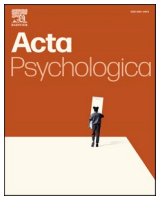
Acta Psychologica 220 (2021) 103425

Contents lists available at ScienceDirect

Acta Psychologica

journal homepage: www.elsevier.com/locate/actpsy



Leaving without a word: Ghosting and the Dark Triad traits☆

Peter K. Jonason [a,b,*], Izabela Kaźmierczak [c], Ana Catarina Campos [d], Mark D. Davis [e]

[a] University of Padua, Italy
[b] University of Cardinal Stefan Wyszyński, Poland
[c] University of Maria Grzegorzewska, Poland
[d] University Fernando Pessoa, Portugal
[e] University of West Alabama, United States of America

ARTICLE INFO

Keywords:
Ghosting
Relationship termination
Narcissism
Psychopathy
Machiavellianism

ABSTRACT

Researchers have extensively explored the early and middle stages of romantic and sexual relationships for those high on the Dark Triad traits (i.e., psychopathy, Machiavellianism, and narcissism) but they have generally missed the termination stage of relationships. In this study we examined ($N = 341$) the role these traits play in one termination strategy, ghosting. Ghosting is when a person discontinues a relationship through silence; it is considered an indirect form of relationship termination. We found that (1) those who reported ghosting someone in the past (vs. those who did not) found ghosting to be acceptable and were more Machiavellian and psychopathic, (2) ghosting was most acceptable in the short-term (vs. long-term) context especially for those who had previously ghosted someone, and (3) those high in the Dark Triad traits rated ghosting more acceptable to terminate short-term relationships, but not long-term ones. We also found that the correlations between acceptability and ghosting short-term partners and the Dark Triad traits was localized to narcissistic men with a similar-yet-weak effect for psychopathy. Results are discussed in relation to how ghosting may be primarily committed by people who are interested in casual sex where investment is low and may be part of the fast life history strategies linked to the Dark Triad traits.

Personality plays a role in how people behave in various aspects of their social lives (Furnham and Heaven, 1999; Snyder and Ickes, 1985). One aspect of social life that has received considerable attention is how people behave in romantic relationships, including how relationships start (e.g., how one finds a partner), progress (i.e., conflict resolution), and end (e.g., divorce). For example, the Big Five traits are correlated with mate choice, relationship stability, and how people break up (Botwin et al., 1997). Agreeableness and intellect-openness are the two most valued characteristics in a partner's personality for both sexes and individuals who have a partner high on these traits, along with emotional stability, are more satisfied with their marriage (Botwin et al., 1997). Alternatively, traits like the Dark Triad (e.g., narcissism, psychopathy, and Machiavellianism) are associated with interest in casual sex, more sex partners, promiscuous attitudes, behaviors, and desires (Jonason et al., 2009), tactics to capture mates from others (i.e., mate poaching; Jonason, Li, and Buss, 2010), and less relationship authenticity in long-term relationships (Holtzman and Strube, 2013; Josephs et al., 2019). Despite the large body of evidence on these topics, little is known about how people characterized by socially undesirable personality traits behave in romantic relationships (Jonason et al., 2020, 2019) and what is known tends to focus on relationship initiation (Jonason et al., 2011) and stability (Lavner et al., 2016; Smith et al., 2014; Yu et al., 2020), with little research on how those characterized by traits like the Dark Triad (Paulhus and Williams, 2002) end relationships (but see Moroz et al., 2018).

The Dark Triad traits of narcissism (e.g., entitlement, superiority), Machiavellianism (e.g., cynicism, manipulativeness), and psychopathy (i.e., callous social attitudes, interpersonal antagonism) have considerable appeal for researchers and lay-people alike. Part of this interest is the wide-ranging relevance they have for romantic and sexual relationships and wide sweeping consequences for the relationship satisfaction of those with the traits. For example, those characterized by Machiavellianism have a game-playing love style (Jonason and Kavanagh, 2010) and they play hard-to-get to increase their desirability as a

☆ The first author was partially funded by the National Science Centre, Poland (2019/35/B/HS6/00682). We thank Amanda Denes and Evita March for feedback on a previous version of our paper prior to submission.

