

It Takes Two: The Dyadic Effects of Communicating Gratitude

Blair Kirsten Puleo

The Department of Psychology: Senior Honor Thesis

The University of North Carolina at Chapel Hill

25 April 2014

“On my honor, I have neither given nor received unauthorized aid on this assignment”

*Blair Kirsten Puleo*

---

### Abstract

Theory suggests that the emotion of gratitude distinctively fosters a high-quality relationship by promoting positive connections between dyad members (Algoe et al., 2008). The current research examines one aspect of this theory by assessing whether positive emotions experienced from expressing gratitude are dependent on both the quality of the expression and the quality of the response to that expression. During a laboratory-based behavior task, members of romantic relationships expressed gratitude toward one another. Subsequently, the expresser's praising behavior and the target's behavioral response (specifically empathy, validation, and humility) were coded. Multilevel modeling analyses revealed a significant interaction such that high-quality praising behavior paired with high-quality humble responses were predictive of the highest levels of positive emotions experienced by the expresser. These findings suggest that, in close relationships, the beneficial effects of gratitude are dependent on a dyadic process in which the actions and responses of both the grateful person and the original benefactor must be considered.

### It Takes Two: The Dyadic Effects of Communicating Gratitude

Five, six, seven, eight... and one. You take center stage with your partner. Accompanying the beat, you both move in relation to one another. Communicating both verbally and nonverbally, your movements are coordinated: sometimes in tandem, sometimes in opposition. It is as though you both are telling a story with your bodies. Dance is a medium for emotional expression and social interaction via non-verbal communication. For some, rhythm comes naturally. But for others, much practice is necessary. Analogously, the same can be said for relationships. The common idiomatic expression 'it takes two to tango' inextricably relates these two concepts. The saying is often extended beyond the style of dance as it illustrates the dual nature of a situation. The tango is a dance that involves complimentary rhythmic movements between two people. A healthy relationship can similarly be defined as it involves the dynamics between two people who are committed to, supportive of, and respectful towards one other. Each takes time, effort, practice, and patience. And notably, they both need two people to function. But surprisingly, little scientific research has delved into this dyadic nature of couples. Specifically, the area of expressions of gratitude within couples has received little examination. The current investigation tries to fill this gap by analyzing the momentary effects of gratitude in couples through a dyadic perspective. Like a dance, one should take into account both members' actions and behaviors.

#### **Preliminary Evidence**

Research has shown that there are many benefits of being kind to others. Specifically, it makes people feel good (Dunn et al., 2014). Acts of kindness are positively associated with enhanced life satisfaction and well-being. They develop a

sense of connectedness with others, augment optimistic perceptions and even reduce anxiety (Dulin et al., 2001; Emmons & McCullough, 2003; Kerr et al., 2014).

Positive psychology interventions increase happiness levels and promote positive emotions, behaviors, and cognitions when the activity is continually rendered overtime (Sin & Lyubomirsky, 2009; Toepfer et al., 2012). Activities in such interventions include practicing random acts of kindness and expressing gratitude. In the current investigation, we view expressions of gratitude from one person to another as being synonymous with kind actions. In fact, Algoe and colleagues found that perceived responsiveness of an expression of gratitude for a kind gesture was a positive predictor for the target's (the partner who received the expression of gratitude) relationship satisfaction 6 months later (2013), which suggests long-term positive benefits for both members of the dyad. However, little is known about the effects of gratitude momentarily after the expression.

In the current study, we strive to understand the transitory effects of expressing gratitude using a relationships scientist's lens. This viewpoint suggests that the behavior of both members of the dyad matters. Therefore, we examine the behavior of expressing gratitude and the behavioral response of receiving an expression of gratitude, while measuring the associations of these behaviors on the positive emotions of the individual expressing gratitude.

### **Dyadic Perspective**

Gratitude is a positive emotion that can be experienced when someone does something kind for the self. Notably, its presence is predicted by the expresser's perception that the target's kind act was rendered responsive to their needs and wishes in addition to enjoying the benefit itself (Algoe, Haidt, & Gable, 2008). An expression is a

manifestation of the experience as it signifies returning the favor while acknowledging the kind act (McCullough et al., 2001; Algoe & Haidt, 2009).

When trying to explain a dyadic interaction, understanding which member of the dyad that one is talking about can get rather confusing fast. So, to clarify, we are going to use the famous couple, Prince William and Kate Middleton, for illustration. Let us say that William did something kind for Kate. In turn, Kate felt that that kind act was responsive to her needs and she liked it (Algoe, Haidt, & Gable, 2008; McCullough et al., 2001). She was then motivated to be kind back, so she expressed her gratitude towards William, thus, giving Kate the title of the ‘expresser’ and William the title of the ‘target’ (as William is the target of Kate’s expression of gratitude). Obviously, the order of who is the target and who is the expresser can change, as both members’ role in the dyad can fluctuate.

Expressing gratitude is a social behavior that is relevant to relationship quality. It instigates a constructive cyclical pattern of growth between members of the dyad (Algoe et al., 2008). Like other relationship behaviors and common social interactions that occur within ongoing relationships, the full dyad is involved when gratitude is expressed. For instance, when disclosing positive events to others, the highest levels of positive affect and greater life satisfaction were seen only when that behavior was coupled with active and constructive responses from others (Gable et al., 2006), thus leaving disclosers to feel more affectionate with their partner and generally more satisfied with their relationship (Gable et al., 2006). Comparatively, there is a classic finding within the demand-withdrawal literature that illustrates that when one member of a dyad dominates in a conflict conversation, the other member withdraws, thus ultimately being a poor pattern

for the relationship overall (Christensen & Heavey, 1990; Berns et al., 1999; Gottman & Levenson, 2004). Even though these two examples are quite different, they offer important evidence that demonstrates that full dyadic effects are at play within many interpersonal interactions.

### **Observational Coding of Behaviors**

Observational coding highlights specific behaviors of each person within the interaction. It can reveal people's perceptions of their partner (Notarius & Markman, 1989). It has even assisted in further understanding the nature of relationships; for instance: conflict resolution in marriage, demand-withdrawal patterns in interactions, the role of positive and negative affectivity in relationships, and constructive responses to positive event disclosures (Gable et al., 2006; Gottman & Notarius, 2000). These existing coding schemes have been helpful in relationships research, but they are not fully applicable to our examination. To date, researchers have not analyzed the behavioral responses to receiving an expression of gratitude. Therefore, we chose to tackle this question through the observational methods of coding each person's behavior to examine the emotional effects on the expresser of gratitude and ultimately see the dyadic effects of communicating gratitude.

