

# Putting the “You” in “Thank You”: Examining Other-Praising Behavior as the Active Relational Ingredient in Expressed Gratitude

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Sara B. Algoe<sup>1</sup>, Laura E. Kurtz<sup>1</sup>, and Nicole M. Hilaire<sup>2</sup>

## Abstract

Although positive emotions as a class can build interpersonal resources, recent evidence suggests a unique and direct role for gratitude. In the current research, we shine the spotlight on what happens between a grateful person and the benefactor to illuminate what can build a bridge between them. Specifically, we draw on work calling gratitude an “other-praising” emotion. In an original study and a conceptual replication that included two independent samples, couples had video-recorded conversations in which one member expressed gratitude to the other ( $n = 370$ ). Expresser’s other-praising behavior was robustly positively associated with the benefactor’s postinteraction perception of expresser responsiveness, personal good feelings in general, and felt loving in particular. Several practical and theoretical alternative explanations are ruled out. By clarifying the specific behavioral and subjective psychological mechanisms through which expressed gratitude promotes relationships, this work advances affective and relationship science, two domains that cut across disciplines within psychology.

## Keywords

expressed gratitude, perceived responsiveness, interpersonal processes, observed behavior, romantic relationships, emotion

Gratitude is a positively valenced emotion that can arise when another person—a benefactor—does something kind for the self. Although positive emotions in general are thought to build interpersonal relationships through momentarily broadened cognitions (Fredrickson, 1998; Fredrickson, Cohn, Coffey, Pek, & Finkel, 2008), recent work suggests a unique and more direct path to beneficial relational outcomes through the specific emotion of gratitude (Algoe & Haidt, 2009; Algoe, Haidt, & Gable, 2008). Particularly, theory positions gratitude as having evolved to help solve a central problem of human survival: identifying high-quality relationship partners and keeping them interested in the relationship (Algoe, 2012). That is, gratitude helps one to *find* new or *remind* one of current good relationship partners and to *bind* the two more strongly together. Now, the pressing question is, “How?” Here, we go back to basics, starting with theory about what sets gratitude apart from other related positive emotional states as well as the behavior that is most proximal to the experience of the emotion, its *expression*. We suggest and provide the first direct test of whether the theorized “other-praising” feature of gratitude is central to its implications for building social bridges.

## Gratitude and Social Outcomes

Given prior theory and evidence, many researchers in the broader social and personality psychology literature would likely base predictions about how expressed gratitude may

influence a relationship partner simply on the fact that it is positive in valence (see Fredrickson’s broaden-and-build theory of positive emotions, 1998, 2001, and evidence in Fredrickson et al., 2008, 2013). With few exceptions, this also holds for researchers specifically within the relationships literature as well as the emotions literature. However, moving beyond general positive valence, Algoe recently paired insights from the emotions literature that *differentiate* gratitude from other positive emotions (e.g., Algoe & Haidt, 2009) with insights from the relationships literature differentiating among relationship norms (e.g., Clark & Mills, 2011) to formally propose that the positive emotion of gratitude is *uniquely* suited for promoting relationships with high-quality relationship partners (2012). Importantly, the theory pushes for specificity of interpersonal mechanisms and calls for data from the target of one’s gratitude, the original benefactor.

For example, this *find-remind-and-bind* theory hypothesizes that a grateful person will draw in a benefactor by demonstrating *responsiveness* to the benefactor’s needs (Algoe, 2012).

<sup>1</sup> University of North Carolina at Chapel Hill, Chapel Hill, NC, USA

<sup>2</sup> University of North Carolina at Charlotte, Charlotte, NC, USA

## Corresponding Author:

Sara B. Algoe, University of North Carolina at Chapel Hill, CB 3270 Davie Hall, Chapel Hill, NC 27599, USA.

