.119* (258)	-.141* (264)	.646
Light Triad	Kantianism	-.028 (257)	-.047 (256)	-.036 (262)	.631
Light Triad	Faith in Humanity	-.059 (249)	-.075 (249)	-.064 (254)	.716
Light Triad	Total	-.100 (245)	-.107* (245)	-.103 (250)	.539
Dirty Dozen	Machiavellianism	.079 (207)	.111 (209)	.097 (212)	.748
Dirty Dozen	Psychopathy	.113 (187)	-.029 (187)	.048 (190)	.699
Dirty Dozen	Narcissism	.149* (213)	.125* (213)	.147* (217)	.793
Dirty Dozen	Total	.127* (177)	.072 (178)	.105 (180)	.640
Big 5	Openness	-.050 (257)	.026 (256)	-.015 (262)	.720

Big 5	Conscientiousness	.022 (258)	-.019 (257)	.009 (263)	.753
Big 5	Agreeableness	-.026 (258)	-.034 (257)	-.030 (263)	.697
Big 5	Extraversion	.124* (257)	.109* (256)	.133* (262)	.726
Big 5	Negative Emotion	.126* (257)	.101 (256)	.113 (262)	.810
Satisfaction With Life	--	-.160** (224)	-.051 (223)	-.114 (228)	.822
Social Support	Friends	.009 (236)	.033 (234)	.023 (240)	.928
Social Support	Family	-.078 (238)	-.005 (236)	-.047 (242)	.921
Social Support	Sig. Other	.022 (238)	.069 (236)	.048 (242)	.961
Social Support	Total	-.021 (236)	.045 (234)	.011 (240)	.547
Adult Attachment	Anxiety	.071 (247)	-.014 (245)	.025 (251)	.653
Adult Attachment	Closeness	-.045 (241)	-.078 (239)	-.063 (251)	.697
Adult Attachment	Dependence	-.140* (247)	-.145* (245)	-.151* (251)	.788

Adult Attachment	Total	-.124** (232)	-.145* (230)	-.097 (251)	.221
Sociosexual	Attitude	.036 (245)	-.009 (243)	.011 (249)	.795
Sociosexual	Behavior	.368** (243)	.210** (241)	.315** (247)	.837
Sociosexual	Desire	.215** (244)	.132** (242)	.186** (248)	.822
Sociosexual	Total	.301** (240)	.165** (238)	.251** (244)	.507
Borderline	--	.207** (248)	.141* (250)	.182** (254)	.829
High K	--	-.062 (215)	-.041 (214)	-.048 (218)	.857
Depression	--	.129 (157)	.067 (159)	.107 (160)	.826

Note: *significant at the 0.05 level; ** significant at the 0.001 level; Ns are in parentheses; the total ghosting variable is the mean of the two individual ghosting variables (number of people one has ghosted and number of people who had ghosted the participant).

A similar pattern was found when the frequency of being ghosted was correlated with the Dirty Dozen Scale and its three facets. All facets and the total for the Dark Triad scores were in the prediction of our hypothesis with Narcissism $r(213)$ = .149, p = .015 and the Dark Triad total scores $r(178)$ = .127, p = .047, meaning that one is more likely to be ghosted if they have multiple traits that are considered dark, specifically if one is excessively preoccupied with themselves.

The results from the Big Five found that, when correlated with the frequency of being ghosted, people who were extraverted were more likely to be ghosted $r(256)$ = .124, p = .024, and that people who have excessive negative emotions were more likely to be ghosted $r(256)$ = .126, p = .022.

Additionally, significance was found when correlating the amount of times someone was ghosted to the Life Satisfaction Scale, $r(224) = -.160$, $p = .008$. People who were found to be more satisfied with life, were less likely to be ghosted.

The Adult Attachment Scale correlations were done using the means of each facet and the scale's total due to missing a single question when participants took the survey. All facets were aligned with our hypothesis. The Dependence facet and the Adult Attachment Scale was negatively correlated with being ghosted, $r(247) = -.140$, $p = .014$.

The Revised Socio-Sexual Orientation (SOI-R) had some of our most significant findings. All three facets and the scale total aligned with our hypothesis and two of the three facets, along with the total, had major significance: Behavior- $r(241) = .368$, $p = .000$, Desire- $r(242) = .215$, $p = .000$, and Total- $r(238) = .301$, $p < .001$. The positive Behavior facet implies that the more sexual partners one has, the more likely they are to be ghosted.