* Corresponding author at: Department of General Psychology, University of Padua, Via Venezia, 12, 35131 Padua, PD, Italy.
E-mail address: peterkarl.jonason@unipd.it (P.K. Jonason).

https://doi.org/10.1016/j.actpsy.2021.103425
Received 30 July 2021; Received in revised form 30 September 2021; Accepted 30 September 2021
Available online 2 October 2021

partner (Jonason and Li, 2013). Those characterized by narcissism and psychopathy may have rape-enabling attitudes, engage in sexual coercion (Figueredo et al., 2015; Jonason et al., 2017; Lyons et al., 2020; Prusik et al., 2021), and commit relationship aggression (Carton and Egan, 2017). Those high in these traits appear to prefer others who are like them as romantic partners but "suffer" for this choice with less relationship satisfaction (Kay, 2021; Koladich and Atkinson, 2016; Lavner et al., 2016; Smith et al., 2014; Webster et al., 2016). It appears that those characterized by these traits have a selfish, causal, and even exploitive approach to relationships.

One might then expect the traits to have similar manifestations in relationship termination but as far as we know, few studies have examined this question. There is a relative imbalance in what we know about the role of these traits in different stages of relationship development. Unsurprisingly, given the apparently high interest in casual sex characteristic of people high in the Dark Triad traits, researchers have primarily studied aspects of relationship initiation, mate choice, and sexual attitudes. However, even in the case of short-term relationships, these people still need to extract themselves from entangling commitments (Jonason and Buss, 2012). In this study, we make in-roads to understanding one form of relationship termination pattern that may be common in those characterized by the Dark Triad traits.

While there are many ways to leave one's partner (Schmitt and Shackelford, 2003), we focus on one here called *ghosting*. Ghosting is a relatively common and an indirect form of relationship termination (Banks et al., 1987; Baxter, 1984; Hill et al., 1976) where one person simply stops communicating with the other and often "unfriends" and "unmatches" them on social media (De Wiele and Campbell, 2019; LeFebvre, 2017; LeFebvre et al., 2019; Manning et al., 2019). Prior research has often been qualitative in nature, relying on small samples, and, when quantitative, it focused on outcomes like psychological health and predictors like relationship-destiny beliefs (Freedman et al., 2019; Koessler et al., 2019a, 2019b; Navarro et al., 2020; Tong and Walther, 2010).

Ghosting may be a particularly appealing way to terminate relationships for those characterized by the Dark Triad traits because they tend to lack empathy that might suppress this kind of break-up style and they are motivated towards casual sex. It is, after all, passive aggressive, avoiding the undesirable or punishing aspects of relationship termination (i.e., difficult conversations), and callous in that it is done with selfish and unempathetic intent. Those characterized by the Dark Triad traits have low levels of empathy (Turner et al., 2019) and prefer reward-seeking behaviors (Jonason and Jackson, 2016) which may be part of the package of traits that make ghosting appealing to those characterized by these traits. More specifically, the grandiosity and pride characteristic of those who are narcissistic may translate into a lack of willingness to admit to a "mating mistake" (i.e., delusions of grandeur) or have a direct confrontation where they may be revealed to be in the wrong, leading narcissistic people to engage in ghosting (i.e., avoidant conflict management). The overt duplicity of those who are Machiavellian may also promote ghosting given open and honest break-ups may run contra to their deceptive, pragmatic approach to the world and relationships. And last, ghosting is noted as an emotionally cold, if not abusive, way of terminating relationships, so those who are characterized by dispositional callousness, like those high in psychopathy, may engage in ghosting.

Life history theory (Charnov, 1993; Stearns, 1992) can provide a theoretical framework for understanding the relationship between the Dark Triad traits and ghosting. Although humans are generally characterized by the use of slower life history strategies compared to most other species, some people might prefer short-term over long-term gains in some circumstances (Hill, 1993). Life history strategies can be treated as individual differences (Figueredo et al., 2005). Fast life history strategists are often more selfishly motivated and impose externalities on others for their own benefits (Jonason, Koenig, and Tost, 2010) and in some circumstances they might be preferred over striving for long-term gains (Hill, 1993). Therefore, given the fast life history strategies of those high in the Dark Triad traits (Jonason, Koenig, and Tost, 2010; Koehn et al., 2019; Mealey, 1995), we predict (1) ghosting will be more appealing to those high on the Dark Triad traits and (2) those who have ghosted in the past will score higher on the Dark Triad traits.