### **Expresser's Behavior: Praising**

Mounting evidence conveys that gratitude functions socially by fostering quality relationships with responsive others (Algoe, 2012). The emotion itself is very other-focused, even other-praising in essence, as it is built on the appreciation for the positive actions that another person has enacted on behalf of self. Algoe and Way found that one must express gratitude well in order to instill the most positive benefits for the

relationship. To do this, one should praise their partner; really emphasizing the ‘you’ in thank you (2014). This means that when the expresser focuses on the target and the target’s overall revered qualities beyond the benefit itself, he or she will likely connect more closely with their partner. Praise reflects felt gratitude, so the greater expression of praise, the greater the felt gratitude (Algoe & Way, 2014) and in turn, the greater the experience of positive emotions since gratitude is one way to be kind and being kind feels good (Dunn et al., 2014). Therefore, more praise is associated with more experienced positive emotions. Hence, our first tested hypothesis evaluated whether an expresser’s praising behavior will predict a greater degree of experienced positive emotions for the expresser in the moment.

### **Target’s Behavior: Responding to an Expression of Gratitude**

Gable and colleagues found that active and constructive responses to capitalizing on good fortune were positively correlated with increased benefits of positive affect and greater life satisfaction (2004; 2006). In the current work, we believe a response to an expression of gratitude will also be an important factor for the expresser’s feelings. Thus, as an extension to the first hypothesis and to our knowledge about the dyadic phenomenon of expressing gratitude, we encompass the partner’s behaviors in our second hypothesis. Specifically, we examined whether the target’s behavioral response will predict a greater degree of experienced positive emotions for the expresser. There are many ways to respond to an expression of gratitude that may influence the expresser feelings after the interaction. We use theory and the empirical literature to identify three possible behavioral responses that may be at play during these gratitude interactions. The

considered constructs of validation, empathy and humility are similar in that each is associated with relationship outcome but different in nature.

**Validation.** According to Koerner and Linehan, validation's active role in communication serves to substantiate a partner's behavior (2009). Specifically, validating one's expression communicates that his or her statements are understandable contextually (Linehan, 1993). It is characterized as communicating acceptance of another's emotions, behaviors, and cognitions (Lynch et al., 2006). Recently, validating expressions were even shown to increase the listener's sense of belonging and self-esteem (Kim & Kim, 2013). Therefore, these results imply that a validating behavioral response influences the expresser's momentary feelings in everyday interactions.

**Empathy.** Empathy has been characterized as vicariously experiencing the situational emotions, behaviors, and cognitions of another person (Kim & Kim, 2013). This other-focused emotion is generally target-specific, in that it harbors the felt emotion of another (Blader & Rothman, 2014), thus being essential in dyadic contexts. The aptitude to empathize by accurately experiencing the situation of another is considered to be crucial in relationship maintenance (Davis, 1994; Davis, 1983). In fact, individuals who are highly empathic often capitalize on these traits in relationships. By doing so, their relationships are more satisfying and less conflicted (Chow et al., 2013). This suggests that an empathic behavioral response might influence relationship satisfaction by way of impacting the momentary positive emotional experience of the expresser.

**Humility.** Definitions of humility have been up for debate for years. For our investigation we are referencing recent psychological findings that characterize humility as a depiction of strength and security in feelings of personal worth (Exline & Geyer,



2004). For illustration, when asked to recall acts of kindness, individuals, who humbly described another's action activated more positive and emotional responses (gratitude, feeling valued) and less negative emotional responses (mistrust) in themselves (Exline, 2012). These positive benefits are even extended into predictive prosocial behaviors, such as generosity (Exline & Hill, 2012), hence illustrating that humble individuals look past their own self-interest and are open to giving to others, as they view others as being worthy of receiving good things. Specifically in relationships, a humble disposition fosters social bonds with others, while also building and maintaining quality relationships (Davis et al., 2013; Peters, Rowatt, & Johnston, 2011). Thus, the behavioral response of humility is an applicable measurement to assess, as it has potential implications for the expresser.

### **It Takes Two: The Interaction between the Expresser and the Target**

Hypothesis 1 and 2 both looked at one member of the dyad's behavior and its potential effect on the expresser's positive emotions. On the other hand, Hypothesis 3 considers the question of whether the benefits of gratitude are dependant on the dyadic process, so we looked at the combination of both members' behaviors simultaneously to see if they influence the positive emotions experienced by the expresser together. Specifically, our third hypothesis predicted that an expresser's praising behavior and a target's behavioral response will have an interactive effect to provide an even greater degree of experience of positive emotions for the expresser. So, an expresser who has high quality praising behavior interacting with a target that has a high quality behavioral response will experience the highest levels of positive emotions. We wanted to see if it really does take two.

We tested for the unique effects of these variables, while controlling for one another. It is not unusual for an expression and a response to be correlated within a couple, as one can expect two people with similar values and approaches in life to be together as a couple. Thus, in turn, we eliminate this possible overlap between the variables by seeing which particular variable (an expression or a response) significantly predicts more experienced positive emotions for the expresser (Hypothesis 1 and 2) and whether they have an interactive effect (Hypothesis 3).

### **Current Study**

In the current study, romantic couples attended two lab sessions where each partner expressed gratitude towards one another. Two different teams of research assistants coded both verbal and nonverbal behavioral expressions and responses of each dyad member from their videotaped interactions. Algoe and colleagues noted that elements of felt emotion, motivation, and interpersonal skill would influence some expressions of gratitude (2013). Thus, we assumed the same to be true for responses to expressed gratitude.

The videotaped interactions come from the Carolina Couples Study (2008) conducted by Sara Algoe, Ph.D. and Barbara Fredrickson, Ph.D. at The University of North Carolina at Chapel Hill (see Algoe et al., 2013 and Algoe & Way, 2014 for more in depth descriptions of the study). Expressions of gratitude were previously coded and collected by a former research team. In this study, the observational investigation focused on responses to the expressions of gratitude using novel coding schemes. However, we examined both data sets to speak to the importance of accounting for the dyadic nature of communicating gratitude.

## Method

### Participants

Originally, there were 80 romantically involved heterosexual couples. Three same-sex couples partook but were excluded because of limitations in data analytic technique and therefore, leaving 77 heterosexual couples ( $N = 154$ ). Recruited from around Chapel Hill, North Carolina, participants had been in a romantic relationship for at least 6 months. On average, members were 28 years old ( $Mdn = 25$ ; range = 18 to 57) and in a relationship for about 4 years (range = 6 months to 35 years;  $M = 50.07$  months;  $Mdn = 30.5$ ). At the beginning of the study 55.8% were dating; 39% were married; 3.9% were engaged. Participants identified as White/Caucasian (73.4%), Black/African American (13%), East or South Asian (4.5%), or Hispanic (3.9%); 9.1% identified as multiracial.

### Procedure

Research assistants observationally coded the behavioral responses of each interaction using novel coding schemes. Videotaped interactions of the couples expressing gratitude were the mediums of these observations (see Algoe et al., 2013 and Algoe & Way, 2014 for couples procedure in the primary study).

