

## Venting makes people prefer—and preferentially support—us over those we vent about

Jaimie Arona Krems <sup>a,\*</sup>, Laureon A. Merrie <sup>b</sup>, Nina N. Rodriguez <sup>a</sup>, Keelah E.G. Williams <sup>c</sup>

<sup>a</sup> Department of Psychology, University of California, Los Angeles, United States of America

<sup>b</sup> Oklahoma Center for Evolutionary Analysis (OCEAN), Department of Psychology, Oklahoma State University, United States of America

<sup>c</sup> Department of Psychology, Hamilton College, United States of America



### ARTICLE INFO

#### Keywords:

Venting  
Friendship  
Social networks  
Friend competition  
Gossip  
Freud

### ABSTRACT

People vent, as when airing grievances about one mutual friend to another. Contrary to a Freudian account, such *social venting* does not alleviate anger. So, what function might it serve? That people bestow more and more likely support on relatively better-liked friends—support which is associated with greater health, happiness, and economic mobility—highlights a largely overlooked challenge in social groups: competing within the group for certain group members’ affections and support. Social venting might be one effective tool for meeting this challenge. We test this—and also compare venting’s efficacy with other forms of communication, including a well-studied tactic of partner competition (competitor derogation). In six experiments with U.S. CloudResearch participants ( $N = 1723$ ), venting causes listeners (people vented to) to prefer venters over targets (people vented about) and to preferentially benefit better-liked venters over targets in a modified Dictator Game. By obscuring the venters’ intent to aggress against the target, venting might communicate target-harming information in a way that buffers venters from being perceived unfavorably. Effective venting might thus manipulate listeners’ attitudes and behavior in venters’ favor.

Venting—such as airing grievances about one mutual friend to another (see Fig. 1a)—is a universal, immediately-recognizable human behavior (Ben-Ze’ev, 1994; Owens et al., 2000a; Tice & Bratslavsky, 2000). Why—or, what does this seemingly ubiquitous behavior achieve?

Here, we first introduce what is likely to be a recurrent but largely overlooked adaptive problem: getting allies to like and support oneself over other mutual allies (e.g., friends) in the group. After overviewing the ways that people are known to compete for social partners, we raise the possibility that social venting might be one such tactic. Specifically, we propose and test whether venting might be especially effective when competing for affection and support within interconnected social groups, such that, within certain parameters, venting ultimately causes listeners (the people vented to) to prefer and preferentially support venters over targets (people vented about). See Fig. 1b.

### 1. Competition for affection: an adaptive challenge

We highlight the likely recurrent adaptive challenge of capturing group members’ social support, rendering oneself relatively well-liked within the group. The brief logic is as follows: (1) Group members can

become allies with one another. Such allies—here, we use the specific example of friends-as-allies—have long functioned to provide one another preferential access to material, emotional, and social support (DeScioli & Kurzban, 2009; 2012; Tooby & Cosmides, 1996). In several primate species, such support has been associated with greater physical and mental health, lower mortality, and improved fitness outcomes (Dunbar, 2018; Kajokaite et al., 2020; Silk et al., 2009; Sugiyama, 2004). In humans, friendship has been linked to improved mental and physical health and wellbeing (see Dunbar, 2018).

Having close allies, then, might be fitness-benefiting. (2) Notably, however, not all allies are treated the same. People bestow greater support on closer (vs. more distant) allies; likewise, people are more supportive of better-liked (vs. less well-liked) friends (Benenson, 2014; DeScioli et al., 2011; DeScioli & Kurzban, 2009; Liberman & Shaw, 2018, 2019; Shaw et al., 2017; Shaw et al., 2018). Consider a situation in which my friend Alex has an extra hamburger that both Bobby (our mutual friend) and I want. All else equal, I get the hamburger if Alex prefers me to Bobby, but I miss out if Alex prefers Bobby to me. Likewise, in a dispute between me and Bobby, Alex is likely to take my side if he’s closer to me than Bobby (DeScioli & Kurzban, 2009). (3) If individuals

\* Corresponding author.

E-mail address: [jaimie.krems@ucla.edu](mailto:jaimie.krems@ucla.edu) (J.A. Krems).

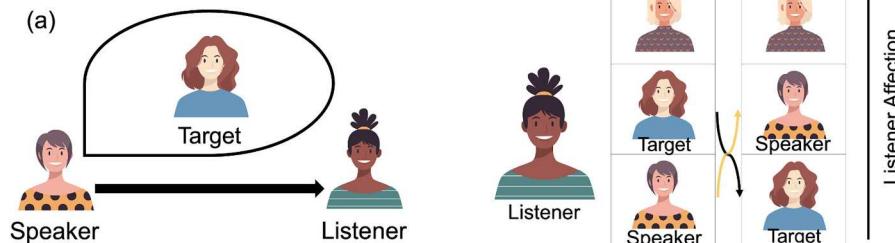
reap greater and more reliable friend-mediated benefits (e.g., support) when they are better liked by those friends, then it behooves individuals to become relatively better-liked by their friends and other allies.

## 2. Ways of meeting this challenge

There are myriad ways that people might compete for the affections of other people in an interconnected social group. Past work has often focused on how people might compete against rivals for sole access to a single *romantic* partner (rather than competing against other group members not for access to but rather for a greater share of a mutual ally's affections). Such tactics typically revolve around rendering oneself more desirable and/or rendering rivals less desirable to hoped-for partners (Buss & Dedden, 1990; Buss & Dedden, 1990; Fisher & Shapiro, 2005, Fisher et al., 2011; Vaillancourt, 2013). In a paradigmatic example of competitor derogation,<sup>1</sup> for example, a man might tell his desired female mate that his mating rival is stupid, ugly, and lazy—rendering her less interested in that mating rival and indirectly increasing the odds that the speaker himself gets chosen as her mate.

The use of these tactics is not limited to mating competition. Communicating negative information about a target can harm that target's reputation as a friend, colleague, and so on, diminishing listeners' affection or esteem for that target and perhaps increasing listeners' relative affections for that speaker (e.g., Hess & Hagen, 2006a, 2006b).<sup>2</sup> But such communication can also backfire; listeners sometimes dislike, distrust, and avoid negative gossipers (Farley, 2011; Fisher et al., 2011; Gawronski & Walther, 2008; Hess & Hagen, 2006a, 2006b; Turner et al., 2003). For example, speakers who communicate negative information about absent parties can be perceived as interpersonally cold (Farley et al., 2011)—a perception unlikely to cause the listener to want a closer relationship with the speaker (e.g., Delton & Robertson, 2016; Eisenbruch & Krasnow, 2022; Kenny & La Voie, 1982; La Gaipa & Wood, 1981; Walster et al., 1973).

Such derogation might be a risky tactic, then. Rather, and perhaps particularly when competing within an interconnected social group—for example, competing to become better-liked by a focal friend than that focal friend likes their other, mutual friends—an ideal tactic might allow speakers both to (a) reap the target-harming benefits of derogation (i.e., lowering the listener's affection for the target) while (b) avoiding the costs of being perceived as an aggressor. Such tactics exist. Consider the following example of implicature, expounded on by Pinker et al.



**Fig. 1.** Illustrations depicting (a) Speaker venting to Listener about a Target and (b) the proposed manipulation of Listener affection that venting might achieve. Note. Icons were generated by Freepick ([www.flaticon.com](http://www.flaticon.com)).

<sup>1</sup> If competitor derogation is conducted "behind the back" of the target, then competitor derogation would meet the definitional criteria for being gossip (Dorez Cruz et al., 2021).

<sup>2</sup> To the extent that friend rankings may be zero-sum (e.g., DeScioli & Kurzban, 2009), then lowering the desired partner's esteem for a friend who was liked better than oneself could cause oneself to rise in the friend rankings and, likewise, increasing the desired partner's liking for oneself could cause the partner's other friends to become lowered in the friend rankings.