An important—yet often overlooked—feature of relationships is the degree of investment called for by those engaged in it. Relationships that are characterized by high levels are long-term in nature (i.e., romantic) whereas relationships that are characterized by low levels are short-term in nature (i.e., casual sex). Sexual strategies theory suggests that sex differences in various aspects of mating psychology are moderated by or dependent on the "seriousness" of the relationship (Buss and Schmitt, 1993) and we expect this to be important in understanding the relationships between the Dark Triad traits and ghosting. Long-term relationships are characterized by a degree of embeddedness and emotional connection (e.g., living together, family connections, children, shared finances) that may make ghosting exceedingly complicated. In contrast, short-term relationships lack substantial embeddedness and emotional connection making it easier and, thus more acceptable, to extract oneself via ghosting (Freedman et al., 2019; Koessler et al., 2019a; Manning et al., 2019). Therefore, we expect (1) ghosting will be more acceptable in the short-term than the long-term context (2) especially for those who have ghosted people in the past who themselves more likely to be higher on the Dark Triad traits and that (3) ghosting will be seen as more acceptable for those high in the Dark Triad traits in the short-term but not the long-term context.

1. Method

1.1. Participants and procedure

Participants were 341 volunteers (76.4% female, 23.3% male) from the USA, aged 18 to 72 ($M = 29.12$; $SD = 11.10$), who were recruited for an online study in late 2019. Participants were mostly White (71.7%) undergraduate students (42.1%), the rest being predominantly African American and snowball participants from Facebook. To standardize responses and to best inform participants, we told them that "ghosting is when a person abruptly socially disengages with someone they are romantically/sexually involved with little-to-no explanation." Our sampling strategy sought to balance concerns of power, the stability of correlations, and the appearance of *p*-hacking by restricting data collection to six months (Richard et al., 2003; Schönbrodt and Perugini, 2013). Participants were informed of the nature of the study prior to partaking it, were asked to and provided tick-box consent, completed a series of measures, and, at the end, were thanked and debriefed. The study was approved by the ethics committee at the University of West Alabama (#18-23); it was not pre-registered but the data can be found on the Open Science Framework.[1] Analyses were conducted using IBM SPSS 26 for Windows and an online calculator.[2]

1.2. Measures

We measured the Dark Triad traits with the 27-item Short Dark Triad questionnaire (Jones and Paulhus, 2014). Participants indicated their agreement (1 = *Strongly disagree*; 5 = *Strongly agree*) with items such as "It's not wise to tell your secrets" (i.e., Machiavellianism), "People see me as a natural leader" (i.e., narcissism), and "Payback needs to be quick and nasty" (i.e., psychopathy). Items were averaged for the corresponding measures of Machiavellianism (Cronbach's $\alpha = 0.72$), narcissism ($\alpha = 0.68$), and psychopathy ($\alpha = 0.75$).

We captured individual differences in attitudes towards ghosting short-term and long-term relationships by asking participants how much

[1] https://osf.io/yhd5x/?view_only=bbb17bdc9a7f4eac9444c27725de6996
[2] http://quantpsy.org/corrtest/corrtest.htm

they agreed (1 = *Strongly disagree*; 10 = *Strongly agree*) that "Ghosting is acceptable to end a short-term/casual sex [long-term/serious] relationship".[3] We randomized the presentation of the relationship context. In addition, we asked whether participants have ghosted someone in the past (yes [51%]/no [49%]).

2. Results

First, we report correlations and descriptive statistics for the Dark Triad traits and the acceptability of ghosting (Table 1). The Dark Triad traits were correlated with the acceptability of ghosting only in the short-term context; accounting for only 4% ($F[3, 315] = 4.80$, $p = .003$) of the total variance in individual differences in acceptability ratings in the short-term context in a standard multiple regression with three (residualized) predictors (Machiavellianism ($\beta = 0.09$), narcissism ($\beta = 0.11$), and psychopathy ($\beta = 0.07$). These three correlations were similar in men and women, with only one case of moderation (when comparing zero-order correlations) of these correlations where the correlation for narcissism and acceptability for ghosting short-term mates was larger (Fisher's $z = 2.22$, $p < .05$) in men ($r = 0.36$, $p < .01$) than in women ($r = 0.08$). We detected a similar, albeit nonsignificant, effect ($z = 1.73$, $p < .10$) for psychopathy ($r_{men} = 0.31$, $p < .01$; $r_{women} = 0.09$).[4] We replicated sex differences in the Dark Triad traits and when comparing whether people had ghosted others in the past, those who had ($M = 3.07$; $SD = 0.61$) were more Machiavellian ($t[320] = 2.22$, $p < .03$, Cohen's $d = 0.25$) than those who had not ghosted anyone in the past ($M = 2.91$; $SD = 0.66$) and those who had ghosted in the past ($M = 2.02$; $SD = 0.61$) were more psychopathic ($t[323] = 3.31$, $p = .001$, $d = 0.37$) than those who had not ghosted anyone in the past ($M = 1.81$; $SD = 0.55$).