Email: algoe@unc.edu

Two studies involving each member of ongoing relationships now provide initial evidence for this possibility (Algoe, Fredrickson, & Gable, 2013; Algoe & Zhaoyang, 2016). In them, a benefactor rated a grateful person's responsiveness after being thanked by that person in a laboratory-based conversation—that is, benefactors rated how understood, validated, and cared for they felt during the interaction with the grateful person (Reis, Clark, & Holmes, 2004); when benefactors perceived greater responsiveness in the grateful person's gesture, they felt better about their lives and were more satisfied with the relationship in subsequent weeks or months. Importantly, these results held even when controlling for or comparing to perceptions of the partner's responsiveness in other validated relationship-relevant social interactions in the lab, including one that was also positive in valence: There is something unique about expressed gratitude (Algoe et al., 2013; Algoe & Zhaoyang, 2016). In the current work, we put a grateful person and his or her benefactor in the room together and observe what transpires between them to address what that might be.

### *Is Other-Praising the Active Relational Ingredient in Expressed Gratitude?*

Following a formative review of the psychological literature on gratitude (McCullough, Kilpatrick, Emmons, & Larson, 2001), Haidt took the novel approach of considering the place of gratitude within the positive emotion family (2003). Specifically, building on a prior attribution model of emotions (Ortony, Clore, & Collins, 1988), he called gratitude one of the other-praising emotions (2003). This is because gratitude was characterized as an emergent property of two attributions about the situation: That there had been a positive outcome for the self (the core attribution for *joy*) and that the outcome was caused by the praiseworthy actions of another (the core attribution for *admiration*; Ortony et al., 1988).

Notably, this means that a very closely related positive emotional state to gratitude is “joy” or “happiness” at receiving a positive outcome for the self. Because happiness has been used as the generic stand-in for “positive emotion” in the majority of prior research, it is already known that the expression of general positive emotions has effects on perceivers that may make the expresser more attractive as an interaction partner. For example, those perceived to be happy (e.g., via a smile) are rated as more likeable, kinder, are more likely to be helped, and may even make social partners happy (see review in Clark & Monin, 2014). Intriguingly, some of these outcomes—likeable, kinder, and more likely to be helped—have also been found in experimental research that compares effects of receiving a “thank you” versus not receiving a thank you (Grant & Gino, 2010; Williams & Bartlett, 2015). Are the documented social consequences of gratitude expressions simply due to the fact that the expressions are positively valenced?

Empirical work comparing joy to gratitude provides clues about differentiation. This work suggests that the grateful experience may be accompanied by *other-praising behavior*, which, in turn, may help account for the unique relational trajectory of

gratitude (Algoe & Haidt, 2009). Critical analyses relied on recalled joy (and gratitude) narratives, in which someone else caused the positive outcome for the participant—that is, a benefactor was identified by the participant. Even still, participants in the gratitude condition were more likely than those in the joy condition to spontaneously report having seen new positive qualities in their benefactors, were more likely to thank and hug their benefactor, and reported singing the praises of the benefactor to third parties (Study 1). In the current work, we capitalize on the recently used expressed gratitude paradigm (e.g., Algoe et al., 2013) to test for the first time whether other-praising behavior of the grateful person can account for key relationship-promoting outcomes for the benefactor. Critically, we are able to statistically account for other positive expressive behavior that would be similar to expressing one's joy, providing a conservative test of the unique relational value of other-praising behavior (Algoe & Haidt, 2009).

### *Examining the Social Interaction*

Emotional expressions are theoretically the most proximal behavior to the experience of an emotion and the *inputs* to an emotional experience are thought to shape its *output* (Lerner & Keltner, 2000). As such, we assume we can observe each theorized input component of gratitude—perceived benefits to the self and the praiseworthiness of the other's actions (Haidt, 2003; Ortony et al., 1988)—in the behavioral *outputs* within video-recorded verbal expressions of gratitude. As initial evidence, previous research has documented that expressers do spontaneously use other-praising behavior within these conversations (Algoe & Way, 2014).

Our primary outcome for these conversations, based on theory and recent findings (e.g., Algoe & Zhaoyang, 2016), is the benefactor's perception of expresser responsiveness. As indicated, perceived responsiveness is comprised of feeling understood, validated, and cared for (Reis et al., 2004). Praising offers direct validation of the person's actions, so we see other-praising behavior as a relatively direct way that responsiveness can be conveyed. Moreover, testing this, while accounting for other expressed positive emotion, operationalized here as expressing benefits to the self (akin to expressed joy/happiness), would provide an important first step toward documenting that the relational consequences of expressed gratitude are not simply explained by its positive valence.