(2008): When a driver gets pulled over for speeding, he can pay the ticket (not an ideal outcome) or offer a bribe to the officer. If this officer is dishonest and accepts the bribe, the driver avoids the cost of the ticket (best outcome), but if the officer is honest, the driver might additionally face the high costs associated with having attempted to bribe an officer (worst outcome). Using implicature, however—as when saying, "Gee officer, is there some way we could take care of the ticket right now?"—could allow the driver to pursue the best outcome of the bribe option (not paying the ticket) while also avoiding the worst possible outcome (going to prison for bribery), in part because the inexplicit nature of the bribe makes it more difficult to prosecute (e.g., even the officer cannot be 100% sure what the driver *truly* meant).

Other communication tactics might work similarly. For example, evidence suggests that women's *statements of concern* about other women (e.g., "I'm worried about how hard she's trying to fit in") and first-person narratives of victimization by other women (e.g., "She was so mean to me") may be less readily recognized as gossip (Reynolds & Palmer-Hague, 2022); such tactics might thus allow speakers to communicate information that harms target reputations while not facing the costs of being perceived as socially aggressive.

## 3. Overview: venting as friend competition?

Like competitor derogation, implicature, and some forms of gossip, social venting might function to manipulate listeners' beliefs, attitudes, and behavior in ways that ultimately benefit speakers (e.g., Buss & Dedden, 1990). Here, we test how effective social venting is at causing listeners to prefer and preferentially support speakers over targets. Specifically, we (1) investigate whether venting can influence listeners' relative liking of (Experiments 1–4) and behavior toward venters and targets (Experiment 5), causing listeners to prefer and preferentially support venters over targets.

We additionally (2) compare venting's effectiveness to other, somewhat similar forms of communication. Across experiments, we contrast venting with (a) competitor derogation (Buss & Dedden, 1990; Fisher et al., 2011; Fisher & Shapiro, 2005). Such derogation might be more apt when competing with rivals for sole access to a mate than when competing within a social group for a greater share of a focal friend's affections. For one reason, being possessive of or overtly competitive for a friend's affections is less normative and disliked (Parker et al., 2005; Sprecher & Regan, 2002). For another, if I derogate my romantic rival to



my hoped-for partner, that partner is unlikely to infer that I will soon derogate them; rather, I simply and understandably derogate rivals (see Krems et al., 2023; Lukaszewski & Roney, 2010). However, if I derogate one friend to another friend, that second and listening friend might very well assume that I derogate my friends and that I will soon derogate them to others (Beersma & Van Kleef, 2012). Thus, overt derogation might decrease listeners' affection for targets *but also* for speakers.

By contrast, social venting might allow speakers to communicate the same exact negative information about targets—but without facing the

same costs. How? For one reason, social venting shares features in common with some gossip (talk about an absent party; [Dores Cruz et al., 2021](#)) and self-disclosure (e.g., sharing one's frustrations)—both of which enhance listeners' liking for and feelings of closeness toward speakers ([Collins & Miller, 1994](#); [Feinberg et al., 2012](#); [Fonseca & Peters, 2018](#); [Jourard, 1971](#); [McAndrew et al., 2007](#); [Peters et al., 2017](#); [Slepian & Greenaway, 2018](#)). For example, if venters are as well-liked as those speakers engaging in neutral gossip or in self-disclosure—despite venters' communication including negative information about targets—this could suggest that venters are not tarred with the same brush as those deemed malicious gossips (see [Reynolds & Palmer-Hague, 2022](#)). We thus additionally compare listener reactivity to (b) neutral gossip (recounting interactions with the target) and (c) self-disclosure (venting about car troubles). We thus also manipulate the extent to which venters are viewed as aggressors (Experiment 6)—examining whether venters, when perceived as *intending to harm the target*, are less able to retain the listener's affections and/or less able to lower the listener's affection for the target ([Hess & Hagen, 2006a](#)). Should venting backfire when viewed as an aggressive act, this would suggest that venting's efficacy owes to its ability to obscure speaker intent to aggress against targets.<sup>3</sup>

## 4. Experiments 1–4

### 4.1. Method

#### 4.1.1. Participants

In Experiment 1, 273 U.S. CloudResearch-approved participants started the study, and we included in analyses 204 ( $M_{age} = 37.78$ ,  $SD_{age} = 11.77$ ) passing bot and attention checks, yielding 0.80 power to detect effects of  $f = 0.14$ . In Experiment 2, 249 U.S. CloudResearch-approved participants ( $M_{age} = 41.76$ ,  $SD_{age} = 12.92$ ) passed bot and attention checks and were included in analyses, yielding 0.80 power to detect effects of  $f = 0.13$ . We recruited only females for Experiments 1 and 2 because venting may be more frequent, common, and/or apparent among females ([Benenson, 2014](#); [Reynolds, 2021](#); [Vaillancourt, 2013](#)). In Experiment 3, 314 U.S. CloudResearch-approved participants (187 female, 1 other/missing<sup>4</sup>;  $M_{age} = 40.79$ ,  $SD_{age} = 11.94$ ) passed bot and attention checks and were included in analyses, yielding 0.80 power to detect effects of  $f = 0.11$ . In Experiment 4, 209 U.S. CloudResearch participants (115 female;  $M_{age} = 42.55$ ,  $SD_{age} = 11.82$ ) passed bot and attention checks and were included in analyses, yielding 0.80 power to detect effects of  $f = 0.15$ .

Data, materials, and code are available (<https://osf.io/xqtf5/>). Experiment 4 was preregistered.

### 4.2. Design and procedure

Participants reported their sex and were then randomly assigned to read sex-matched vignettes of social venting, overt derogation, neutral gossip, and/or venting-object (speaker disclosing and venting about car troubles). All vignettes were created based on discussions with and real-world reports from research assistants.

Experiments 1–4 contrast venting and derogation, with Experiments 1 and 3 also including a neutral gossip comparison condition and with Experiments 2 and 3 also including a comparison condition in which the speaker engages in self-disclosing venting, but about car troubles (versus a target person). Experiment 4 included slightly different vignettes to mitigate concerns about vignette content causing stimulus effects, as

<sup>3</sup> For venting to be effective in the manner that we propose here, speakers need not have any conscious intent to harm targets. However, we also note that savvy communicators may use venting language purposefully to execute harm to targets while avoiding the costs of being perceived as intending harm to targets.

<sup>4</sup> Non-binary participants read female vignettes in Experiments 3 and 4.

described further below.

#### 4.2.1. Vignettes

All vignettes began: "You're taking a break from your work and lounging around when your good friend [Speaker] comes in. You, [Speaker], and [Target] have been great friends since the start of your first year of college." This framing put participants in the role of listener.

For Experiments 1–3, participants in both the venting and derogation conditions heard the Speaker describe the same issue with the target—canceling dinner plans at the last minute, reflecting research on major friendship transgressions ([Apostolou & Keramari, 2021](#)). Speaker communication about this was the same across these two conditions: "I was supposed to have dinner with [Target] last night, and instead I sat there all by myself because she [he] cancelled on me at the last minute. I mean, I was already there. She's [He's] so self-centered all the time and never thinks about anybody else. This is just a constant thing with her [him]. She [He] never wants to hang out unless it's convenient for her [him]."

In the *venting condition*, this speech was prefaced with: "[Speaker] sits down with a sigh and says to you, 'I'm so frustrated and hurt right now. I don't know what to do...'" The speech then ended with the speaker saying: "'Why is she [he] treating me like this?'" In the *derogation condition*, the speech was prefaced with: "[Speaker] sits down with a huff and says to you, '[Target] is such a selfish bitch [asshole]!...'" The speech then ended with the speaker saying: "'Why is she [he] treating me like this!'"

Experiments 1 and 3 also included a *neutral gossip condition*, involving talk about an absent party (the target), whereas Experiments 2 and 3 included a *venting-object condition*, involving self-disclosure in the same venting style but about an object (one's car and related issues). Both the neutral gossip and venting-object vignettes began the same as the venting and derogation vignettes. In the neutral gossip vignette, the speaker shared neutral information about the absent target: that the speaker had dinner with the target and what the target had been watching on Netflix. The venting-object vignette closely echoed the language of the social venting vignette, but with the speaker disclosing financial issues related to chronic car trouble and venting about that situation: "[Speaker] sits down with a sigh and says to you, 'I'm so frustrated and upset right now. I was supposed to have dinner with [Target] last night, and instead I had to cancel because my car wouldn't start again. I don't know what to do. I paid to get my car fixed twice this year already, and this is just a constant thing with that car. But I don't know if I can afford to get a new one. Why is this happening to me right now?'"