Second, we ran a 2 (participant's sex) × 2 (having ghosted in the past) × 2 (relationship type) mixed model ANOVA (with relationship type as the "within-subjects" factor and remaining variables as the "between-subjects" factors), revealing an interaction (see Fig. 1) of acceptability ratings for relationship types and prior ghosting ($F[1,323] = 16.85$, $p < .001$; $\eta_p^2 = 0.05$) a main effect of prior ghosting ($F[1, 323] = 7.48$, $p = .007$; $\eta_p^2 = 0.02$), and a main effect for relationship-type ($F[1, 323] = 146.08$, $p < .001$; $\eta_p^2 = 0.31$). The interaction revealed that ghosting was more acceptable for short-term ($M = 4.26$; $SD = 3.18$) than long-term relationships ($M = 1.80$; $SD = 2.17$), those who have ghosted others in the past ($M = 3.34$; $SD = 2.62$) rated ghosting more acceptable than those who have not ($M = 3.34$; $SD = 2.60$), and ghosting short-term partners was especially acceptable to those who have ghosted in the past.

3. Discussion

With the development of singular and brief self-report measures of the traits and insights from life history theory, there has been an explosion of interest in the Dark Triad by researchers from various disciplines (e.g., psychology, media, business). For those interested in interpersonal relationships, researchers have invested meaningful time and resources to understanding an array of relationship patterns linked with these traits like intentions towards infidelity (Alavi et al., 2018; Jones and Weiser, 2014), jealousy (Barelds et al., 2017; Chin et al., 2017), intrasexual competition (Goncalves and Campbell, 2014) and more. However, they have been myopic in their pursuit of understanding the beginnings of relationships and not the endings (but see Moroz et al., 2018). This is partly a function of the revelation of the strong links between the traits and promiscuous attitudes, behaviors, and desires (Jonason et al., 2009) and researchers assuming this precludes them from engaging in relationships that might need termination (e.g., long-term relationship; Holtzman and Strube, 2013). But even short-term relationships need some termination even if it is perfunctory. For instance, people engaged in "booty call" relationships (see Jonason, 2013) need to disconnect just like those in serious relationships, the difference being that more commitment makes "simple" break-ups harder. In this study, we examined one "simple", indirect method for relationship termination (LeFebvre, 2017; Manning et al., 2019), ghosting, as it relates to the Dark Triad traits in men and women.

Given the interest in casual sex held by those high in the Dark Triad traits along with their limited empathy, tendency to prefer rewards, and their exploitive mating style, we predicted that those high in the Dark Triad traits would find ghosting acceptable, but this would only be in the context of short-term relationships. We also found this pattern may be stronger in men than women for narcissism and (slightly so) for psychopathy although evidence for moderation is tentative at best. We contend that these results are consistent with a life history approach to the Dark Triad traits and romantic relationships. Ghosting may be a way that people, men in particular, high on psychopathy and narcissism (i.e., with their fast mating strategies) may engage in ghosting as an efficient low cost way of divesting themselves of one casual sex partners to either pursue other opportunities or simply to avoid getting in unwanted commitments.

Our study showed that those who had ghosted others in the past were more Machiavellian and more psychopathic (but not narcissistic) than those who had not ghosted anyone. A possible explanation for this is that while the difference in Machiavellianism may be explained by shared variance with psychopathy (e.g., Persson et al., 2019), the psychopathy effect may be actually a lack of empathy effect. That would be consistent with the finding that the association of low affective empathy with Machiavellianism and psychopathy is stronger than its association with narcissism (Turner et al., 2019) and that narcissism is linked to some empathy skills rather than empathy deficits (Jonason and Kroll, 2015). The results seem to confirm that narcissistic people's repertoire may include a greater degree of understanding the pain of others to better get what they want from them as part of the relationship instead of ending it like Machiavellians and psychopaths.

While previous research suggests that ghosting may be more common in casual relationships than in serious ones (LeFebvre et al., 2019), no research to date has examined this form of relationship termination in relation to the Dark Triad traits nor using life history theory as an organizing framework. Instead, past research on ghosting was often qualitative, relying on small samples, exploratory, focused on the impact of ghosting on people's psychological health, and rarely examined the role of personality traits (e.g., Koessler et al., 2019b; LeFebvre et al., 2020; LeFebvre and Fan, 2020). Our results, therefore, improve on past research in several ways. First, our study highlights the importance of the role of the Dark Triad traits in a relationship phase that has received little attention. Second, our study draws attention to the role of socially antagonistic personality traits in non-clinical relationship behaviors. Third, we advance the case that a life history framework may be an effective paradigm to understand the relationship termination behaviors of people with high levels of the Dark Triad. And fourth, in the context of short-term relationship termination, we shift research from pathologizing ghosting to seeing it as a rational, albeit cold, outcome of underlying personality biases.