### Visits to the Lab

Participants were seated in separate chairs that faced each other at 45-degree angles and were approximately 3 feet apart. Video cameras in the room allowed experimenters to monitor from an adjacent room. To prevent fatigue, the interactions took place over the two lab sessions. Counterbalanced positive and negative event

disclosures occurred in the first lab session. Gratitude expressions occurred in the second lab session.

### **Outside the Lab Sessions**

Before arriving to the first lab session, participants completed the 7-item *Relationship Satisfaction Scale* (Hendrick, 1988; e.g., “In general, how satisfied are you with your relationship?”;  $\alpha = .81$ ). In between lab sessions, nightly questionnaires were completed and collectively gathered from 14 nights from each member (28 total reports for each couple).

### **Instructions and Measures for Videotaped Interactions**

All interactions were structured following Gable et al. (2006). First, participants received the instructions for the conversation topic (see below), then independently described the event that they chose. After completing their brief description, participants were told that they would have up to 5 minutes to talk about their chosen event, and that the target was free to add to or talk as much or as little as they would under normal circumstances. After the interaction, they independently answered questions regarding the interaction, before switching roles and repeating the process. Individuals were randomly assigned to either express first or listen first.

**Expressed Gratitude Task.** Each member was asked to choose a recent event for which they felt that their partner had done something nice that made them feel grateful. They were told that they would each have a chance to thank their partner. Specifically, they were instructed (Algoe et al., 2013):

We are interested in how couples talk about the kind things they do for one another. We are interested in hearing about specific things. We’d like

you to think about a specific positive thing your partner did for you recently for which you felt grateful. Your partner's positive gesture may be something that happened before but continues to make you grateful, or something going on now. Some examples would be helping to solve a problem, surprising you with a gift, taking time to listen to a concern, spending time doing something he or she would not typically do, or similar things. We'd like you to pick something good that has been on your mind recently, no matter how big or small. We will ask you to thank your partner for his or her kind gesture in your interaction.

**Measure of Emotional Response.** After each interaction, participants rated their agreement with several items to measure their emotional response. They completed this questionnaire twice: once about after their partner expressed and once after they expressed. Using a 24-item measure, both positive and negative emotions were assessed on a 0 (*not at all true / never true*) to 6 (*very true / true all of the time*) scale (e.g., satisfied, disgusted, rejected, loving, etc.). The 11 positive words (i.e., peaceful, loving, amused, proud) were averaged into one mean composite score ( $\alpha = 0.90$  after receiving an expression of gratitude;  $\alpha = 0.86$  after providing an expression of gratitude).

### **Observational Coding of Behavior**

Teams of research assistants coded both verbal and nonverbal behavioral expressions and responses of the videotaped interactions. The coding schemes are based in the literature detailing these behaviors. The quality of expression scores were coded as the "the extent to which the speaker genuinely praises the listener for his or her actions or personal qualities related to the actions" (see Algoe & Way, 2014 and Appendix for

the coding scheme). The validation code is defined as, “The extent to which the listener genuinely validated the expresser’s perception of benefactors’ intent” (see Appendix for the coding scheme). The empathy code is defined as, “The extent to which the listener genuinely empathizes with the expresser’s expression for his or her actions or personal qualities related to those actions” (recognition of needs) (see Appendix for the coding scheme). The humility code is defined as, “The extent to which the listener genuinely humbly responds to the expresser’s expression for his or her action or personal qualities related to those actions” (low self-focus/ appreciates being appreciated) (see Appendix for the coding scheme).

## **Results**

### **Preliminary Analyses**

We computed intra-class correlations as an estimate of inter-rater reliability. Scores above 0.80 are conventionally considered acceptable. The scores behind each of the coders are averaged to form a single quality score for each behavioral response of each interaction. The inter-rater reliability was averaged across four coders’ ratings to create an expression mean for each participant: praising ( $\alpha = 0.78$ ), validation ( $\alpha = 0.80$ ), empathy ( $\alpha = 0.85$ ), and global humility ( $\alpha = 0.77$ ). We averaged together the 11 positive emotion words from the Expressed Appreciation questionnaire to create a positive emotions mean for each participant ( $\alpha = 0.86$ ).

### **Data Analysis Strategy**

We use the analysis strategy of multilevel modeling adapted for dyads. This analysis plan accurately captures our research questions by allowing us to test our hypotheses without violating the assumption of independence. We take into

consideration that each couple is independent of another couple, but each individual in every couple is likely to be similar. So, we cannot assume that each participant was independently selected from the population. Thus, since we assume member's responses will effect their partner's response, multilevel modeling looks at each member of the dyad independently, while controlling for their shared accounts.

### **Descriptive Statistics**

We calculated the means and standard deviations of all variables: positive emotions after “my” expression of gratitude ( $M = 4.06$ ,  $SD = 1.04$ ), praising ( $M = 3.25$ ,  $SD = 0.70$ ), validation ( $M = 2.65$ ,  $SD = 0.90$ ), empathy ( $M = 2.03$ ,  $SD = 0.94$ ), and global humility ( $M = 2.20$ ,  $SD = 0.89$ ) (see Appendix: Figures 1-5 for distribution).

### **Hypothesis One**

Hypothesis 1 evaluated whether the expresser's high-quality praising behavior would predict a greater degree of experienced positive emotions for the expresser. The regression predicting positive emotions from degree of praise was not statistically significant ( $\beta = 0.21$ ,  $p = 0.11$ ); Hypothesis 1 was not supported.

### **Hypothesis Two**

Hypothesis 2 evaluated that whether the target's high-quality behavioral response would predict a greater degree of experienced positive emotions for the expresser. The regressions predicting positive emotions from degree of empathy ( $\beta = 0.06$ ;  $p = 0.52$ ), validation ( $\beta = -0.06$ ,  $p = 0.53$ ) and humility ( $\beta = -0.10$ ,  $p = 0.31$ ) were not statistically significant; All of Hypothesis 2 was not supported.

### **Hypothesis Three**

Hypothesis 3 evaluated whether an expresser's high-quality praising behavior and a target's high-quality behavioral response would have an interactive effect to provide an even greater degree of experienced positive emotions for the expresser. To test this hypothesis, we ran a linear regression simultaneously including praising behavior, the behavioral response of interest, and the interaction term between them. The interaction term was not statistically significant for the behavioral responses of empathy ( $\beta = 0.05$ ,  $p = 0.70$ ) and validation ( $\beta = 0.13$ ,  $p = 0.39$ ), but was statistically significant for the behavioral response of humility ( $\beta = 0.33$ ,  $p = 0.02$ ) (see Tables 2a-c and Figure 1); Thus, Hypothesis 3 was partially supported. We probed the interaction to try and understand the nature of these effects. To do this, we tested different levels of humility by evaluating the simple slopes. Broken up into thirds, the data revealed no statistically significant effects for low humility ( $\beta = -0.07$ ,  $p = 0.70$ ), marginally statistically significant effects for medium humility ( $\beta = 0.23$ ,  $p = 0.08$ ), and statistically significant effects for high humility ( $\beta = 0.53$ ,  $p = 0.01$ ) (see Table 3 and Figure 1). Thus, indicating that a high praising behavior coupled with a high humble response forecasts the most optimal levels of experienced positive emotions for the expresser.