Experiment 4 was designed in part to mitigate concerns that the predicted pattern of results would owe to the speaker (a) cursing in the derogation condition or (b) terming the target as selfish in both venting and derogation conditions, thereby potentially contaminating the venting condition with derogation. Thus, although, Experiment 4's vignettes began the same as those above, in the venting condition, the grievance was prefaced with "[Speaker] sits down with a sigh and says to you, 'I'm so frustrated and hurt right now'", whereas in the derogation condition, the grievance was prefaced with "[Speaker] sits down with a huff and says to you, 'I'm so frustrated and angry right now'". In both conditions, the grievance communicated was: "I don't know what to do." This was followed by "Why is he/she treating me like this?" in the venting condition and by "Why is he/she treating me like this!" in the derogation condition. Then: "I was supposed to have dinner with [Target] last night, and instead I sat there all by myself because he/she canceled on me at the last minute. Again. I mean, I was already there." After reading the vignette, participants completed focal dependent measures.

#### 4.2.2. Attitudes (liking and closeness)

We asked participants to report their feelings of liking and closeness toward both speakers and targets via four face-valid questions: "I feel

close to [Speaker/Target]”, “I like [Speaker/Target]” on an 11-point slider ( $-5 = \text{Strongly disagree}$ ,  $+5 = \text{Strongly agree}$ ). We aggregated feelings of liking and closeness toward the speaker and the target, respectively ( $\alpha_{\text{speaker}} > 0.89$  and  $\alpha_{\text{target}} > 0.89$  across experiments). Such “alliance feelings” of liking and closeness toward associates are thought to underlie the direction of preferential support (e.g., Fessler & Gervais, 2010). These items were included alongside items assessing distinct feelings of pity and sympathy, which were explicitly exploratory and not analyzed. The order of questions was randomized.

#### 4.2.3. Exploratory victimhood questions

In Experiment 4, we included exploratory questions to assess the possibility that, because people would be more likely to view venters than derogators as victims, and people react more favorably to victims (Gray & Wegner, 2009; Reynolds & Palmer-Hague, 2022; Womick et al., 2024), participants’ views of venters as victims are the true drivers of participants’ positive feelings toward venters and/or negative feelings toward targets of venting. Thus, we assessed speaker victimhood as a possible covariate, exploring whether the predicted pattern of results held even when controlling for perceptions of the speaker as victim. Specifically, participants rated their agreement with three statements (e.g., “[Speaker is a victim]”) on 11-point sliders ( $0 = \text{Not at all}$ ,  $10 = \text{Very much}$ ), which we aggregated ( $\alpha = 0.83$ ).

#### 4.2.4. Demographics and additional items

We included common demographic questions (e.g., sex, age). We included items, not analyzed here, assessing (a) target and speaker reputational dimensions in Experiments 1 and 2 (e.g., that the speaker was *aggressive, manipulative*) and (b) inferences about why the speaker shared this information along with (c) exploratory items.

### 4.3. Results

#### 4.3.1. Does social venting cause listeners to report liking speakers over targets?

Yes. Social venting—and only social venting—causes listeners to report liking speakers better than targets (see Fig. 2a-c).

**4.3.1.1. Experiment 1.** To test whether listeners liked speakers over targets, we ran 2 [Alliance feelings: speaker, target]  $\times$  3 (Condition) mixed-factors Analyses of Variance (ANOVAs) for Experiments 1 and 2.

In Experiment 1, we find a significant main effect of Alliance,  $F(1,194) = 18.06$ ,  $p < .001$ ,  $\eta^2_p = 0.085$ , and a significant main effect of Condition,  $F(2,194) = 14.90$ ,  $p < .001$ ,  $\eta^2_p = 0.133$ , qualified by a significant interaction,  $F(2,194) = 12.63$ ,  $p < .001$ ,  $\eta^2_p = 0.115$ . See Fig. 2a.

In the venting condition, listeners reported greater liking of and closeness toward speakers ( $M = 1.74$ ,  $SE = 0.30$ ) than targets ( $M = -0.41$ ,  $SE = 0.30$ ),  $F(1,194) = 40.98$ ,  $p < .001$ ,  $\eta^2_p = 0.174$ , 95%CI = [1.49, 2.81]. This occurred *only* in the venting condition ( $p$ -values for this same comparison for other conditions  $> 0.557$ ). (See Fig. 2a.) This suggests that social venting may be an effective tactic for manipulating listeners’ alliance feelings in a speaker’s favor, as it causes listeners to like speakers better than listeners like targets.

#### 4.3.2. Other effects of social venting (vs. derogation) on liking of speakers and targets

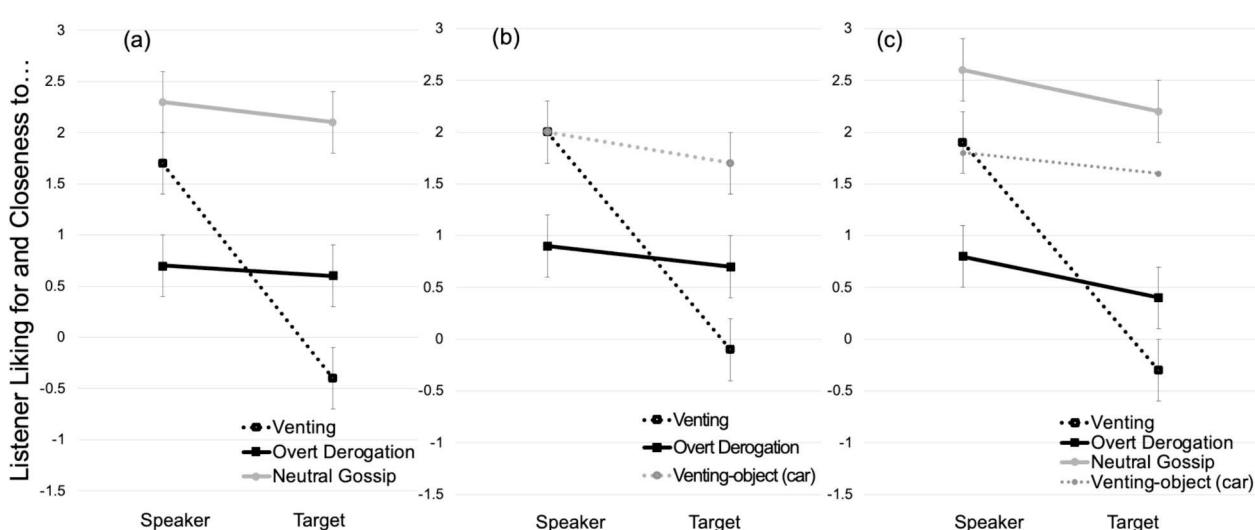
Across Experiments 1–4, we also find that speakers tend to be better-liked when they vent versus derogate and that targets tend to be less well-liked when they are vented about versus derogated. See Table 1. We

**Table 1**

Comparisons of listener liking and closeness toward speakers and targets (M, SE) across conditions in Experiments 1–4.

		Condition			
		Venting	Derogation	Neutral gossip	Venting-object
Experiment 1	Speaker	1.74 (0.30) <sup>a</sup>	0.69 (0.12)	2.32 (0.28) <sup>a</sup>	–
	Target	-0.41 (0.30)	0.63 (0.29)	2.13 (0.28)	–
Experiment 2	Speaker	1.98 (0.24) <sup>a</sup>	0.89 (0.24)	–	1.93 (0.23)
	Target	-0.11 (0.25)	0.73 (0.26)	–	1.64 (0.25) <sup>a</sup>
Experiment 3	Speaker	1.95 (0.23) <sup>ab</sup>	0.84 (0.23)	2.58 (0.23) <sup>a</sup>	1.77 (0.23)
	Target	-0.32 (0.28)	0.42 (0.27)	2.25 (0.28)	1.59 (0.28) <sup>b</sup>
Experiment 4	Speaker	2.82 (0.17)	2.21 (0.18)	–	–
	Target	1.33 (0.22)	2.01 (0.22)	–	–

Note. Means sharing subscript do not differ significantly ( $p > .05$ ).