3.1. Limitations and conclusions

Despite these revelations, our study was limited in several ways. First, it relied on a W.E.I.R.D. sample which may limit our conclusions. Nevertheless, normal science examining the cross-cultural robustness and moderation by country is warranted. Second, we focused on short-term and long-term relationships only but there are several hybrid

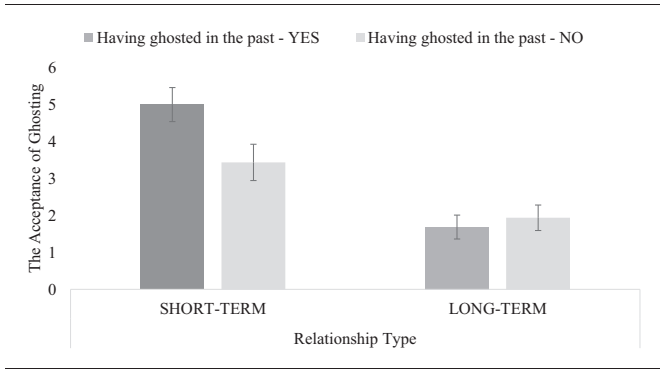
[3] Q2_1 and Q2_2 in the dataset available on OSF.

[4] More details about moderation are available by request. However, when we correct for Type 1 error inflation and use a two-tailed test to be more conservative, the moderation drops out suggesting relative uniformity across the sexes in these correlations.

Table 1
Descriptive statistics, sex differences, and correlations among the Dark Triad traits and the acceptability of ghosting short-term and long-term relationship partners.

	1	2	3	4	5
1. Machiavellianism	–				
2. Narcissism	0.27**	–			
3. Psychopathy	0.52**	0.34**	–		
4. STR Ghosting	0.17**	0.16**	0.17**	–	
5. LTR Ghosting	0.09	0.02	0.02	0.30**	–
Overall *M* (SD)	3.00 (0.63)	2.83 (0.58)	1.93 (0.59)	4.23 (3.12)	1.80 (2.18)
Men *M* (SD)	3.26 (0.66)	2.97 (0.59)	2.31 (0.63)	4.77 (3.23)	2.08 (2.53)
Women *M* (SD)	2.92 (0.60)	2.78 (0.57)	1.81 (0.52)	4.08 (3.07)	1.72 (2.06)
t-Test	4.24**	2.50*	6.98**	1.71†	1.27
Hedges' *g*	0.55	0.33	0.91	0.22	0.16

Note. STR = short-term relationships; LTR = long-term relationships; Hedges' *g* can be interpreted like Cohen's *d* but addresses the sample sizes imbalances in the sexes here.
† $p < .10$.
* $p < .05$.
** $p < .01$.



Note. Error bars are 95% confidence intervals

Fig. 1. The interaction of acceptability ratings for relationship types and prior ghosting.
Note. Error bars are 95% confidence intervals.

relationships that might warrant attention. For example, in polyamorous relationships ghosting may be uncommon for the same reasons that it is uncommon in long-term relationship; they are both characterized by commitment, intimacy, and honesty (in principle). In contrast, booty call relationships may be rife with ghosting because these relationships have minimal commitment and are between "friends" who have sex (Jonason, Li, and Richardson, 2010). Third, our measurement of ghosting was confined to two, face-valid attitudinal items which may be limited both psychometrically and conceptually. Psychometrically, they may be more error-laden, whereas, conceptually, they may hide a potentially multidimensional system of reasons to ghost. And last, by relying on the Short Dark Triad measure, we have excluded the possibility that other dark traits might be relevant like sadism and spitefulness and even other important personality traits like limited empathy. In addition, because Machiavellianism and psychopathy items have large general factor loadings original English (e.g., Persson et al., 2019) and in some cultural adaptations (e.g., Rogoza and Cieciuch, 2019), our finding that those who ghosted others in the past were more Machiavellian and more psychopathic than those who had not ghosted anyone in the past should be interpreted with some caution. Therefore, future research might replicate our results with alternative measures like the Short Dark Tetrad (Paulhus et al., 2021), which deemphasizes the similarities between the Dark Triad traits.