Additionally, we examine the benefactor's positive emotions as a secondary outcome. As reviewed earlier, momentary positive emotions are theorized to lay a foundation for growth in social resources (see Fredrickson, 1998), so they may provide an additional path for social consequences from expressed gratitude. As such, following recent work (Algoe & Way, 2014), we examine an aggregated measure of positive emotions and one that is theoretically relevant in this context—felt loving (see Gonzaga, Turner, Keltner, Campos, & Altemus, 2006). We expect that hearing praise for one's behavior will make one feel happy (i.e., general positive emotions) and loving. Simultaneously, positive emotions have long been

theorized as “contagious” (see Fowler & Christakis, 2008; Hatfield, Cacioppo, & Rapson, 1993), and in this context, learning that one’s kind gesture hit the mark may feel good (e.g., Dunn, Aknin, & Norton, 2008). As such, our exploration of whether self-benefit expression is positively associated with the benefactor’s positive emotions after the conversation provides additional contributions to the broader literature.

### The Current Research

In Study 1, we use a tightly controlled design to test whether other-praising behavior, independent from a focus on benefits to the self within the same conversation, uniquely predicts the benefactor’s subjective experience. Then, we conceptually replicate these findings using an integrated data analysis (Curran & Hussong, 2009) of two similar but independent studies. There, we also measure the benefactor’s perception of expresser’s positive emotions. Each study addresses several theoretically and practically derived alternative explanations.

## Study 1

### Participants and Procedure

Within a larger observational study, each member of 73 heterosexual couples ( $n = 146$ ) from the region surrounding Chapel Hill, NC, attended a lab session during which they each expressed gratitude to the other for a recent event (see Algoe et al., 2013, for original description of this sample). Of these conversations, 131 were possible to code for expresser behavior (2 were not recorded due to procedural error; 13 more were not coded due to poor sound quality). These individuals and their partners are considered in the current analysis. Approximately half the couples were dating (55.1%) and the others reported formal commitment through engagement, long-term cohabitation, or marriage (44.9%); relationship length varied from 7 to 423 months ( $M = 48.67$ , median = 25.00 months; standard deviation [ $SD$ ] = 60.42); 61.8% of partners lived together. Participants’ ages ranged from 18 to 57 ( $M = 27.91$ ,  $SD = 8.40$ ), most self-identified as White/Caucasian (77.1%) and non-Hispanic (96.9%). Sample size in the original study was set with a goal of recruiting 80 couples ( $n = 160$ ); here, it was determined by number of videos available for coding.

In the lab, participants were asked to pick something their partner had done for them recently, for which they felt grateful. After each person selected the event and rated its importance, one person was randomly chosen to speak first. After the conversation, they both rated their emotions and perceptions of partner responsiveness before repeating with the other partner’s event; order was counterbalanced.

### Measures

**Self-report measures.** Measures to be used in analyses completed prior to the conversation include self-reported global relationship satisfaction (Hendrick, 1988; 7 items,  $\alpha = .81$ ), the

importance of the event for which the expresser felt grateful, from 0 (*not at all important*) to 6 (*extremely important*), and the target’s self-reported *general* perception of expresser responsiveness in the relationship not tied to a specific instance of behavior; instructions began, “The statements below reflect different aspects of your relationship.” This 18-item scale was an earlier version of one later reduced to 12 (Reis, Maniaci, Caprariello, Eastwick, & Finkel, 2011;  $\alpha = .90$ ). Immediately after the conversation, the target of the expression rated the extent to which the expresser was responsive within the social “interaction here during this laboratory visit” (Gable, Gonzaga, & Strachman, 2006; adapted from Reis, 2006; 10 items,  $\alpha = .94$ ). Targets also reported their positive emotions as a result of the conversation by rating the following 11 items on a scale ranging from 0 (*not at all true/never true*) to 6 (*very true/true all of the time*): satisfied, loving, warm, appreciative, admiring, peaceful, open, amused, grateful, proud, and inspired. The average was computed to represent general positive emotions ( $\alpha = .89$ ); to explore specificity, we targeted one from theory: love.