**Fig. 2.** Listeners’ (i.e., Participants’) Reports of Liking of and Closeness Toward Speakers Versus Targets Across Experiments 1–3.

Note: Panel (a) presents results from Experiment 1, panel (b) presents results from Experiment 2, and panel (c) presents results from Experiment 3. Error bars represent standard errors.

report these analyses in full in the Supplementary Materials available online.

**4.3.2.1. Experiment 2.** Experiment 2 replicates the above findings. We find significant main effects of Alliance feelings,  $F(1,237) = 32.62, p < .001, \eta_p^2 = 0.121$ , and Condition,  $F(2,237) = 6.67, p = .001, \eta_p^2 = 0.053$ , qualified by a significant interaction,  $F(2,237) = 17.44, p < .001, \eta_p^2 = 0.128$ .

In the venting condition, listeners' reported liking was again greater toward speakers ( $M = 1.98, SE = 0.24$ ) than targets ( $M = -0.11, SE = 0.25$ ),  $F(1,237) = 65.91, p < .001, \eta_p^2 = 0.218$ , 95%CI = [1.58, 2.59]. Also replicating findings from Experiment 1, this occurred *only* in the venting condition, ( $p$ -values for this same comparison for other conditions  $>0.243$ ).

**4.3.2.2. Experiment 3.** In Experiment 3, we conducted a 2 [Alliance feelings]  $\times$  4 (Condition)  $\times$  2 (Participant sex) mixed-factors ANOVA, although we made no predictions about participant sex. We found significant main effects of Alliance feelings,  $F(1,302) = 37.44, p < .001, \eta_p^2 = 0.110$ , Condition,  $F(3,302) = 14.02, p < .001, \eta_p^2 = 0.122$ , and Participant sex,  $F(1,302) = 27.68, p < .001, \eta_p^2 = 0.084$ , qualified by an Alliance by Condition interaction,  $F(3,302) = 13.87, p < .001, \eta_p^2 = 0.121$ .

In the venting condition, listeners' reported liking was again greater toward speakers ( $M = 1.95, SE = 0.23$ ) than targets ( $M = -0.32, SE = 0.28$ ),  $F(1,302) = 73.54, p < .001, \eta_p^2 = 0.196$ , 95%CI = [1.75, 2.79]. This effect held both for women ( $M_{\text{listener-speaker}} = 2.63, SE_{\text{listener-speaker}} = 0.29$ ;  $M_{\text{listener-target}} = 0.28, SE_{\text{listener-target}} = 0.36$ ;  $p < .001, \eta_p^2 = 0.314$ , 95%CI = [1.54, 3.15]) and for men ( $M_{\text{listener-speaker}} = 1.27, SE_{\text{listener-speaker}} = 0.36$ ;  $M_{\text{listener-target}} = -0.92, SE_{\text{listener-target}} = 0.44$ ;  $p < .001, \eta_p^2 = 0.205$ , 95%CI = [1.19, 3.18]). Again, this effect held *only* in the social venting condition ( $p$ -values for this same comparison for other conditions  $\geq 0.097$ ).

**4.3.2.3. Experiment 4: results are not dependent on cursing in the derogation vignette.** Using vignettes that include neither cursing (in the derogation condition)—nor accusations of target selfishness (in either the derogation or venting conditions)—we replicate the above finding that people prefer venters (but not derogators) over targets. Specifically, we conducted a 2 [Alliance feelings]  $\times$  2 (Condition)  $\times$  2 (Participant sex) mixed-factors ANOVA, although we again made no predictions about participant sex. We found a significant main effect of Alliance,  $F(1,205) = 22.09, p < .001, \eta_p^2 = 0.097$ , qualified by an Alliance by Condition interaction,  $F(3,205) = 13.87, p < .001, \eta_p^2 = 0.059$ . No sex effects reached significance ( $ps \geq 0.225$ ).

In the venting condition, listeners' reported liking was again greater toward speakers ( $M = 2.82, SE = 0.17$ ) than targets ( $M = 1.33, SE = 0.21$ ),  $F(1,205) = 34.86, p < .001, \eta_p^2 = 0.145$ , 95%CI = [0.99, 1.98]. This effect held both for women ( $M_{\text{listener-speaker}} = 2.52, SE_{\text{listener-speaker}} = 0.17$ ;  $M_{\text{listener-target}} = 1.89, SE_{\text{listener-target}} = 0.17$ ;  $p = .010, \eta_p^2 = 0.032$ , 95%CI = [0.15, 1.10]) and for men ( $M_{\text{listener-speaker}} = 2.51, SE_{\text{listener-speaker}} = 0.18$ ;  $M_{\text{listener-target}} = 1.44, SE_{\text{listener-target}} = 0.20$ ;  $p < .001, \eta_p^2 = 0.072$ , 95%CI = [0.54, 1.59]). Again, this effect held *only* in the social venting condition (derogation condition  $p = .435$ ).

#### 4.3.3. Results are not solely driven by perceptions of venters as victims

In both the venting and derogation conditions, speakers experienced the same exact transgression from the target, yet the framing of the venting condition could have led participants to view the venter versus derogator as a greater victim. Indeed, a 2 (Condition)  $\times$  2 (Participant sex) ANOVA revealed a main effect of Condition, such that people reported stronger views of venters as victims ( $M = 6.36, SE = 0.23$ ) than targets ( $M = 5.63, SE = 0.24$ ),  $F(1,203) = 4.70, p = .031, \eta_p^2 = 0.023$ , 95%CI = [0.66, 1.39].

However, re-running the above 2 [Alliance feelings]  $\times$  2 (Condition)

$\times$  2 (Participant sex) mixed-factors ANOVA with speaker victimhood as a covariate reveals that the predicted effects of venting hold even when controlling for perceptions of venters as victims: In the venting condition, listeners' reported liking was greater toward speakers ( $M = 2.77, SE = 0.17$ ) than targets ( $M = 1.37, SE = 0.21$ ),  $F(1,202) = 32.82, p < .001, \eta_p^2 = 0.140$ , 95%CI = [0.92, 1.89]. Again, this effect still held *only* in the social venting condition (derogation condition  $p = .148$ ).

## 5. Experiment 5

Experiment 5 tests the prediction that venting causes listeners to preferentially allocate greater benefits to (better-liked) speakers over targets, using a modified Dictator Game.

### 5.1. Method

#### 5.1.1. Participants

Of 244 U.S. CloudResearch-approved participants beginning our study, 202 (110 female, 1 Other/Do not wish to answer;  $M_{\text{age}} = 40.26, SD_{\text{age}} = 12.53$ ) passed bot and attention checks and were included in analyses. This yielded 0.80 power to detect effects of  $f = 0.20$ .

#### 5.1.2. Design and procedure

Participants reported their sex and were then randomly assigned to read one of two sex-matched vignettes: venting or derogation. The vignettes and liking/closeness measures were the same as in Experiments 1–3.