Despite these limitations, we have provided new information about how the Dark Triad traits function in an understudied phase of relationships and provided new information about one type of relationship termination. While more work is warranted, we can conclude that ghosting is considered acceptable by people, men in particular, high in the Dark Triad traits when attempting to extract themselves from low investment relationships. This may, therefore, reveal that some cases of ghosting, and the related "trauma" associated with it, might simply be a matter of differences in partner's perspectives on the relationship. If one party believes the relationship is serious (someone likely to be lower on the Dark Triad traits) and the other person does not (someone likely to be higher on the Dark Triad traits), the latter person may not feel obligated to grant the former person the courtesy of a direct, compassionate break-up which may undermine the happiness of the former person.

Declaration of competing interest

The authors report no conflicts of interest.

References

Alavi, M., Kye Mei, T., & Mehrinezhad, S. A. (2018). The darktriad of personality and infidelity intentions: The moderating role of relationship experience. *Personality and Individual Differences, 128*, 49–54.
Banks, S. P., Altendorf, D. M., Greene, J. O., & Cody, M. J. (1987). An examination of relationship disengagement: Perceptions, breakup strategies, and outcomes. *Western Journal of Speech Communication, 51*, 19–41.
Barelds, D. P. H., Dijkstra, P., Groothof, H. A. K., & Pastoor, C. D. (2017). The darktriad and three types of jealousy: Its' relations among heterosexuals and homosexuals involved in a romantic relationship. *Personality and Individual Differences, 116*, 6–10.
Baxter, L. A. (1984). Trajectories of relationship disengagement. *Journal of Social and Personal Relationships, 1*, 29–48.
Botwin, M. D., Buss, D. M., & Shackelford, T. K. (1997). Personality and mate preferences: Five factors in mate selection and marital satisfaction. *Journal of Personality, 65*, 107–136.
Buss, D. M., & Schmitt, D. P. (1993). Sexual strategies theory: An evolutionary perspective on human mating. *Psychological Review, 100*, 204–232.
Carton, H., & Egan, V. (2017). The dark triad and intimate partner violence. *Personality and Individual Differences, 105*, 84–88.
Charnov, E. L. (1993). Oxford University Press.
Chin, K., Atkinson, B. E., Raheb, H., Harris, E., & Vernon, P. A. (2017). The dark side of romantic jealousy. *Personality and Individual Differences, 115*, 23–29.
De Wiele, C. V., & Campbell, J. F. (2019). From swiping to ghosting: Conceptualizing rejection in mobile dating. In A. Hetsroni, & M. Tuncez (Eds.), *It happened on Tinder* (pp. 168–175). Institute of Network Cultures.
Figueredo, A. J., Gladden, R. P., Sisco, M. M., Patch, E. A., & Jones, D. N. (2015). The unholytrinity:Thedarktriad, sexual coercion, and Brunswik-symmetry. *Evolutionary Psychology, 13*, 435–454.
Figueredo, A. J., Vásquez, G., Brumbach, B. H., & Schneider, S. M. (2005). The K-factor: Individual differences in life history strategy. *Personality and Individual Differences, 39*, 1349–1360.
Freedman, G., Powell, D. N., Le, B., & Williams, K. D. (2019). Ghosting and destiny: Implicit theories of relationships predict beliefs about ghosting. *Journal of Social and Personal Relationships, 36*, 905–924.
Furnham, A., & Heaven, P. (1999). *Personality and social behavior*. Arnold.
Goncalves, M. K., & Campbell, L. (2014). The darktriad and the derogation of mating competitors. *Personality and Individual Differences, 67*, 42–46.
Hill, C. T., Rubin, Z., & Peplau, L. A. (1976). Breakups before marriage: The end of 103 affairs. *Journal of Social Issues, 32*, 147–168.
Hill, K. (1993). Life history theory and evolutionary anthropology. *Evolutionary Anthropology, 2*, 78–88.

Holtzman, N. S., & Strube, M. J. (2013). Above and beyond short-term mating, long-term mating is uniquely tied to human personality. *Evolutionary Psychology, 11*. https://doi.org/10.1177/147470491301100514

Jonason, P. K. (2013). Four functions for four relationships: Consensus definitions in university students. *Archives of Sexual Behavior, 42*, 1407–1414.

Jonason, P. K., & Buss, D. M. (2012). Avoiding entangling commitments: Tactics for implementing a short-term mating strategy. *Personality and Individual Differences, 52*, 606–610.

Jonason, P. K., Girgis, M., & Milne-Home, J. (2017). The exploitive mating strategy of the darktriad traits: Tests of rape-enabling attitudes. *Archives of Sexual Behavior, 46*, 697–706.

Jonason, P. K., & Jackson, C. J. (2016). The darktriad traits through the lens of reinforcementsensitivitytheory. *Personality and Individual Differences, 90*, 273–277.