### **Moderator Analyses**

Because this is an initial investigation, we were interested in testing whether other situational factors played a role in the interaction. Using the same model structure, we tested whether hypotheses 1, 2, and 3 were further moderated by gender and or event importance. The effects by gender (all  $p$  values greater than 0.10) were not statistically significant. However, the effects by event importance generally showed that the more important the expresser rates the event, the higher his/her positive emotions. Event



importance does not moderate Hypothesis 1 or any part of Hypothesis 3 (all  $p$  values greater than 0.10). However, it does play a moderating role in Hypothesis 2 as the behavioral response of empathy ( $\beta = 0.14$ ,  $p = 0.04$ ) proved to be statistically significant and the behavioral responses of validation ( $\beta = 0.11$ ,  $p = 0.09$ ) and humility ( $\beta = 0.13$ ,  $p = 0.06$ ) proved to be marginally statistically significant (see Tables 4a, 5a, & 6a). We probed the interaction to try and understand the nature of these effects. To do this, we tested different levels of event importance by evaluating the simple slopes for each behavioral response. Results revealed no statistically significant effects for empathy paired with low importance ( $\beta = -0.26$ ,  $p = 0.12$ ), with medium importance ( $\beta = -0.05$ ,  $p = 0.64$ ), and high importance ( $\beta = 0.16$ ,  $p = 0.15$ ) (see Table 4b). Thus, indicating that a high praising behavior coupled with a high empathic response forecasts the most optimal levels of experienced positive emotions for the expresser only when the expresser rated the event as highly important. Results also revealed a marginally statistically significant effect for validation paired with low importance ( $\beta = -0.24$ ,  $p = 0.08$ ) and no statistically significant effects for validation paired with medium importance ( $\beta = -0.07$ ,  $p = 0.47$ ), and high importance ( $\beta = 0.09$ ,  $p = 0.50$ ) (see Table 5b). Furthermore, results revealed a statistically significant effect for humility paired with low importance ( $\beta = -0.38$ ,  $p = 0.02$ ), a marginally statistically significant effects for humility paired with medium importance ( $\beta = -0.19$ ,  $p = 0.07$ ), and no statistically significant effect for humility paired with high importance ( $\beta = 0.01$ ,  $p = 0.94$ ) (see Table 6b).

### **Discussion**

When looking at either partner individually, neither partner's own behavior predicted the expresser's experience of positive emotions; however, one way of

responding did interact with one way of expressing. Specifically, the behavioral response of humility and the behavioral expression of praising illustrated consistency with our novel Hypothesis 3.

This finding is interesting in the fact that it exhibits that both dyad members' actions and behaviors should be taken into account when considering the interaction's effect on the expresser's positive emotions. Serving as nice complements to one another, both gratitude and humility are innately other-focused emotions, and when appropriately expressed together they promote positive emotions for the expresser of gratitude in the moment. By taking a dyadic perspective to literature of expressed gratitude, this finding exemplifies the importance of examining both partners' actions.

### **Limitations/ Directions for Further Research**

We found it interesting that there was no main effect for either Hypothesis 1 or 2. We speculate that simply retelling the event itself could shape the expresser's positive emotion report. Specifically, individuals may have relived the actual event, which induced many positive emotions, thus making it difficult to see what positive emotions were actually activated by expressing gratitude. Furthermore, we conjecture that the behavioral response to the expression of gratitude is perhaps overshadowed by the expression of gratitude itself, such that the expresser might be so focused on expressing and in turn reliving the experience, that the behavioral response alone is not merely strong enough to influence change. The conversation itself is taken up so much by the expresser's behavior that it leaves little time for a response to even occur, let alone have an impact. However, what is fascinating is that the unique pairing of both member's actions and behaviors is what sealed the deal. Thus, the impact of an expression of

gratitude depends on the impact of a response to gratitude (and vice versa) in order to have the combined significant effect of inducing the most experienced positive emotions for the expresser.

We tested three behavioral responses from the literature that might be related to influencing positive emotions in conjunction with the expresser's own behavior, but not all of them showed to have a strong impact in our study. We do not know why the behavioral responses of empathy and validation did not influence the positive emotions experienced by the expresser. However, we weigh that potentially, these specific behavioral responses are simply not the most impactful ones when coupled with gratitude. Even though the coders of both research teams were pretty reliable in seeing the same thing when watching the videos, we should still test the construct validity of the codes to detect whether they are actually testing what they were created to test. Some potential correlated variables could be: one's own responsive behavior to praising behavior, one's own emotional eloquence to responsive behaviors, one's perception of their general responsiveness to validating behavior, and one's perception of their overall support to empathic and humble behavior. It is notable that of the three novel codes, humility stood out by being the most correlated to the other variables (empathy and validation) and it is the only behavioral response that had a significant influence. The nature of the humility effect is intriguing because both emotions involved (gratitude and humility) are other-focused and have been shown to foster quality relationships (Algoe, 2012; Davis et al., 2013; Peters, Rowatt, & Johnston, 2011); thus, when coupled together, their effects can be extremely positive for the relationship. Each emotion paired with its expressed behavior serves as nice foils for one another. For instance, a humble individual

puts their self-interest aside to orient themselves towards the welfare of others, while a grateful individual positively acknowledges another's kind actions for the self.

Further directions could delve into the possibility that a high-praising behavior might lead to a partner's humble behavioral response only to the extent that the target is also experiencing self-conscious negative emotions (e.g., guilt). It would be interesting to see whether negative emotions are potentially a driving force of the positive emotions experienced by the expresser. Moreover, certain positive emotions might be boosted more than others after expressing gratitude. So, one might want to look at certain subsets of those positive emotions (e.g., love, appreciation) to whether other positive emotions are at play during these interactions. Additionally, it was interesting that the results showed a dip in experienced positive emotions for the expresser when they were low on praising and their partner was high on humility. One possible explanation for this view could be that the expresser did not think their expression was that important, but when their partner responded with such high humility by redirecting and increasing the praise to them, their experienced positive emotions were dampened. Therefore, we speculate that it is not just the more praising behavior the better and the more humility the better, rather they only jointly produce better outcomes when situationally appropriate.

Our study tested the effects of being kind, through expressed gratitude, on momentary positive feelings. Prior research on gratitude tends to focus on the long-term positive benefits for being kind but little work has focused on the transitory effects of expressing gratitude through a dyadic lens (Algoe, 2013). From the current investigation, we believe that the momentary positive emotions experienced may serve as a reward for being kind, and thus reinforcing the behavior. There is much more to be learned about

the dyadic functioning of gratitude in couples. However, we know that expressing gratitude well is good for relationships (Algoe et al., 2013). As such, the findings from this study bear one possible mechanism through which expressions of gratitude may build relationships. This depicted social function of gratitude fits with and extends previous relationship literature by illustrating that both the actions and behaviors of the full dyad should be considered to promote a quality relationship as it really does take two!