New here was the decision to allocate resources to speakers and targets. Participants played a modified Dictator Game. Participants were informed: "We are now asking you to make a decision. It will strongly affect the people you just read about. You have 10 tickets. Each one of these tickets will give the ticketholder a chance to win a new car. There will be a drawing for it in one week. No one can have more than 10 tickets. You already have 10 of your own. Now you have to divide 10 tickets between [Speaker] and [Target]. (You have to give all the tickets away, so the total must add up to 10.)" Participants then input the number of tickets to give to [Speaker] and [Target], which had to sum to 10.<sup>5</sup>

### 5.2. Results

#### 5.2.1. Does venting (vs. derogation) cause listeners to benefit speakers over targets?

Venting (vs. derogation) caused listeners to allocate more tickets to speakers over targets. Because the number of tickets allocated to speakers versus targets were dependent (e.g., if they allocated 6 tickets to speakers, then they had 4 tickets to allocate to targets), following convention (e.g., Neel et al., 2013), we analyzed only the number of tickets that listeners decided to allocate to speakers. This revealed a significant main effect of Condition,  $F(1,188) = 4.73, p = .031, \eta_p^2 = 0.025$ , 95%CI = [0.05, 1.08]: Participants allocated more tickets to the speaker (over the target) in the venting ( $M = 6.28, SE = 0.18$ ) than the derogation condition ( $M = 5.71, SE = 0.19$ ).<sup>6</sup>

We also found that venting (vs. derogation) caused listeners to report greater preferences for speakers over targets, which, in turn, statistically mediated the relationship between communication and allocation (see Supplementary Material).

<sup>5</sup> Because of a programming error, corrected early in data collection, some participants divided 100 (not 10) tickets. Affected responses were divided by 10 so those participants' ticket allocation totals would sum to 10.

<sup>6</sup> We also conducted an ancillary test in the venting condition, finding that the mean amount of tickets allocated to speakers ( $M = 6.26, SE = 0.19$ ) was greater than that allocated to targets ( $M = 3.74, SE = 0.19$ ),  $t(96) = 13.47, p < .001, d = 1.84$ , 95%CI = [2.14, 2.89].

## 6. Experiment 6

In Experiments 1–3, venters were rated about as favorably as were speakers who either shared neutral gossip about a target or who vented about target-unrelated troubles. This suggests that social venting's effectiveness—at least in maintaining a high level of affection for speakers—might stem from its being less readily encoded as an act of aggressive social competition (see, e.g., [Reynolds & Palmer-Hague, 2022](#)). Other work suggests that listeners discount negative information about targets when that information comes from speakers known to have aggressive intent toward targets ([Hess & Hagen, 2006b](#); [Hess & Hagen, 2019](#)). Here then, we compare how people feel toward speakers and targets across three conditions: venting (as before), derogation (as before), or venting by a speaker implied to be rivalrous with the target.

### 6.1. Method

#### 6.1.1. Participants

We aimed to obtain usable data from 350 U.S. female participants from CloudResearch. Of 443 participants at least starting the survey, 363 females ( $M_{age} = 38.17$ ,  $SD_{age} = 11.92$ ) passed bot and attention checks and were included in analyses, yielding 0.80 power to detect effects of  $f = 0.15$ .

#### 6.1.2. Design and procedure

Participants were randomly assigned to read one of three vignettes (overt derogation, social venting, social venting-rivalrous). The social venting and overt derogation vignettes were the same as in Experiments 1–3. The new vignette (social venting–rivalrous) was also the same as the previous social venting vignette but included information to imply rivalry between speaker and target: “But recently, [Target] started dating this new guy. You’re pretty sure that [Speaker] had a HUGE crush on him, but [Speaker] would never, ever admit that out loud. Since [Target] started dating him, [Speaker] has been treating [Target] differently.” The vignette then continued, following the previous social venting vignette.

In addition to measuring participants’ feelings of liking and closeness toward both speakers and targets, as in previous experiments, we also examined participants’ inferences of why the speaker shared this information with them, focusing on whether the speaker did so to harm the target. This manipulation check revealed that people viewed speakers as less likely to have intent to harm the target in the social venting condition versus either the derogation or venting-rivalrous conditions; in fact, speakers in the venting-rivalrous and derogation conditions were viewed as having similarly high aggressive intent. (See Supplementary Material for items and analyses.)

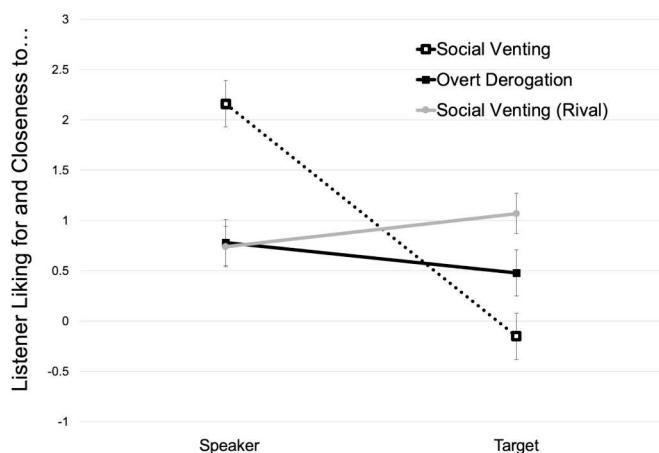
## 7. Results

### 7.1. Does social venting manipulate alliances?

Yes. We ran a 2 [Alliance feelings: Speaker, Target] x 3 (Condition: Venting, Derogation, Venting-rival) mixed-factors ANOVA, which yielded a significant main effect of Alliance feelings,  $F(1, 351) = 29.66$ ,  $p < .001$ ,  $\eta_p^2 = 0.078$ , and a significant interaction,  $F(2, 351) = 29.17$ ,  $p < .001$ ,  $\eta_p^2 = 0.143$ .

Replicating previous findings, listeners’ reported liking was again greater toward speakers ( $M = 2.16$ ,  $SE = 0.20$ ) than targets ( $M = -0.15$ ,  $SE = 0.21$ ) in only the venting condition,  $F(1, 351) = 87.96$ ,  $p < .001$ ,  $\eta_p^2 = 0.200$  ( $p$ -values for this same comparison for other conditions  $\geq 0.240$ ). See [Fig. 3](#).

We also found that, whereas traditional venters are viewed more favorably than derogators, venters implied as being rivalrous with targets are not; they are viewed similarly (un)favorably as derogators are. Likewise, whereas traditional venting causes listeners to view targets less favorably than derogation does, venting coming from the target’s



**Fig. 3.** Listeners’ (i.e., Participants’) Reports of Liking of and Closeness to Speakers Versus Targets in Experiment 6.

*Note.* Error bars represent standard errors.

presumed rival buffers these negative estimations of the target (see Supplementary Materials).

In sum, venting is no longer effective when the venter is implied to be rivalrous with the target: It does not cause listeners to prefer speakers to targets, it does not cause listeners to like venters better than derogators, and it does not cause listeners to disfavor targets more than derogation does.

## 8. Discussion

Can social venting cause listeners to prefer and preferentially allocate benefits to venters over targets? It seems so. Venting was uniquely effective at causing listeners to prefer venters over targets—even as venters communicated the same exact grievances about targets as derogators did—and venting caused listeners to allocate greater benefits to better-liked venters over less well-liked targets.

Notably, speakers who vented about (but not those who derogated) targets were as well-liked as speakers who shared *neutral* gossip about those targets or self-disclosed via venting about car trouble (i.e., speakers who did not disparage mutual friends). In combination with the finding that venting was *ineffective* when venters were deemed to have intent to aggress toward targets, this pattern of findings implies that venting might owe its effectiveness, in part, to its failure to be readily encoded as an aggressive tactic ([Reynolds & Palmer-Hague, 2022](#)).

Whether or not venting is deemed aggressive, it does harm target standing as much as, if not more so than, overt competitor derogation. In sum, then, venters might enjoy the benefits of derogation—such as making targets less well-liked and reaping the consequent indirect benefits ([Buss & Dedden, 1990](#))—while avoiding its potential costs (decreased liking toward speakers; e.g., [Beersma & Van Kleef, 2012](#); [Wilson et al., 2000](#)).

## 9. Implications and limitations

The present findings support a novel view of venting, which suggests that social venting—and specifically, here, the airing of grievances about one mutual friend to another—can function to manipulate the listener’s view of the social landscape in the speaker’s favor. Such an alliance view of social venting casts it as one of the many tactics that people can and likely do use when competing for affection in interconnected social groups.