Two targets provided extreme values that were more than three  $SD$ s below the mean on perceived responsiveness and are not included in analyses using this measure as the dependent variable. See Supplemental Online Material (SOM) for results of analyses that include these participants.<sup>1</sup>

**Coding behavior within gratitude expressions.** People expressed thanks for everything from making banana pudding to being there for the grateful partner through a hospital stay. The conversations contained many positively valenced statements by the expressers. The behavioral coding systems developed for this study, to identify statements within the expression of gratitude focused on praising the others’ actions and statements focused on benefits to the self, draw from emotion theory (Algoe & Haidt, 2009; Ortony et al., 1988).

Two teams of four coders—one team for each behavior—watched each video with sound. They rated the focal behavior on a 5-point scale, ranging from 1 = *no or minor use of the behavior* to 5 = *excellent example or major use of the behavior*. More information about scale development and coder training can be found in the OSM. Examples of other-praising statements include, “You know I’m a big flowers person,” “. . . shows how responsible you are . . .,” “You go out of your way . . .,” and “I feel like you’re really good at that.” Examples of self-benefit statements include, “It let me relax,” “It gave me bragging rights at work,” “I can study and spend time with you at the same time, which is great for me,” and “It makes me happy.” An average of the judges’ scores is used for each behavioral code for any given clip. Other-praising ratings ranged from 1.25 to 5.00 (intraclass correlation coefficient [ICC] = .794); self-benefit ratings ranged from 1 to 5 (ICC = .899).

## Results

All regressions were run using multilevel models with person (Level 1) nested within couple (Level 2) in the HLM software

**Table 1.** Means, Standard Deviations, and Correlations Among All Study 1 Variables.

Measures	1	2	3	4	5	6	7	8	9	10
1. Expresser other-praising behavior	—									
2. Expresser self-benefit behavior	.13	—								
3. Target perception of expresser responsiveness	.30**	-.12	—							
4. Target positive emotions	.33**	-.01	.61**	—						
5. Target loving	.27**	.06	.70**	.71**	—					
6. Target perception of <i>general</i> responsiveness	.16	.03	.55**	.28**	.35**	—				
7. Target relationship satisfaction	.21*	-.10	.50**	.20*	.34**	.68**	—			
8. Expresser relationship satisfaction	.12	-.15	.26**	.17	.19*	.29**	.49**	—		
9. Expresser event importance	.07	.03	-.01	.07	.07	-.10	-.15	.04	—	
10. Conversation duration <sup>a</sup>	.20*	-.05	.00	.02	.10	-.09	-.03	-.07	.05	—
Mean	3.27	2.09	5.10	3.76	4.89	6.04	6.10	6.12	4.12	132
SD	0.70	0.82	0.86	1.24	1.28	0.64	0.65	0.67	4.12	63

Note. The dependent measures—target perceptions of expresser responsiveness, positive emotions, and loving—do not include extreme values > 3 SD below the mean. See OSM for estimates from HLM models.

<sup>a</sup>Conversation duration is in seconds.

\*\* $p < .01$ . \* $p < .05$ .

**Table 2.** Target's Postinteraction Perceptions of Responsiveness, Good Mood, and Experienced Loving as Predicted by Expresser Behavior During the Conversation.

Variables in the Model	Model 1: Target Perception of Expresser Responsiveness		Model 2: Target Positive Emotions		Model 3: Target Experienced Loving	
	$\beta$	95% CI	$\beta$	95% CI	$\beta$	95% CI
<b>Study 1</b>						
Expresser other-praising behavior	.40***	[.15, .65]	.61***	[.30, .92]	.46**	[.11, .80]
Expresser self-benefit behavior	-.14	[-.09, .37]	-.07	[-.36, .23]	.16	[-.24, .42]
<b>Study 2</b>						
Expresser other-praising behavior	.18***	[.09, .27]	.18**	[.06, .29]	.18**	[.07, .29]
Expresser self-benefit behavior	.07	[-.03, .16]	.10	[-.03, .22]	.01	[-.11, .13]
Condition	-.03	[-.23, .18]	-.06	[-.33, .22]	-.05	[-.31, .21]
Study	.22**	[-.39, -.06]	-.38**	[-.60, -.16]	-.21	[-.42, .01]

Note. CI = confidence interval.