## References

- Algoe, S. B., & Haidt, J. (2009). Witnessing excellence in action: The 'other-praising' emotions of elevation, gratitude, and admiration. *The Journal Of Positive Psychology*, 4(2), 105-127. doi:10.1080/17439760802650519.
- Algoe, S. B., Haidt, J., & Gable, S. L. (2008). Beyond reciprocity: Gratitude and relationships in everyday life. *Emotion*, 8, 425-429. doi:10.1037/1528-3542.8.3.425.
- Algoe, S. B., Fredrickson, B. L., & Gable, S. L. (2013). The social function of the emotion of gratitude via expression. *Emotion*. Advance online publication. doi: 10.1037/a0032701.
- Algoe, S. B. & Way, B. M. (2014). Evidence for a role of the oxytocin system, indexed by genetic variation in *CD38*, in the social bonding effects of expressed gratitude. *Social Cognitive and Affective Neuroscience*. Online first. doi:10.1093/scan/nst182.
- Berns, S. B., Jacobson, N. S., Gottman, J. M. (1999). Demand-withdraw interaction in couples with a violent husband. *Journal of Consulting and Clinical Psychology*, 67(5), 666-674. doi: 10.1037/0022-006X.67.5.666.
- Blader, S. L., & Rothman, N. B. (2014). Paving the road to preferential treatment with good intentions: Empathy, accountability and fairness. *Journal Of Experimental Social Psychology*, 5065-81. doi:10.1016/j.jesp.2013.09.001.
- Chow, C., Ruhl, H., & Buhrmester, D. (2013). The mediating role of interpersonal competence between adolescents' empathy and friendship quality: A dyadic

- approach. *Journal Of Adolescence*, 36(1), 191-200.  
doi:10.1016/j.adolescence.2012.10.004.
- Christensen, A., & Heavey, C. L. (1990). Gender and social structure in the demand/withdraw pattern of marital conflict. *Journal of Personality and Social Psychology*, 59(1), 73-81. doi: 10.1037/0022-3514.59.1.73.
- Davis, M. H. (1983). Measuring individual differences in empathy: Evidence for a multidimensional approach. *Journal of Personal and Social Psychology*, 44(1983), pp. 113-126.
- Davis, M. H. (1994). *Empathy: A social psychological approach*. Westview press, Boulder, CO.
- Davis, D. E., Worthington, E. R., Hook, J. N., Emmons, R. A., Hill, P. C., Bollinger, R. A., & Van Tongeren, D. R. (2013). Humility and the development and repair of social bonds: Two longitudinal studies. *Self And Identity*, 12(1), 58-77.  
doi:10.1080/15298868.2011.636509.
- Dulin, P., Hill, R. D., Anderson, J., & Rasmussen, D. (2001). Altruism as a predictor of life satisfaction in a sample of low-income older adult service providers. *Journal Of Mental Health And Aging*, 7(3), 349-360.
- Dunn, E. W., Aknin, L. B., & Norton, M. I. (2014). Prosocial spending and happiness: Using money to benefit others pays off. *Current Directions In Psychological Science*, 23(1), 41-47.
- Emmons, R. A., & McCullough, M. E. (2003). Counting blessings versus burdens: An experimental investigation of gratitude and subjective well-being in daily life. *Journal of Personality and Social Psychology*, 84(2), 300-319.

- Exline, J. J. (2012). Humility and the ability to receive from others. *Journal of Psychology and Christianity, 31*(1), 40-50.
- Exline, J. J., & Hill, P. C. (2012). Humility: A consistent and robust predictor of generosity. *The Journal Of Positive Psychology, 7*(3), 208-218.  
doi:10.1080/17439760.2012.671348.
- Exline, J., & Geyer, A. L. (2004). Perceptions of humility: A preliminary study. *Self And Identity, 3*(2), 95-114. doi:10.1080/13576500342000077.
- Gable, S. L., Gonzaga, G. C., & Strachman, A. (2006). Will you be there for me when things go right? Supportive responses to positive event disclosures. *Journal of Personality and Social Psychology, 91*, 904-917. doi:10.1037/0011-3514.91.5.904.
- Gable, S. L., Reis, H. T., Impett, E. A., & Asher, E. R. (2004). What Do You Do When Things Go Right? The Intrapersonal and Interpersonal Benefits of Sharing Positive Events. *Journal Of Personality And Social Psychology, 87*(2), 228-245.  
doi:10.1037/0022-3514.87.2.228.
- Gottman, J. M., & Notarius, C. I. (2000). Decade in review: Observing marital interaction. *Journal of Marriage and the Family, 62*, 927-947.
- Gottman, J. M., & Levenson, R. W. (2004). The timing of divorce: Predicting when a couple will divorce over a 14-year period. *Journal of Marriage and Family, 62*(3), 737-745. doi: 10.1111/j.1741-3737.2000.00737.x.
- Hendrick, S. S. (1988). A generic measure of relationship satisfaction. *Journal of Marriage and the Family, 50*, 90-98. doi: 10.2307/352430.



- Kerr, S. L., O'Donovan, A., & Pepping, C. A. (2014). Can gratitude and kindness interventions enhance well-being in a clinical sample?. *Journal Of Happiness Studies*, doi:10.1007/s10902-013-9492-1.
- Kim, E., & Kim, C. (2013). Comparative effects of empathic verbal responses: Reflection versus validation. *Journal Of Counseling Psychology*, 60(3), 439-444. doi:10.1037/a0032786.
- Koerner, K., & Linehan, M. M. (2009). Validation principles and strategies. In W. T. O'Donohue, J. E. Fisher (Eds.), *General Principles and Empirically Supported Techniques of Cognitive Behavior Therapy* (pp. 674-680). Hoboken, NJ US: John Wiley & Sons Inc.
- Linehan, M. M. (1993). *Cognitive-behavioral treatment of BPD*. New York, NY: Guilford Press.
- Lynch, T. R., Chapman, A. L., Rosenthal, M. Z., Kuo, J. R., & Linehan, M. M. (2006). Mechanisms of change in dialectical behavior therapy: Theoretical and empirical observations. *Journal of Clinical Psychology*, 62, 459-480. doi:10.1002/jclp.20243.
- Maisel, N. C., Gable, S. L., & Strachman, A. (2008). Responsive behaviors in good times and in bad. *Personal Relationships*, 15(3), 317-338. doi:10.1111/j.1475-6811.2008.00201.x.
- McCullough, M. E., Kilpatrick, S. D., Emmons, R. A., & Larson, D. B. (2001). Is gratitude a moral affect?. *Psychological Bulletin*, 127(2), 249-266. doi:10.1037/0033-2909.127.2.249.