This view thus provides one of the first alternatives to a Freudian catharsis account for venting ([Breuer & Freud, 1893–1895/1955](#); [Freud, 1893/1982](#)). Indeed, for over a century, this account—that the mind is akin to a steam engine, and one must vent one’s anger to avoid it

exploding—has remained predominant and popular across laypersons, journalists, and some scholars (Fisher et al., 2011; Galanes, 2014; Tice & Bratslavsky, 2000). On this view, venting thus functions to decrease venters' anger. But over 50 years of empirical research suggests otherwise: venting does not reliably decrease venters' anger, and in fact, venting sometimes *exacerbates* venters' anger (Bushman, 2002; Fisher & Shapiro, 2005; Geen & Quany, 1977; Lohr et al., 2007; Tavris, 1989; Ury, 1993).

Furthermore, whereas the Freudian account can neither (a) accommodate that venting does not reliably reduce anger (Geen & Quany, 1977) nor (b) explain why, in the absence of decreasing anger, venting feels good (Parlamis, 2012), the present view of social venting as an alliance manipulation tool perhaps can. To (a), according to the recalibrational theory of anger, individuals with greater formidability get angrier when they perceive themselves as having been slighted (Sell et al., 2009). One component of formidability involves the number of people on one's side (versus on the other's side)—coalitional formidability. Thus, to the extent that effective venting persuades listeners to one's side (over the target's side), it increases one's coalitional formidability and might amplify one's anger.

To (b), from an evolutionary perspective, feeling good is not an end unto itself. Rather, feeling good signals progress toward adaptive goals (Kenrick et al., 2010; Krems et al., 2017). For example, done effectively, sexual intercourse can generate fitness benefits and feels good. Perhaps, done effectively, venting can generate fitness benefits via making oneself preferred and preferentially supported by friends. Thus, we would not suggest that it is necessarily the “letting off steam” or “getting things off one's chest” that might make venting feel good; rather, it might be the reaction of the listener and the venter's perception that they might now be preferred to the target. That is, it is the affiliative successes of becoming better-liked that could translate into potential fitness benefits, leading to social venting feeling good. Indeed, a related thought experiment might involve asking one to consider the various permutations of social venting likely to be ineffective—such as the passionate sharing of grievances with listeners who, it turns out, much prefer the target to the venter. This would not be expected to cue greater relative affection for the venter nor to feel good.

The very specific type of social venting we consider here—within an interconnected social group of friends—might thus be considered an action that increases the fitness of an individual by altering the behaviour of other organisms detecting it (Maynard-Smith & Harper, 1995), and one that crucially functions to benefit the signaler, and not necessarily the receiver (Dawkins & Krebs, 1978). The present findings imply how speakers could benefit from venting, but they also raise questions about whether venting manipulates listeners at some cost to those listeners. Indeed, findings raise related questions about why venting can be viewed differently (i.e., as less aggressive) than more overt derogation, particularly given venting was more effective at lowering listeners' esteem for targets.

The venting considered here is far from its only form. Other forms of venting involve physical activity, for example; we did not examine such venting. Likewise, many other permutations of social venting exist—such as airing grievances about friends to spouses (or vice versa), about disliked group members to close friends, and so on—and we did not examine those. One might find, for example, that venting to already close friends about mutually-low-ranked friend group members could bolster the closeness between the speaker and listener (e.g., Merrie et al., 2024) while maintaining the target's low position in the listener's hierarchy of affections (i.e., to prevent that person from climbing the rankings and potentially threatening the speaker's rank).

Moreover, we did not vary the content of social venting. Here, we attempted to use venting content that represented clearly problematic behavior (friends canceling plans) (Apostolou & Keramari, 2021). But venters vent about myriad target traits and behaviors. Here we examined venting among same-sex friends, leaving open the question of venting's efficacy in mixed-sex groups, including spousal contexts noted

above. Additionally, qualitatively different venting content might evoke different listener behavior. For example, venting about a mutual friend's dislike of academia would probably not effectively render that target a bad friend in a listener's eyes. But if the listener's primary source of income or joy dealt with their academic research, perhaps that would not be the case. Our view that venting can sometimes function as a tool of social competition would imply that people may be deeply, if not necessarily consciously, strategic in choosing both (a) what to vent about and (b) to whom to vent (e.g., Ellwardt et al., 2012; Grosser et al., 2010; Hess, 2022; Rosnow, 2001). Thus, the degree to which any content is vented about might depend on what people—perhaps as a function of their sex/gender, culture, and more—make of that content and its implications for them (e.g., Grabe et al., 2012; Guendouzi, 2001; Krems et al., 2023, 2024; Lukaszewski & Roney, 2010; Reynolds & Palmer-Hague, 2022; Sznycer, 2022). For example, venters should be attuned to what traits listeners desire in friends, and venters should then vent about targets' shortcomings on those specific dimensions (see Buss & Dedden, 1990). Future work might benefit from methods like experience sampling or recall surveys to further explore whether venters are truly savvy in choosing what to vent about (e.g., Hess & Hagen, 2006b), to whom to vent (e.g., Ellwardt et al., 2012; Rosnow, 2001), and whether such venting is effective in the short- or long-term in more ecologically valid contexts.

Related, we used controlled scenarios to explore whether social venting among friends might facilitate outcomes likely to benefit venters. Whereas solid vignette studies can approach real-life behavior (Aknin et al., 2020; Hainmueller et al., 2014; see also Holleman et al., 2020), and such methods are common in work on the related topics of gossip and friendship (e.g., Barakzai & Shaw, 2018; Hess & Hagen, 2023; Shaw et al., 2017; Shaw et al., 2018), future work should include real-world friend groups (to the extent it would be ethical) and examine historical and/or ethnographic instances of venting to improve understanding of this phenomenon in more naturalistic contexts. Such work might also allow researchers to better examine the mechanisms that make for effective venting. Indeed, we have only begun to scratch the surface of exploring how and why social venting can be an effective tool of friend competition.

## 10. Conclusions

In contrast to the rich literature detailing how people compete for mates (e.g., Buss & Dedden, 1990; see Fisher & Krems, 2023; Krems et al., 2023), little work has explicitly explored how people compete for other social group members (e.g., friends; but see DeScioli & Kurzban, 2012; Schützwohl et al., 2022). Even if people are less likely to compete for *sole access* to such friends—given that people have multiple friends at a time (versus a single committed mate) (but see, e.g., Krems et al., 2021, 2022)—because of (a) the potentially fitness-enhancing benefits associated with having friends (Dunbar, 2018) and (b) the fact that people are more likely to receive such benefits from closer friends, we should expect that people compete to become relatively closer with friends. If we become better friends with people by making them like us more, then insofar as friendly affections are finite (Tooby & Cosmides, 1996) and/or friends are hierarchically ranked (DeScioli & Kurzban, 2009), we can become better friends with someone by rendering some of their other friends less well-liked. Whereas there are many other ways that people might compete to become better-liked, the present data suggest that social venting might be one especially effective means for achieving this in interconnected social groups (here, a friend group). Thus, one reason for the cross-cultural prevalence of social venting might be its efficacy in achieving such functionally-relevant goals. This novel hypothesis as to what social venting ‘does’—or, more accurately, what some forms of social venting might accomplish in a given landscape of affection—might help researchers de-popularize the currently-predominant (but incorrect) Freudian catharsis account, and help instead to energize new research on how people compete to make friends and capture

their affection.

## CRediT authorship contribution statement

**Jaimie Arona Krems:** Writing – review & editing, Writing – original draft, Visualization, Supervision, Resources, Project administration, Methodology, Investigation, Funding acquisition, Formal analysis, Data curation, Conceptualization. **Laureon A. Merrie:** Writing – review & editing, Writing – original draft, Visualization, Supervision, Project administration, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Nina N. Rodriguez:** Writing – review & editing, Visualization, Investigation, Formal analysis, Data curation. **Keelah E.G. Williams:** Writing – review & editing, Writing – original draft, Supervision, Conceptualization.

## Declaration of competing interest

Jaimie Arona Krems reports financial support was provided by National Science Foundation. If there are other authors, they declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

## Acknowledgements

This material is based upon work supported by the National Science Foundation under Grant No. 2340942 awarded to Krems.