\*\*\* $p < .001$ . \*\* $p \leq .01$ .

(Raudenbush, Byrk, Cheong, & Congdon, 1996). This approach takes into account the fact that the couple members are likely to be similar in their ratings on the dependent measures.

### Descriptive Information

Use of other-praising behavior was correlated positively within couple,  $r[124] = .41, p < .001$ , although use of self-benefit behavior was not,  $r[129] = .03, p > .250$ . See Table 1 for correlations among all study variables. Notably, within person, other-praising behavior was not correlated with self-benefit behavior.

### Primary Analyses

Conclusions from the correlations held in multilevel models using either behavior to independently predict any of the three dependent measures. As such, for brevity, we only display results of the subsequent analysis: Table 2 shows that the

expresser's other-praising behavior continued to predict target's perception of expresser responsiveness, general positive emotions, and the specific emotion of loving, even when controlling for the expresser's self-benefit-focused behavior.

### Addressing Alternative Explanations

Multilevel models including the predictors of expresser other-praising and expresser focus on self-benefit, as well as either conversation duration, expresser's indication of event importance, expresser or target relationship satisfaction, or target's general perception of expresser responsiveness continued to yield significant positive associations between expresser other-praising behavior and the target's perception of expresser responsiveness ( $ps < .02$ ). Further, they did not reveal a suppression effect for self-benefit focus (i.e., this negative coefficient did not reverse signs or become statistically significant,  $ps > .096$ ). The same pattern of effects held for the target's general positive emotions and the specific emotion, loving ( $ps$  for other praising  $< .04$ ;  $ps$  for self-benefit  $> .250$ ). These analyses

rule out many theoretically and practically derived alternative explanations to the hypothesis that other-praising behavior is the relationally active ingredient in expressions of gratitude, spanning a range of levels of analysis, from additional behavior (conversation duration) to global perceptions of either the expresser (relationship satisfaction) or target (relationship satisfaction or general perceptions of partner responsiveness) and conversation-specific perceptions of the expresser (importance of the gratitude event). In Study 2, we also address conversation-specific perceptions of the target.

## Study 2

Study 1 demonstrated ample support for the hypothesis that other-praising behavior is the relationally active ingredient in expressions of gratitude: When expressers used more other-praising behavior, their benefactors perceived them as more responsive, benefactors felt good in general and more loving in particular. In Study 2, we tested for conceptual replication. To do so, we pooled two data sets that used the same in-lab procedure for the video recording and rating of an expressed gratitude conversation, this time with only one member of the couple expressing. Although meta-analysis has garnered support in the literature (see Cummings, 2013), Curran and Husong note that this approach is best when the original data are unavailable (2009). With access to all available data, however, they suggest use of integrated data analysis, which is what we do here.

Additionally, we ask the target about perceived positive emotions of the expresser, which contributes in two ways. First, although each behavioral code was defined as conveying positive emotion, there is not corroborating evidence to validate this assumption. As such, we use correlations to test whether targets perceive greater positive emotions when coders gave higher ratings on each behavior. Second, one recent study posited that warmth conveyed by a thank you accounts for its effects on the benefactor (Williams & Bartlett, 2015), and the other-praising code (developed and implemented prior to that publication) incorporates conveyed warmth. Here, we statistically account for the target's perception of warmth in the expression, thereby testing whether the other-praising content continues to account for unique variance in benefactor outcomes, beyond the warmth it conveys.

## Participants and Procedure

Heterosexual couples were recruited from the greater Chapel Hill, NC, region for a study on "everyday couple interactions." The couple must have been together for at least 1 year (see OSM for additional information). Both members of 257 couples ( $n = 514$ ) attended this lab session together. Most couples were dating exclusively (68.3%), with most others reporting a formally committed relationship (31.4%); 54% were living together. On average, participants were about 25 years old ( $M = 25.31$ ,  $SD = 8.11$ ; range = 18–73), predominantly Caucasian (70.6%) and non-Hispanic (90.8%).