Our borderline tendencies index also showed significance, where people who had more borderline personality-related tendencies were more likely to be ghosted $r(248) = .207$, $p = .001$.

Dispositional Correlates of Ghosting Others

Many of the scales and their facets that were previously mentioned to have significant correlations with the number of times someone was ghosted, also tended to be significant when the participant was the initiator of the ghosting. For example, in terms of the Light Triad, Humanism still held a significant correlation $r(259) = -.119$, $p = .028$. However, in this scenario the Light Triad total was also significant, $r(245) = -.107$, $p = .048$, meaning that if someone possesses more light traits they are less likely to ghost others.

Similarly, with the Dirty Dozen, narcissism was also still significant, $r(213) = .125$, $p = .034$, implying that if you only care about yourself, you are not going to care about the emotional impact of ghosting someone. However, unlike with the participant's frequency of being ghosted, while still in the direction of our hypothesis, the total was not significant.

Our Big Five measure was also important again in this scenario when it came to Extraversion $r(257) = .109$, $p = .042$. Most likely, this result is significant due to participants having more opportunities to ghost someone compared to someone who is not extraverted.

The Revised Adult Attachment Scale yielded significant results again for the Dependence facet $r(245) = -.145$, $p = .012$, and the Total $r(232) = -.145$, $p = .026$.

The Revised Socio-Sexual Orientation (SOI-R) continued to yield some of our strongest correlations with the same facets explained in the previous section: Behavior- $r(243) = .210$, $p = .001$, Desire- $r(244) = .132$, $p = .02$, and Total- $r(240) = .165$, $p = .006$. The Behavior facet may still be due to having more opportunities to engage sexually with people and arranging these meet-ups through electronic means. However, combined with the Desire facet and total scores, it is possible that the participant is initiating the ghosting in so to fully satisfy their sexual desires.

Borderline tendencies still showed significance $r(250) = .141$, $p = .050$, although not as strongly as when the participant is the one being ghosted. This implies

that individuals with more borderline tendencies are more likely to ghost someone than those who do not exhibit such tendencies.

Multiple Regression Predicting Ghosting-Related Outcomes

To address if these predictor variables of ghosting remained as significant when put into a model that includes multiple predictor variables concurrently, we conducted a standard multiple regression analysis using the seven variables that showed a significant zero-order correlation with total ghosting (with the exception of the total SOI variable, as that included two of the other variables as components of itself). Importantly, we conducted these regression analyses separately, once with "number of people whom you have ghosted" as the outcome variable and then with "number of people who have ghosted you" as the outcome variable.

The first regression analysis (see Table 2) used borderline tendencies, extraversion, humanism, and narcissism as predictor variables in predicting the number of people that the participants had, themselves, ghosted. Note that predictor variables were chosen based on two criteria. First, as there was a large number of total predictor variables, variables that showed as significant predictors of this ghosting outcome variable in the correlation table were included. Further, as regression analysis generally requires at least 50 participants per predictor variable, we only used four predictor variables here and we conducted a second regression analysis with other variables that showed significant zero-order correlations with this outcome variable (See Tabachnick & Fidel, 2018).

For this first analysis, the overall model was significant (R^2 = .06, $F(4, 195)$ = 3.00, p = .020). Based on the information about the beta weights, it turned out that only extraversion emerged as a significant predictor (see Table 2). Thus, people who are relatively extraverted tend to have had more people whom they have ghosted relative to others. Note that an examination of multicollinearity diagnostics revealed no major problems of multicollinearity, with the primary eigenvalue (for the first extracted dimension) in this analysis equaling 4.76 (not near zero, which, based on standard conventions, supports the utility of this regression).