Jonason, P. K., & Kavanagh, P. (2010). The dark side of love: Thedarktriad and love styles. *Personality and Individual Differences, 49*, 606–610.

Jonason, P. K., Koenig, B. L., & Tost, J. (2010a). Living a fast life: Thedarktriad and lifehistorytheory. *Human Nature, 21*, 428–442.

Jonason, P. K., & Kroll, C. H. (2015). A multidimensional view of the relationship between empathy and the darktriad. *Journal of Individual Differences, 36*, 150–156.

Jonason, P. K., & Li, N. P. (2013). Playing hard-to-get: Manipulating one's perceived availability as a mate. *European Journal of Personality, 27*, 458–469.

Jonason, P. K., Li, N. P., & Buss, D. M. (2010b). The costs and benefits of the darktriad: Implications for mate poaching and mate retention tactics. *Personality and Individual Differences, 48*, 373–378.

Jonason, P. K., Li, N. P., & Richardson, J. (2010c). Positioning the booty-call on the spectrum of relationships: Sexual but more emotional than one-night stands. *The Journal of Sex Research, 47*, 1–10.

Jonason, P. K., Li, N. P., Webster, G. W., & Schmitt, D. P. (2009). The darktriad: Facilitating short-term mating in men. *European Journal of Personality, 23*, 5–18.

Jonason, P. K., Lowder, A. H., & Zeigler-Hill, V. (2020). The mania and ludus love styles are central to pathological personality traits. *Personality and Individual Differences, 165*, Article 110159.

Jonason, P. K., Valentine, K. A., Li, N. P., & Harbeson, C. L. (2011). Mate-selection and the darktriad:Facilitating a short-term mating strategy and creating a volatile environment. *Personality and Individual Differences, 51*, 759–763.

Jonason, P. K., Zeigler-Hill, V., & Hashmani, T. (2019). Love, sex, and personality pathology: A life history view of personality pathologies and sociosexuality. *The Journal of Sex Research, 56*, 239–248.

Jones, D. N., & Paulhus, D. L. (2014). Introducing the shortdarktriad (SD3): A brief measure of dark personality traits. *Assessment, 21*, 28–41.

Jones, D. N., & Weiser, D. A. (2014). Differential infidelity patterns among the darktriad. *Personality and Individual Differences, 57*, 20–24.

Josephs, L., Warach, B., Goldin, K. L., Jonason, P. K., Gorman, B. S., Masroor, S., & Lebron, N. (2019). Be yourself: Authenticity as a long-term mating strategy. *Personality and Individual Differences, 143*, 118–127.

Kay, C. S. (2021). Negative traits, positive assortment: Revisiting the darktriad and a preference for similar others. *Journal of Social and Personal Relationships*, 1–20.

Koehn, M. A., Okan, C., & Jonason, P. K. (2019). A primer on the darktriad traits. *Australian Journal of Psychology, 71*, 7–15.

Koessler, R. B., Kohut, T., & Campbell, L. (2019a). When your boo becomes a ghost: The association between breakup strategy and breakup role in experiences of relationship dissolution. *Collabra: Psychology, 5*, 29.

Koessler, R. B., Kohut, T., & Campbell, L. (2019b). Integration and expansion of qualitative analyses of relationship dissolution through ghosting. https://psyarxiv.com/3kvdx/.

Koladich, S. J., & Atkinson, B. E. (2016). The dark triad and relationship preferences: A replication and extension. *Personality and Individual Differences, 94*, 253–255.

Lavner, J. A., Lamkin, J., Miller, J. D., Campbell, W. K., & Karney, B. R. (2016). Narcissism and newlywed marriage: Partner characteristics and marital trajectories. *Personality Disorders: Theory, Research, and Treatment, 7*, 169–179.

LeFebvre, L. E. (2017). Phantom lovers: Ghosting as a relationship dissolution strategy in the technological age. In N. Punyanunt-Carter, & J. S. Wrench (Eds.), *Swipe right for love: The impact of social media in modern romantic relationships* (pp. 219–236). Rowman & Littlefield.

LeFebvre, L. E., Allen, M., Rasner, R. D., Garstad, S., Wilms, A., & Parrish, C. (2019). Ghosting in emerging adults' romantic relationships: The digital dissolution disappearance strategy. *Imagination, Cognition, and Personality: Consciousness in Theory, Research, and Clinical Practice, 39*, 125–150.

LeFebvre, L. E., & Fan, X. (2020). Ghosted?: Navigating strategies for reducing uncertainty and implications from ambiguous loss. *Personal Relationships, 27*, 433–459.