- Notarius, C. I., & Markman, H. J. (1989). Coding marital interaction: A sampling and discussion of current issues. *Behavioral Assessment, 11*, 1-11.
- Peters, A., Rowatt, W., & Johnson, M. (2011). Associations between dispositional humility and social relationship quality. *Psychology, 2*(3), 155-161.
- Sansone, R. A., & Sansone, L. A. (2010). Gratitude and well being: The benefits of appreciation. *Psychiatry, 7*(11), 18-21.
- Schopler, J., & Compere, J. S. (1971). Effects of being kind or harsh to another on liking. *Journal Of Personality And Social Psychology, 20*(2), 155-159. doi:10.1037/h0031689.
- Sin, N. L., & Lyubomirsky, S. (2009). Enhancing well-being and alleviating depressive symptoms with positive psychology interventions: A practice-friendly meta-analysis. *Journal Of Clinical Psychology, 65*(5), 467-487. doi:10.1002/jclp.20593.
- Toepfer, S. M., Cichy, K., & Peters, P. (2012). Letters of gratitude: Further evidence for author benefits. *Journal Of Happiness Studies, 13*(1), 187-201. doi:10.1007/s10902-011-9257-7.

Table 1: Pearson Correlation Coefficients of the Variables

	P. E.	Praise	Empathy	Validation	Humility
P.E.	1.00				
Praise	<b>0.16+</b>	1.00			
Empathy	0.07	-0.04	1.00		
Validation	-0.04	0.07	<b>0.64*</b>	1.00	
Humility	-0.08	0.03	<b>0.34*</b>	<b>0.48*</b>	1.00

*Note:*  $N = 136$

P.E. = Positive Emotions

+  $p = .06$

\*  $p < .0001$

Table 2a: Hypothesis 3: Praising Behavior and Empathy

	Estimate	Pr >  t
Praise x Empathy	0.05	0.70

*Note:*  $N = 136$

Table 2b: Hypothesis 3: Praising Behavior and Validation

	Estimate	Pr >  t
Praise x Validation	0.13	0.39

*Note:*  $N = 136$

Table 2c: Hypothesis 3: Praising Behavior and Humility

	Estimate	Pr >  t
Praise x Humility	0.33	<b>0.02</b>

*Note:*  $N = 136$

Table 3: Hypothesis 3: Praising Behavior and Humility Simple Effects

	Estimate	Pr >  t
Low Humility Slope	-0.07	0.70
Medium Humility Slope	0.23	<b>0.08</b>
High Humility Slope	0.53	<b>0.01</b>

Note:  $N = 136$

Figure 1: Hypothesis 3c: Praising Behavior and Humility

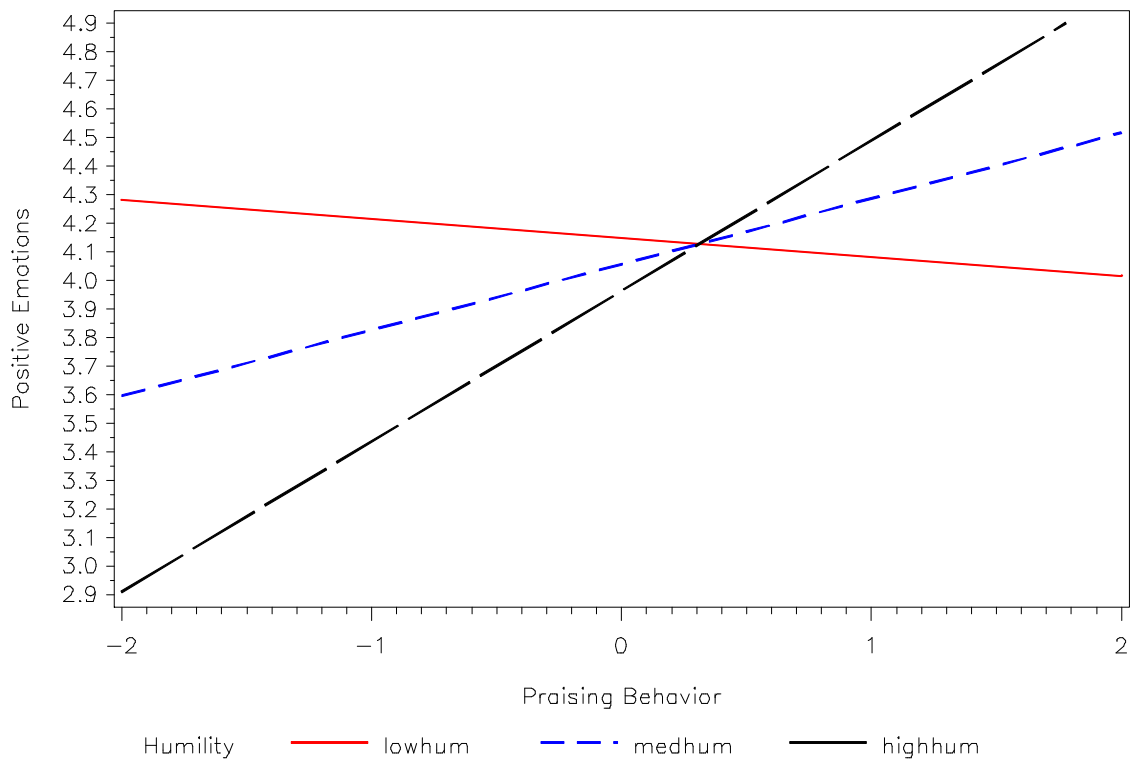


Table 4a: Empathy with Event Importance

	Estimate	Pr >  t
Empathy x Event Importance	0.14	<b>0.04</b>

Note: N = 136

Table 4b: Empathy with Event Importance Simple Effects

	Estimate	Pr >  t
Low Importance Slope	-0.26	0.12
Medium Importance Slope	-0.05	0.64
High Importance Slope	0.16	0.15