**Procedure for expressed gratitude task.** A primary goal of these study designs was to test the current hypothesis through experimental manipulation. As such, only one randomly assigned member of the couple expressed gratitude to the other in the laboratory. However, the manipulation did not produce changes in target perceptions of responsiveness, so we do not consider it further here other than to control for condition in statistical analyses (see OSM for more information regarding the manipulation). Sample size for these studies originally was determined with the goal of at least 60 couples in each of two conditions to provide 78% power to detect a medium-sized effect with an independent-samples  $t$  test at  $p < .05$ , two-tailed. In Sample A, we ran additional couples in case of missing data; in Sample B, we ran additional couples to further increase power; data collection ended when the grant period ended. Critically, together in the lab room, the procedures were the same as in Study 1. Prior to leaving the lab, couples were debriefed about the nature of the experiment.

## Measures

**Self-report measures.** As in Study 1, the expresser's and target's initial measure of relationship satisfaction ( $\alpha = .88$ ,  $.84$ , respectively) and the target's initial measure of perceptions of *general* responsiveness in the relationship (12 items; Reis et al., 2011;  $\alpha = .94$ ) were control variables in additional analyses as was expresser's rated importance of the selected event. Again, the target's postinteraction reported perceptions of expresser responsiveness was the primary dependent measure ( $\alpha = .93$ ), with general positive emotions ( $\alpha = .89$ ) and the specific emotion, loving, as secondary outcomes. In this study, targets also rated their perception of the expresser's emotions during and as a result of the interaction, using the same items and scale as used for rating their own emotions. To test whether the targets picked up on the general positivity in each behavior observed by the coders, the nine nongratitude items were aggregated ( $\alpha = .84$ ). One item—perceived warm feelings—was used as an additional theoretically derived situation-specific control variable.

Regarding the primary and secondary outcome measures, six targets provided extreme values that were more than three  $SDs$  below the mean on perceived responsiveness, four on general positive emotions, and five for loving; they are not included in analyses using the relevant measure as the dependent variable. See OSM for results of analyses including these participants. One rating of general positive emotions and loving as well as expresser responsiveness was not provided.

**Behavioral coding.** Other-praising behavior and self-benefit behavior in the interactions were coded from the videos of the conversation using the same definitions as in Study 1. In Sample A, across all expressers and averaged across four coders, other-praising behavior ratings ranged from 1.25 to 5 (ICC =  $.866$ ); self-benefit behavioral ratings ranged from 1 to 4.5 (ICC =  $.915$ ). In Sample B, across all expressers, other-praising behavior ratings averaged across four coders ranged

**Table 3.** Means, Standard Deviations, and Correlations Among All Study 2 Variables.

Measures	1	2	3	4	5	6	7	8	9	10	11
1. Expresser other-praising behavior	—										
2. Expresser self-benefit behavior	-.04	—									
3. Target perception of expresser responsiveness	.25**	.10	—								
4. Target positive emotions	.18**	.12	.59**	—							
5. Target loving	.20**	.02	.58**	.69**	—						
6. Target perception of expresser warmth	.20**	.08	.39**	.60**	.50**	—					
7. Target perception of general responsiveness	.03	.03	.50**	.34**	.31**	.24**	—				
8. Target relationship satisfaction	.02	.08	.48**	.36**	.31**	.21**	.66*	—			
9. Expresser relationship satisfaction	.02	.13*	.32**	.08	.19**	.20**	.41**	.55**	—		
10. Expresser event importance	.03	.02	.05	.24**	.05	.08	.15*	.10	.07	—	
11. Conversation duration <sup>a</sup>	.29**	-.01	.14*	.13*	.05	.11	.02	-.00	-.01	.05	—
Mean	.01	0.00	5.32	4.66	5.41	4.96	6.17	6.18	6.16	4.01	143
SD	.99	1.00	0.68	0.91	0.84	1.31	0.82	0.67	0.73	1.47	71

Note. The dependent measures—target perceptions of expresser responsiveness, positive emotions, and loving—do not include extreme values > 3 SD below the mean.

<sup>a</sup>Conversation duration is in seconds.