Table 2. *Multiple Regression Predicting People Whom Participant Had Ghosted from Basic Personality Trait Variables*

	b	B	sr²
Predictor Variables			
Big 5 Extraversion	.48	.15	.01*

Light Triad Humanism	-.42	-.10	.01
Dirty Dozen Narcissism	.15	.06	.00
Borderline	.31	.13	.01

Note: R^2= .06, $F(4, 195)$ = 3.00, p = .020; *p < .05

The next regression analysis that was conducted used the number of people who had ghosted the participant as the dependent variable, with the same predictor variables as in the prior analyses, including extraversion, humanism, narcissism, and borderline tendencies. The overall model here was also significant (R^2 =.09, $F(4, 196)$ = 4.73, p = .001). A closer examination of each predictor variable showed that extraversion, humanism, and borderline tendencies all had significant independent relationships with the outcome variable (see Table 3). Note that an examination of multicollinearity diagnostics revealed no major problems of multicollinearity, with the primary eigenvalue (for the first extracted dimension) in this analysis equaling 4.76 (not near zero, which, based on standard conventions, supports the utility of this regression).

Table 3. Multiple Regression Predicting Number of People Who Had Ghosted the Participant from Basic Personality Trait Variables

	b	B	sr^2
Predictor Variables			
Big 5 Extraversion	.59	.15	.02*
Light Triad Humanism	-.66	-.14	.01*
Dirty Dozen Narcissism	.17	.05	.00

Borderline	.46	.18	.02*

Note: R^2 = .09, $F(4, 196)$ = 4.72, p = .001; *p < .05

Next, we computed a standard regression using the number of people whom the participant had ghosted as the outcome variable with sociosexuality–behavior, sociosexuality–desire, and attachment-related dependence as the predictor variables. This analysis found that the set of predictor variables was significant (R^2 = .06, $F(3, 231)$ = 5.12, p = .002). As is shown in Table 4, sociosexuality behavior emerged as independently predictive of the outcome variable. The more that people had engaged in sociosexual behaviors, the more that they had ghosted others. As with the prior regression analyses, a diagnostic test of multicollinearity revealed a primary eigenvalue of 3.52, suggesting that this issue is not a concern in this analysis (as it is well over 1.0).

Table 4. Multiple Regression Predicting Number of People Who Had Ghosted the Participant from Basic Personality Trait Variables

	b	B	sr²
Predictor Variables			
Sociosexuality–Behavior	.50	.18	.02*
Sociosexuality–Desire	.08	.04	.00
Attachment–Dependence	-.23	-.11	.01

Note: R^2 =.06, $F(3, 231)$ = 5.12, p = .002; *p < .05

A final regression analysis examined the number of others who had ghosted the participant as the outcome variable with sociosexualiy–behavior, sociosexuality–desire, and attachment–dependence as the predictor variables. For this analysis, the overall model was significant (R^2 = .15, $F(3, 233)$ = 14.19, p < .001). A further examination showed that only sociosexuality–behavior was independently significant; as participants showed more sociosexual behavior, they were more likely to have

been ghosted frequently. Note that a check on multicollinearity found the primary eigenvalue (for the first extracted dimension) to be 3.52, which is considerably greater than 1.0 and shows that multicollinearity is not an issue with this analysis. See Table 5 for details.

Table 5. Multiple Regression Predicting Number of Others Who Had Ghosted the Participant from Interpersonally Based Personality Variables

Predictor Variables	b	B	sr^2
Sociosexuality Behavior	1.02	.33	.09*
Sociosexuality Desire	.19	.08	.00
Adult Attachment Dependence	-.23	-.10	.01

Note: R^2 = .15, $F(3, 233)$ = 14.19, $p < .001$; *$p < .05$

DISCUSSION

Social ostracism in any form is an aversive part of the human experience. This point partly lies in the fact that under ancestral conditions, humans lived in small, tight-knit groups in which people were dependent on the support of others for survival and, ultimately, for successful reproduction (Geher & Wedberg, 2020). For these reasons, being estranged from others seems to have ubiquitous adverse outcomes related to our emotional and social well-being (Geher et al., 2019; Sung et al., 2021).

The current study sought to explore the modern phenomenon of ghosting as the modern form of estrangement. Given past work on the psychology of estrangements, we predicted that a high number of ghosting experiences would, in many ways, parallel the psychological correlates of having a high number of estrangements in general.

A strong positive correlation was found between the number of people one has ghosted and the number of people one has been ghosted by. Based on this finding, the total number of ghosting experiences index emerged as a noteworthy metric of this phenomenon. It is interesting to note that people who ghost others seem to get the same in return (and vice versa), which can be construed as part of a broader

social strategy in which conciliatory and loyal relationships take a back seat to relationships that may have a relatively self-serving function.