## References

Aknin, L. B., Dunn, E. W., Proulx, J., Lok, I., & Norton, M. I. (2020). Does spending money on others promote happiness?: A registered replication report. *Journal of Personality and Social Psychology*, 119(2), Article e15.

Apostolou, M., & Keramari, D. (2021). *Why friendships end: An evolutionary examination*. Evolutionary Behavioral Sciences.

Barakzai, A., & Shaw, A. (2018). Friends without benefits: When we react negatively to helpful and generous friends. *Evolution and Human Behavior*, 39(5), 529–537.

Beersma, B., & Van Kleef, G. A. (2012). Why people gossip: An empirical analysis of social motives, antecedents, and consequences. *Journal of Applied Social Psychology*, 42(11), 2640–2670.

Benenson, J. F. (2014). *Warriors and worriers: The survival of the sexes*. Oxford University Press.

Ben-Ze'ev, A. (1994). *The vindication of gossip* (pp. 11–24). Good gossip.

Breuer, J., & Freud, S. (1893). *1895. Studies on hysteria* (p. 1895).

Bushman, B. J. (2002). Does venting anger feed or extinguish the flame? Catharsis, rumination, distraction, anger, and aggressive responding. *Personality and Social Psychology Bulletin*, 28(6), 724–731.

Buss, D. M., & Dedden, L. A. (1990). Derogation of competitors. *Journal of Social and Personal Relationships*, 7(3), 395–422.

Collins, N. L., & Miller, L. C. (1994). Self-disclosure and liking: A meta-analytic review. *Psychological Bulletin*, 116(3), 457.

Dawkins, R., & Krebs, J. R. (1978). Animal signals: Information or manipulation. In J. R. Krebs, & N. B. Davies (Eds.), *Behavioural ecology: An evolutionary approach* (1st ed., pp. 282–309). Blackwell Scientific.

Delton, A. W., & Robertson, T. E. (2016). How the mind makes welfare tradeoffs: Evolution, computation, and emotion. *Current Opinion in Psychology*, 7, 12–16.

DeScioli, P., & Kurzban, R. (2009). The alliance hypothesis for human friendship. *PLoS One*, 4(6), Article e5802.

DeScioli, P., & Kurzban, R. (2012). The company you keep: Friendship decisions from a functional perspective. In *Social judgment and decision making* (pp. 209–225).

DeScioli, P., Kurzban, R., Koch, E. N., & Liben-Nowell, D. (2011). Best friends: Alliances, friend ranking, and the MySpace social network. *Perspectives on Psychological Science*, 6(1), 6–8.

Dores Cruz, T. D., Nieper, A. S., Testori, M., Martinescu, E., & Beersma, B. (2021). An integrative definition and framework to study gossip. *Group & Organization Management*, 46(2), 252–285.

Dunbar, R. I. (2018). The anatomy of friendship. *Trends in Cognitive Sciences*, 22(1), 32–51.

Eisenbruch, A. B., & Krasnow, M. M. (2022). Why warmth matters more than competence: A new evolutionary approach. *Perspectives on Psychological Science*, 17 (6), 1604–1623.

Ellwardt, L., Labianca, G. J., & Wittek, R. (2012). Who are the objects of positive and negative gossip at work?: A social network perspective on workplace gossip. *Social Networks*, 34(2), 193–205.

Farley, S. D. (2011). Is gossip power? The inverse relationships between gossip, power, and likability. *European Journal of Social Psychology*, 41, 574–579.

Feinberg, M., Willer, R., Stellar, J., & Keltner, D. (2012). The virtues of gossip: Reputational information sharing as prosocial behavior. *Journal of Personality and Social Psychology*, 102(5), 1015.

Fessler, D. M., & Gervais, M. (2010). From whence the captains of our lives: Ultimate and phylogenetic perspectives on emotions in humans and other primates. *Mind the gap: Tracing the Origins of Human Universals*, 261–280.

Fisher, M., & Krems, J. A. (2023). An evolutionary review of female intrasexual competition. In D. Buss (Ed.), *The Handbook of Evolutionary Psychology*. Hoboken, NJ: John Wiley & Sons.

Fisher, R., & Shapiro, D. (2005). *Beyond reason: Using emotions as you negotiate*. Penguin.

Fisher, R., Ury, W. L. U., & Patton, B. (2011). *Getting to yes: Negotiating agreement without giving in revised*. Penguin Books.

Fonseca, M. A., & Peters, K. (2018). Will any gossip do? Gossip does not need to be perfectly accurate to promote trust. *Games and Economic Behavior*, 107, 253–281.

Galanes, P. (2014). *The venting process*. New York Times. <https://www.nytimes.com/2014/05/11/fashion/Social-Qs-The-Venting-Process.html>.

Gawronski, B., & Walther, E. (2008). The TAR effect: When the ones who dislike become the ones who are disliked. *Personality and Social Psychology Bulletin*, 34, 1276–1289.

Geen, R. G., & Quanyt, M. B. (1977). The catharsis of aggression: An evaluation of a hypothesis. *Advances in Experimental Social Psychology*, 10, 1–37.

Grabe, M. E., Bas, O., Pagano, L. A., & Samson, L. (2012). The architecture of female competition: Derogation of a sexualized female news anchor. *Journal of Evolutionary Psychology*, 10(3), 107–133.

Gray, K., & Wegner, D. M. (2009). Moral typecasting: Divergent perceptions of moral agents and moral patients. *Journal of Personality and Social Psychology*, 96(3), 505–520.

Grosser, T. J., Lopez-Kidwell, V., & Labianca, G. (2010). A social network analysis of positive and negative gossip in organizational life. *Group & Organization Management*, 35(2), 177–212.

Guendouzi, J. (2001). You'll think we're always bitching': The functions of cooperativity and competition in women's gossip. *Discourse Studies*, 3(1), 29–51.

Hainmueller, J., Hangartner, D., & Yamamoto, T. (2014). Do survey experiments capture real-world behavior? External validation of conjoint and vignette analyses with a natural experiment. *Proceedings of the National Academy of Sciences*, 112(8), 2395–2400.

Hess, N. H. (2022). Friendship, mating, and reputation in US College sororities: Exploring female intrasexual competition and cooperation. *Archives of Sexual Behavior*, 51(7), 3267–3271.

Hess, N. H., & Hagen, E. H. (2006a). Psychological adaptations for assessing gossip veracity. *Human Nature*, 17(3), 337–354.

Hess, N. H., & Hagen, E. H. (2006b). Sex differences in indirect aggression: Psychological evidence from young adults. *Evolution and Human Behavior*, 27(3), 231–245.

Hess, N. H., & Hagen, E. H. (2019). Gossip, reputation, and friendship in within-group competition. In *The Oxford handbook of gossip and reputation* (pp. 275–302).

Hess, N. H., & Hagen, E. H. (2023). The impact of gossip, reputation, and context on resource transfers among Aka hunter-gatherers, Ngandu horticulturalists, and MTurkers. *Evolution and Human Behavior*, 44(5), 442–453.

Holleman, G. A., Hooge, I. T., Kemner, C., & Hessels, R. S. (2020). The 'real-world approach' and its problems: A critique of the term ecological validity. *Frontiers in Psychology*, 11, 721.

Jourard, S. M. (1971). *Self-disclosure. An experimental analysis of the transparent self*.

Kajokaite, K., Whalen, A., Koster, J., & Perry, S. (2020). Fitness benefits of providing services to others: Sociality predicts survival in a neotropical primate. *BioRxiv*, 2020–2028.

Kenny, D. A., & La Voie, L. (1982). Reciprocity of interpersonal attraction: A confirmed hypothesis. *Social Psychology Quarterly*, 54–58.

Kenrick, D. T., Neuberg, S. L., Griskevicius, V., Becker, D. V., & Schaller, M. (2010). Goal-driven cognition and functional behavior: The fundamental-motives framework. *Current Directions in Psychological Science*, 19(1), 63–67.

Krems, J. A., Bradshaw, H. K., & Merrie, L. A. (2023). *Intrasexual Mating Competition*. The Oxford Handbook of Evolutionary Psychology and Romantic Relationships (p. 182).