\*\* $p < .01$ . \* $p < .05$ .

from 1.25 to 5 ( $ICC = .864$ ); self-benefit behavioral ratings averaged across three coders ranged from 1 to 4.33 ( $ICC = .841$ ). Because the composition of coding teams differed in the two samples, each behavioral variable was standardized within study prior to pooling the data set.

**Procedural errors.** Due to technical and procedural errors in Sample A, information about condition instructions provided to four expressers is missing; in one additional couple, *both* members mistakenly heard the instructions intended for the expresser. Because we control for condition in analyses, data from these conversations were not included in the final sample. This type of error did not exist for Sample B.

### Results of Conceptual Replication Analyses

**Descriptive information.** See Table 3 for means, *SDs*, and correlations among all variables as used. As in Study 1, although most expressers engaged in both behaviors in the conversation, expresser's use of other-praising behavior was uncorrelated with use of self-benefit behavior.

**Validation: Perceived expresser emotion.** The correlations presented in Table 3 confirm that, consistent with the definition of the codes as conveying positive emotions, targets were more likely to perceive positive emotions in expressers with higher scores on either behavioral code.

**Primary analyses.** As seen in Table 3, the basic correlation between expresser other-praising behavior and target's perception of expresser responsiveness supports the primary study hypothesis: Targets perceived greater expresser responsiveness when the expresser used more praising behavior. In contrast, there was no association between expresser use of self-benefit behavior and the target's perception of expresser responsiveness. The target's ratings of general positive

emotions and the specific experience of love showed similar dissociated patterns, such that they were higher when the expresser used more other-praising behavior but were not associated with the expresser's use of self-benefit behavior.

Table 2 shows the results of three linear regression models, one predicting each outcome of interest from expresser other-praising behavior and self-benefit behavior simultaneously, while controlling for study and condition. Conclusions do not change from the correlational analyses.<sup>2</sup>

**Addressing alternative explanations.** We note that the correlation between the target's perception of expresser warmth during the conversation and expresser praising behavior as well as each dependent measure is significant and positive. Nonetheless, as with Study 1 analyses, controlling for conversation duration, expresser or target satisfaction with the relationship, expresser's rated importance of the gratitude event, target's general perception of expresser responsiveness, or the target's perception of the expresser's warmth during the conversation in the above model did not eliminate the statistically significant positive association between expresser other-praising behavior and the target's perception of expresser responsiveness ( $ps \leq .001$ ) nor did it reveal a suppression effect of self-benefit behavior ( $ps > .14$ ). The same was true for experienced positive emotions and for the specific positive emotion of loving ( $ps$  for other-praising  $< .04$ ;  $ps$  for self-benefit  $> .13$ ), with one exception, where the association between other-praising and target positive emotions was reduced when controlling for perceived expresser warmth ( $p = .09$ ).

### Discussion

Data from three independent samples, totaling 370 naturalistic conversations between romantic partners, point to the conclusion that other-praising behavior is the relationally active ingredient in expressions of gratitude: When expressers used more

other-praising behavior, targets perceived them as more responsive, targets felt better in general, and more loving in particular. These are precisely the subjective psychological experiences that theory and evidence suggest will forecast a trajectory of growth for the benefactor and, likely, the relationship (see Algoe, 2012; Algoe et al., 2013; Algoe & Zhaoyang, 2016; Fredrickson, 1998; Fredrickson et al., 2008; Gonzaga et al., 2006; Reis et al., 2004).

Given the dyadic structure of the methods and the conservative inclusion of the additional positive expressive behavior, the current work provides the first robust test of the hypothesis that it is the other-praising feature of gratitude that makes it uniquely suited for relationship promotion. These data contribute to the growing body of literature on the social consequences of expressed positive emotion (Clark & Monin, 2014) and help parse the theoretical and empirical landscape for understanding the conditions under which certain positively valenced social behaviors—here, an expression of gratitude—will be more likely to produce certain types of social effects.