Implications of the Central Findings

Generally speaking, degree of ghosting-related experiences showed correlates with markers of social and emotional functioning that paralleled the findings from Geher et al. (2019). That is: A relatively high number of ghosting experiences tended to correlate with relatively adverse outcomes, such as narcissism. Interestingly, the degree of ghosting was positively related to the behavioral facet of sociosexuality as well as extraversion. So, while ghosting, as is true of estrangements, may go hand-in-hand with some negative emotional and social outcomes (such as emotional instability), it also seems to go hand-in-hand with being highly outgoing and having a relatively short-term approach to mating. Therefore, in this day and age, extraverts might know more people, but they also might jilt and be jilted by more people compared with their introverted counterparts. Further, people who have a short-term and relatively non-monogamous mating style might find all kinds of situations in which ghosting or being ghosted are common outcomes (e.g., casual dating or "hook-up culture").

Importantly, things did play out somewhat differently when we examined "number of people you ghosted" as an outcome variable relative to "number of others who had ghosted you." As summarized in our section describing our regression analyses, it seems clear that experiences of being ghosted were somewhat more closely associated with adverse psychological outcomes (such as having an overly dependent attachment style) relative to associations connected with being the initiator of ghosting outcomes (i.e., "the ghoster").

Limitations

While the current study holds many merits in terms of addressing an important social psychological issue (social estrangements) in terms of modern screen-based communication systems, it is not without its limitations. Our measures of ghosting in this study were self-report-based. As is always the case with self-reported data, these data must be taken as approximations. People may be ghosted by others and be oblivious that this is the case, thus affecting self-reports of people's assessments of how many people have ghosted them. The same can be true of the number of people one has ghosted as they may be unaware that they have done so. Future research could benefit from having more behaviorally operationally defined ways of measuring the degree of ghosting experiences.

Importantly, these data are correlational in nature. As such, causal inferences cannot be drawn. Thus, we know that, for instance, number of people that one has ghosted is positively related to narcissism scores, yet we do not know if this is because narcissistic tendencies lead to ghosting others or if the experience of ghosting others leads to narcissistic tendencies—or if some third variable causes both of these outcomes. This same reasoning regarding causal inferences is, importantly, relevant across all the findings in this research given that we were not able to experimentally manipulate the variables in this research.

Further, participants in this study disproportionately represented college students from the Northeast. This fact begs the question as to whether the findings from this study generalize to other, "non-WEIRD" populations. Future research would benefit from collecting data on this topic from individuals who represent a broader array of demographic features. Related, future research could benefit from exploring sex differences in ghosting-related behaviors. Similarly, this research was, by its very design, correlational in nature and, as such, any attempts to draw causal inferences are not really appropriate given the nature of the study's design and data.

Finally, while the definition of "ghosting" used in this study was deeply thought-through, it does not allow for an examination of ghosting via differentiated mechanisms. Specifically, we did not ask participants to report the mechanisms of which they ghost and are ghosted. For instance, perhaps the psychology of ghosting experiences differs between text messaging and different social media platforms. Future research could benefit from examining ghosting experiences through a more nuanced approach.

Bottom Line

Receding to our ancestral roots, ostracism and estrangement from others has been an important adaptive hurdle. In nomadic, small-scale societal conditions, being cut off from even a small number of others could lead to major consequences regarding one's ability to survive and, ultimately, reproduce. Likely for this reason, our minds evolved to avoid cutting ties with others; staying in the good graces of others simply had adaptive benefits under such ancestral conditions. And our psychology surrounding estrangements today shows the fingerprints of such ancient social ecologies (Geher et al., 2019).

In modern conditions, with such a high proportion of communication coming in the form of social media, we can think of ghosting as the new estrangement. In many ways, increases in ghosting experiences seem to go along with the same outcomes as increases in social estrangements: decreased social, emotional, and psychological functioning.

As communication processes evolve at breakneck speed, vis a vis advances in communication technologies, opportunities for ghosting seem to go along for the ride. Better understanding how our evolved psychology plays out in this new landscape will be key to helping cultivate positive outcomes at the individual and community levels.

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