Note: N = 136

Figure 2: Empathy with Event Importance

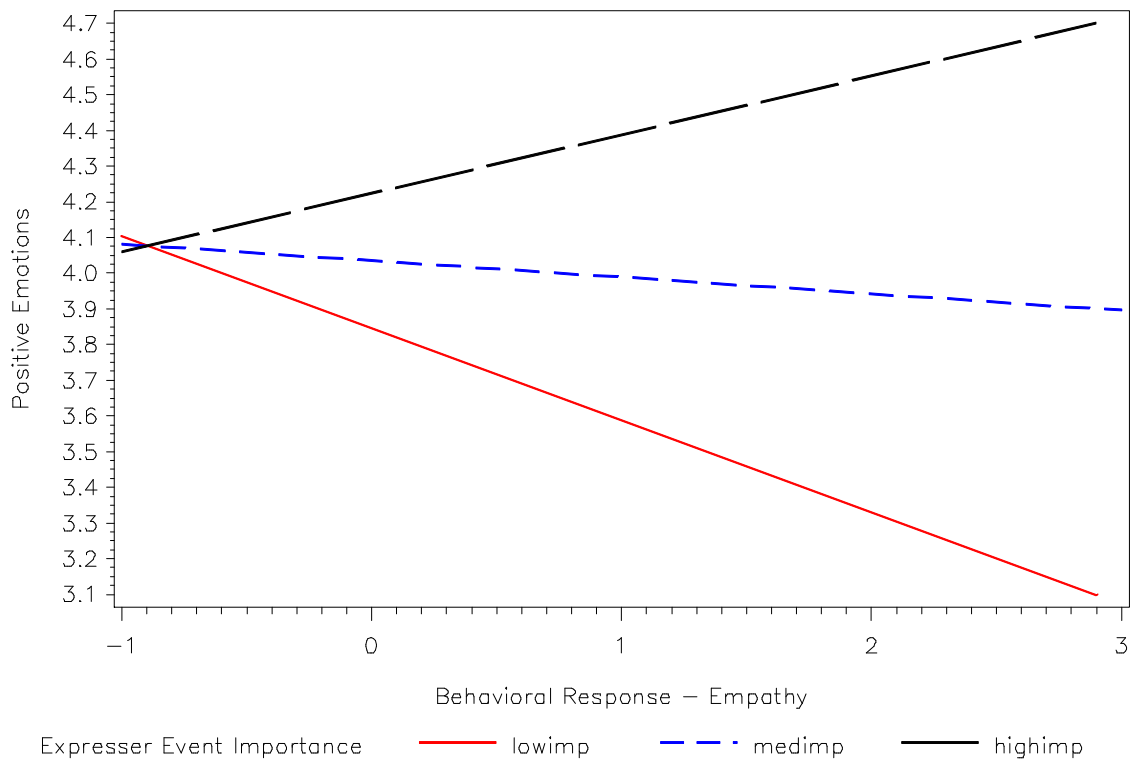


Table 5a: Validation with Event Importance

	Estimate	Pr >  t
Validation x Event Importance	0.11	<b>0.09</b>

Note: N = 136

Table 5b: Validation with Event Importance Simple Effects

	Estimate	Pr >  t
Low Importance Slope	-0.24	<b>0.08</b>
Medium Importance Slope	-0.07	0.47
High Importance Slope	0.10	0.50