Although these are correlational data, the effects were robust to several alternative explanations and consistent across the two studies. This includes one variable identified in prior research to be associated with a social outcome from expressed gratitude, perceived warmth of the expresser (Williams & Bartlett, 2015). This analysis is especially useful to consider given that the behavioral code of other-praising explicitly mentions conveyed “warmth.” Although of course each behavioral code was derived from theory, wherein conveyed warmth would be expected to covary with other praising, but not with self-benefit expression (Ortony et al., 1988), we suspect that people expressing self-benefit, *compared to emotional neutrality or to expressing negative emotions*, typically would be seen as warmer by observers; they would also likely increase the target’s own positive emotions simply because it feels good to know one did good (Dunn et al., 2008). Regardless of these potential situations under which expressing one’s own joy about a benefit to the self could be a mechanism for beneficial social consequences (and see Gable et al., 2006), in this very positive context, with multiple sources of “goodness,” we did not find it to be the distinguishing feature of expressed gratitude. Instead, we used theory to separate the signal from the noise, showcasing the unique relational value of other-praising behavior. These findings justify future consideration of whether other-praising behavior is the best signal of actually experienced gratitude, using different methods.

Some readers may worry that observed other-praising behavior is conceptually close to the primary outcome variable, perceived expresser responsiveness. However, these are two constructs from independent theoretical traditions (i.e., emotions and relationships), operationalized with different descriptions; although we assume that other-praising behavior taps into the validation component of perceived responsiveness, we do not view them as the same. Indeed, the correlations between the two variables were modest ( $r = .30$  in Study 1 and  $.25$  in Study 2). Moreover, the secondary outcomes—the target’s positive emotions—do not have conceptual overlap with

the predictor of expresser’s other-praising behavior. Because positive emotions are another path through which the target may improve a sense of felt connection or feel rewarded from the interaction with the expresser (see Aron, Norman, Aron, McKenna, & Heyman, 2000) and loving in particular may increase that person’s willingness to invest in the relationship (Gonzaga et al., 2006), these data provide useful convergent evidence in support of the present hypothesis. Further, these analyses draw attention to positive emotions as useful outcomes to examine in future research within relationship science.

## Conclusion

The emotion of gratitude has been called out as central to social life in general, and to survival in particular, by keeping one embedded within a supportive social network (Algoe, 2012). A critical contribution of that proposal is that a grateful person enacts unique behaviors that could draw these high-quality, supportive partners into the relationship. Here, we used theory to identify one such behavior—other praising—that may provide that hook. The results drive home the point that other praising is a theoretically and empirically overlooked, yet key behavioral mechanism through which expressed gratitude can impact the benefactor on precisely the outcome that has already forecasted relational growth (i.e., target’s perception of expresser responsiveness) as well as others that should also do that, even if indirectly (i.e., target’s positive emotions and felt loving). With few exceptions, even when studied, most researchers studying positive emotions or positively valenced interpersonal processes do not have data from each member of the dyad nor do they address cross-dyad questions that speak to the interpersonal process through which one person may influence the other and rarely do they account for other positively valenced content of the social interaction. As such, beyond contributions to understanding the role of gratitude in social life, these findings have implications for understanding mechanisms for the growth of ongoing relationships and call for more research on differential social consequences of expressed positive emotions.

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## Notes

1. Please see Supplemental Online Material (SOM) for more information about Studies 1 and 2.
2. In each study, we also tested an interaction between the two behaviors on each outcome. From these six analyses, only one produced a significant interaction; it was in this study on the outcome of perceived expresser responsiveness. Exploration of simple slopes continues to support the hypothesis regarding other-praising behavior but adds that, when praising is low, self-benefit behavior is positively associated with perceived expresser responsiveness (see SOM for more information).

## Supplemental Material

The supplemental material is available at <http://spps.sagepub.com/supplemental>.

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### Author Biographies

**Sara B. Algoe** is an Assistant Professor of Psychology at UNC Chapel Hill. Her primary research interests involve understanding what makes things go right in social interactions.

**Laura E. Kurtz** is a doctoral candidate at UNC Chapel Hill. She studies how everyday emotional and behavioral processes operate to shift momentary and downstream intra- and interpersonal outcomes.

**Nicole M. Hilaire** is a PhD student in health psychology at the University of North Carolina at Charlotte. Her research examines interpersonal motives, support processes, and emotion in close relationships.

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