Krems, J. A., French, J., & Filip-Crawford, G. (2024). A secret language of aggression: disgust expressions are treated as cues of impending social exclusion among women. *Frontiers in Social Psychology*, 2, 1335368.

Krems, J. A., Hahnel-Peeters, R. K., Merrie, L. A., Williams, K. E., & Sznycer, D. (2023). Sometimes we want vicious friends: People have nuanced preferences for how they want their friends to behave toward them versus others. *Evolution and Human Behavior*, 44(2), 88–98.

Krems, J. A., Kenrick, D. T., & Neel, R. (2017). Individual perceptions of self-actualization: What functional motives are linked to fulfilling one's full potential? *Personality and Social Psychology Bulletin*, 43(9), 1337–1352.

Krems, J. A., Williams, K. E., Aktipis, A., & Kenrick, D. T. (2021). Friendship jealousy: One tool for maintaining friendships in the face of third-party threats? *Journal of Personality and Social Psychology*, 120(4), 977–1012.

Krems, J. A., Williams, K. E., Merrie, L. A., Kenrick, D. T., & Aktipis, A. (2022). Sex (similarities and) differences in friendship jealousy. *Evolution and Human Behavior*, 43(2), 97–106.

La Gaipa, J. J., & Wood, H. D. (1981). Friendship in disturbed adolescents. *Personal Relationships*, 3, 169–190.

Lberman, Z., & Shaw, A. (2018). Secret to friendship: Children make inferences about friendship based on secret sharing. *Developmental Psychology*, 54(11), 2139.

Lberman, Z., & Shaw, A. (2019). Children use similarity, propinquity, and loyalty to predict which people are friends. *Journal of Experimental Child Psychology*, 184, 1–17.

Lohr, J. M., Olutunji, B. O., Baumeister, R. F., & Bushman, B. J. (2007). The psychology of anger venting and empirically supported alternatives that do no harm. *Scientific Review of Mental Health Practice*, 5(1).

Lukaszewski, A. W., & Roney, J. R. (2010). Kind toward whom? Mate preferences for personality traits are target specific. *Evolution and Human Behavior*, 31(1), 29–38.

Maynard-Smith, J., & Harper, D. (1995). *Animal signals*. Oxford University Press.

McAndrew, F. T., Bell, E. K., & Garcia, C. M. (2007). Who do we tell and whom do we tell on? Gossip as a strategy for status enhancement 1. *Journal of Applied Social Psychology*, 37(7), 1562–1577.

Merrie, L. A., Krems, J. A., & Sznycer, D. (2024). Dyads in networks: We (dis) like our partners' partners based on their anticipated indirect effects on us. *Evolution and Human Behavior*, 45(2), 203–213.

Neel, R., Neufeld, S. L., & Neuberg, S. L. (2013). Would an obese person whistle Vivaldi? Targets of prejudice self-present to minimize appearance of specific threats. *Psychological Science*, 24(5), 678–687.

Owens, L., Shute, R., & Slee, P. (2000a). "Guess what I just heard!": Indirect aggression among teenage girls in Australia. *Aggressive Behavior: Official Journal of the International Society for Research on Aggression*, 26(1), 67–83.

Parker, J. G., Low, C. M., Walker, A. R., & Gamm, B. K. (2005). Friendship jealousy in young adolescents: Individual differences and links to sex, self-esteem, aggression, and social adjustment. *Developmental Psychology*, 41(1), 235.

Parlamis, J. D. (2012). Venting as emotion regulation: The influence of venting responses and respondent identity on anger and emotional tone. *International Journal of Conflict Management*, 23(1), 77–96.

Peters, K., Jetten, J., Radova, D., & Austin, K. (2017). Gossiping about deviance: Evidence that deviance spurs the gossip that builds bonds. *Psychological Science*, 28(11), 1610–1619.

Pinker, S., Nowak, M. A., & Lee, J. J. (2008). The logic of indirect speech. *Proceedings of the National Academy of Sciences*, 105(3), 833–838.

Reynolds, T. A. (2021). Our grandmothers' legacy: Challenges faced by female ancestors leave traces in modern women's same-sex relationships. *Archives of Sexual Behavior*, 1–32.

Reynolds, T. A., & Palmer-Hague, J. (2022). Did you hear what she did to me? Female friendship victimization disclosures offer reputational advantages. *Journal of Experimental Social Psychology*, 101, Article 104311.

Rosnow, R. L. (2001). Rumor and gossip in interpersonal interaction and beyond: A social exchange perspective.

Schützwohl, A., Joshi, N., & Abdur-Razak, F. (2022). Competitor derogation in romantic jealousy and friendship rivalry. *Evolutionary Behavioral Sciences*, 16(1), 14.

Sell, A., Tooby, J., & Cosmides, L. (2009). Formidability and the logic of human anger. *Proceedings of the National Academy of Sciences*, 106(35), 15073–15078.

Shaw, A., Choshen-Hillel, S., & Caruso, E. M. (2018). Being biased against friends to appear unbiased. *Journal of Experimental Social Psychology*, 78, 104–115.

Shaw, A., DeScioli, P., Barakzai, A., & Kurzban, R. (2017). Whoever is not with me is against me: The costs of neutrality among friends. *Journal of Experimental Social Psychology*, 71, 96–104.

Silk, J. B., Beehner, J. C., Bergman, T. J., Crockford, C., Engh, A. L., Moscovice, L. R., ... Cheney, D. L. (2009). The benefits of social capital: close social bonds among female baboons enhance offspring survival. *Proceedings of the Royal Society B: Biological Sciences*, 276(1670), 3099–3104.

Slepian, M. L., & Greenaway, K. H. (2018). The benefits and burdens of keeping others' secrets. *Journal of Experimental Social Psychology*, 78, 220–232.

Sprecher, S., & Regan, P. C. (2002). Liking some things (in some people) more than others: Partner preferences in romantic relationships and friendships. *Journal of Social and Personal Relationships*, 19(4), 463–481.

Sugiyama, L. S. (2004). Illness, injury, and disability among Shiwiar forager-horticulturalists: Implications of health-risk buffering for the evolution of human life history. *American Journal of Physical Anthropology: The Official Publication of the American Association of Physical Anthropologists*, 123(4), 371–389.

Sznycer, D. (2022). Value computation in humans. *Evolution and Human Behavior*, 43(5), 367–380.

Tavris, C. (1989). *Anger: The misunderstood emotion*. Simon and Schuster.

Tice, D. M., & Bratslavsky, E. (2000). Giving in to feel good: The place of emotion regulation in the context of general self-control. *Psychological Inquiry*, 11(3), 149–159.

Tooby, J., & Cosmides, L. (1996). Friendship and the banker's paradox: Other pathways to the evolution of adaptations for altruism. *Proceedings of the British Academy*, 88, 119–144.

Turner, M. M., Mazur, M. A., Wendel, N., & Winslow, R. (2003). Relational ruin or social glue? The joint effect of relationship type and gossip valence on liking, trust, and expertise. *Communication Monographs*, 70, 129–141.

Ury, W. (1993). *Getting past no: Negotiating your way from confrontation to cooperation*. Bantam.

Vaillancourt, T. (2013). Do human females use indirect aggression as an intrasexual competition strategy? *Philosophical Transactions of the Royal Society, B: Biological Sciences*, 368(1631), 20130080.

Walster, E., Walster, G. W., Piliavin, J., & Schmidt, L. (1973). Playing hard to get": Understanding an elusive phenomenon. *Journal of Personality and Social Psychology*, 26(1), 113–121. <https://doi.org/10.1037/h0034234>

Wilson, D. S., Wilczynski, C., Wells, A., & Weiser, L. (2000). 19Gossip and Other Aspects of Language as Group-Level Adaptations. *The Evolution of Cognition*, 347.

Womick, J., Goya-Tocchetto, D., Ochoa, N. R., Rebollar, C., Kapsakis, K., Pratt, S., ... Gray, K. (2024, March 26). *Moral disagreement across politics is explained by different assumptions about who is most vulnerable to harm*. <https://doi.org/10.31234/osf.io/qsg7j>