LeFebvre, L. E., Rasner, R. D., & Allen, M. (2020). "I guess I'll never know…": Non-initiators account-making after being ghosted. *Journal of Loss and Trauma: International Perspectives on Stress & Coping, 25*, 395–415.

Lyons, M., Houghton, E., Brewer, G., & Brien, F. O. (2020). The darktriad and sexual assertiveness predict sexual coercion differently in men and women. *Journal of Interpersonal Violence*, 1–16.

Manning, J., Denker, K. J., & Johnson, R. (2019). Justifications for 'ghosting out' of developing or ongoing romantic relationships: Anxieties regarding digitally-mediated romantic interaction. In A. Hetsroni, & M. Tuncez (Eds.), *It happened on Tinder* (pp. 114–132). Institute of Network Cultures.

Mealey, L. (1995). The sociobiology of sociopathy: An integrated evolutionary model. *Behavioral and Brain Sciences, 18*, 523–599.

Moroz, S., Chen, S., Daljeet, K. N., & Campbell, L. (2018). The darktriad and break-up distress. *Personality and Individual Differences, 132*, 52–59.

Navarro, R., Larrañaga, E., Yubero, S., & Víllora, B. (2020). Psychological correlates of ghosting and breadcrumbing experiences: A preliminary study. *International Journal of Environmental Research and Public Health, 17*, 1116.

Paulhus, D. L., & Williams, K. M. (2002). The dark triad of personality: Narcissism, machiavellianism, and psychopathy. *Journal of Research in Personality, 36*, 556–563.

Paulhus, D. L., Buckels, E. E., Trapnell, P. D., & Jones, D. N. (2021). Screening for darkpersonalities.Theshortdarktetrad (SD4). *European Journal of Psychological Assessment, 37*, 208–222.

Persson, B. N., Kajonius, P. J., & Garcia, D. (2019). Revisiting the structure of the shortdarktriad. *Assessment, 26*, 3–16.

Prusik, M., Konopka, K., & Kocur, D. (2021). Too many shades of gray: Thedarktriad and its linkage to coercive and coaxing tactics to obtain sex and the quality of romantic relationships. *Personality and Individual Differences, 170*, Article 110413.

Richard, F. D., Bond, C. F., Jr., & Stokes-Zoota, J. J. (2003). One hundred years of social psychology quantitatively described. *Review of General Psychology, 7*, 331–363.

Rogoza, R., & Cieciuch, J. (2019). Structural investigation of the shortdarktriad questionnaire in polish population. *Current Psychology., 38*, 756–763.

Schmitt, D. P., & Shackelford, T. K. (2003). Nifty ways to leave your lover: The tactics people use to entice and disguise the process of human mate poaching. *Personality and Social Psychological Bulletin, 29*, 1018–1035.

Schönbrodt, F. D., & Perugini, M. (2013). At what sample size do correlations stabilize? *Journal of Research in Personality, 47*, 609–612.

Smith, C. V., Hadden, B. W., Webster, G. D., Jonason, P. K., Gesselman, A. N., & Crysel, L. C. (2014). Mutually attracted or repulsed?: Actor-partner interdependence models of darktriad traits and relationship outcomes. *Personality and Individual Differences, 67*, 35–41.

Snyder, M., & Ickes, W. (1985). Personality and social behavior. In G. Lindzey, & E. Aronson (Eds.) (3rd ed.), *Vol. 2. Handbook of social psychology*. Random House.

Stearns, S. C. (1992). Oxford University Press.

Tong, S. T., & Walther, J. B. (2010). Just say 'no thanks': Romantic rejection in computer-mediated communication. *Journal of Social and Personal Relationships, 28*, 488–506.

Turner, I. N., Foster, J. D., & Webster, G. D. (2019). The dark Triad's inverse relations with cognitive and emotional empathy: High powered tests with multiple measures. *Personality and Individual Differences, 139*, 1–6.

Webster, G. D., Gesselman, A. N., Crysel, L. C., Brunell, A. B., Jonason, P. K., Hadden, B. W., & Smith, C. V. (2016). An actor-partnerinterdependencemodel of the darktriad and aggression in couples: Relationship duration moderates the link between psychopathy and argumentativeness. *Personality and Individual Differences, 101*, 196–207.

Yu, Y., Wu, D., Wang, J. M., & Wang, Y. C. (2020). Dark personality, marital quality, and marital instability of Chinese couples: An actor-partner interdependence mediation model. *Personality and Individual Differences, 154*, Article 109689.