Note: N = 136

Figure 3: Validation with Event Importance

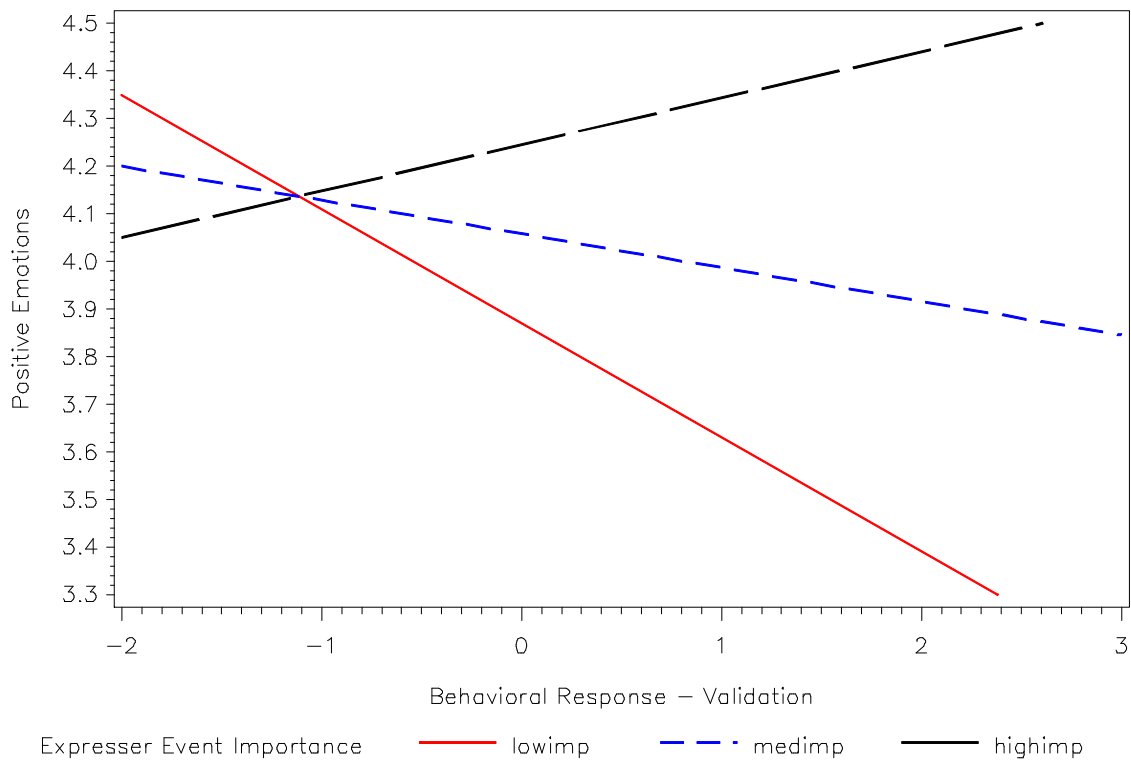


Table 6a: Humility with Event Importance

	Estimate	Pr >  t
Humility x Event Importance	0.13	<b>0.06</b>

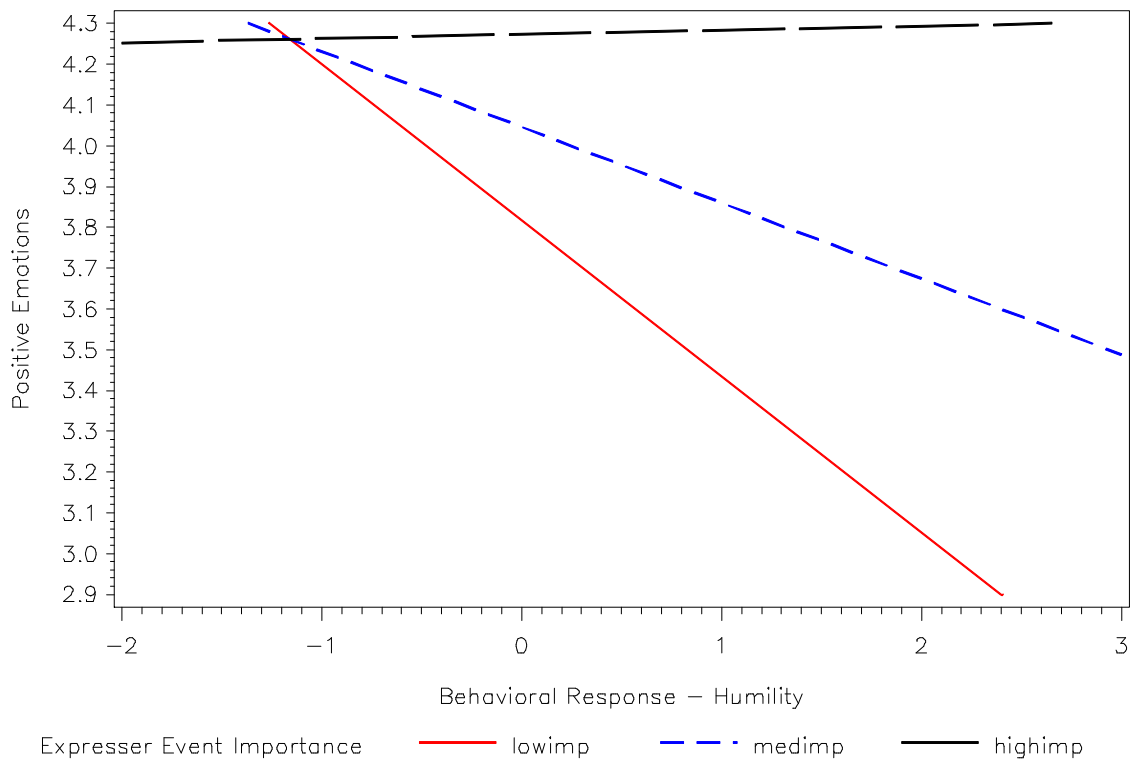
Note:  $N = 136$

Table 6b: Humility with Event Importance Simple Slopes

	Estimate	Pr >  t
Low Importance Slope	-0.38	<b>0.02</b>
Medium Importance Slope	-0.19	<b>0.07</b>
High Importance Slope	0.01	0.94

Note:  $N = 136$

Figure 4: Humility with Event Importance





## Appendix

### *Coding Schemes for Behavioral Responses*

#### *Expressions of Gratitude*

**“The extent to which the speaker genuinely praises the listener for his or her actions or personal qualities related to the actions.”**

The coding scale encompasses both verbal and non-verbal behaviors, because the “right” words could be spoken either sincerely or insincerely.

*The scale ranges from 1 to 5, with each number consisting of the following values:*

- 1 = no or one minor statement of praise for the benefactor’s action;
- 2 = little praise for benefactor’s actions, more formal than heartfelt, with few (if any) details of the nice thing the benefactor did, some (although little) eye contact and warm smile when praising;
- 3 = **average** expression of genuine praiseworthiness, some details of the praiseworthy actions including occasional warm smiles and direct eye contact while praising;
- 4 = good expression of genuine praiseworthiness, including explicit and detailed elaboration on the benefactor’s praiseworthy action as well as warm smiles and direct eye contact while making the praising statements (also may refer to how the behavior is just one example of a class of behaviors);
- 5 = excellent expression of benefactor’s praiseworthiness, including elaboration on the praiseworthy features of the benefactor’s actions and may generalize the behavior to the character of the benefactor (e.g., “It’s not just this; you do this kind of thing for people all the time.”; “I love seeing it; you’re amazing.”) and certainly warm smiles and direct eye contact while making the praising statements.

#### *Validation*

**“The extent to which the listener genuinely validates the expresser’s perception of benefactor’s intent.”**

*The scale ranges from 1 to 5, with each number consisting of the following values:*

- 1 = no or one minor statement of affirmation about the intentional actions;
- 2 = little validation for the expression of gratitude, more formal than heartfelt, with few (if any) details affirming the intention of their actions, some (although little) eye contact, warm smiles, cinched eyebrows, and head nodding (e.g. “You’re welcome.”);
- 3 = **average** response to the expression of gratitude, some details of the validating actions including occasional direct eye contact, warm smiles, cinched eyebrows, and head nodding;
- 4 = good response to the expression of gratitude, including explicit and detailed elaboration on confirming the expresser’s expression as well as direct eye contact, warm smiles, cinched eyebrows, and head nodding;

**5** = excellent response to the expression of gratitude, including explicit and detailed elaboration on acknowledging and confirming the expresser's expressions (e.g. "I meant to do it for you.") – definitely direct eye contact, warm smiles, cinched eyebrows, and head nodding;

### *Empathy*

***"The extent to which the listener genuinely empathizes with the expresser's experience."***

*The scale ranges from 1 to 5, with each number consisting of the following values:*

- 1** = no or one minor explicit statement of empathy [*low other-focus*];
- 2** = little explicit empathy, more formal than heartfelt, with few (if any) details of the expresser's experience, some (although little) warm smiles and eye contact;
- 3** = **average** explicit empathy, some details of the expresser's experience including occasional warm smiles and direct eye contact [*average other-focus*];
- 4** = good explicit empathy, including detailed elaboration on the understanding of the expresser's experience as well as warm smiles, direct eye contact, and cinched eyebrows;
- 5** = excellent explicit empathy, including detailed elaboration on the understanding of the expresser's experience (e.g., "I know that you needed it;" "I know you have been stressed a lot lately and I thought 'this' would really help"; putting themselves in their partners' shoes) – definitely warm smiles, direct eye contact, cinched eyebrows, and leaning in towards their partner [*high other-focus*];

### *Humility*

***"The extent to which the listener genuinely humbly responds to the expresser's expression of gratitude."***

A humble response is one that is consistent with the idea that the listener is low on self-focus.

*There are three parts to coding for humility:*

**FIRST, tally the number of humble statements.**

(Example statements: "I tried..." "I really enjoyed it;" "Not a problem;" "Awe;" "It couldn't have happened without your help;" "I am happy to help;" "You're welcome;" "It was nothing;" "I don't mind doing things like 'that' for you;" "Glad you enjoyed it;" "I like doing things like that with you")

Generally, a humble response should include: redirecting praise (deflective statements), and recognizing and appreciating the help of others.

**SECOND, apply a strictly nonverbal code to the video to the peak display of humility.**

*The scale ranges from 1 to 5, with each number consisting of the following values:*

**1** = no or minor nonverbal display of humility, little presentation of a downward head tilt to the side with warm smiles and averting eye contact;

**2** = **average** nonverbal display of humility, moderate presentation of a downward head tilt to the side with warm smiles and averting eye contact;

**3** = excellent nonverbal display of humility, distinctively shows a downward head tilt to the side with warm smiles and averting eye contact in this position;

***THIRD, apply an overall global rating for the quality of the humility exhibited by the listener. Incorporate your number of explicit statements and coded extent of non-verbal behavior into this final code.***

*The scale ranges from 1 to 5, with each number consisting of the following values:*

**1** = seldom expression of genuine humility;

**2** = little expression of genuine humility;

**3** = **somewhat** expressed genuine humility;

**4** = much expressed genuine humility;

**5** = a great deal of expressed genuine humility;

Figure 1a: Descriptive Statistics: Positive Emotions after My Expression of Appreciation

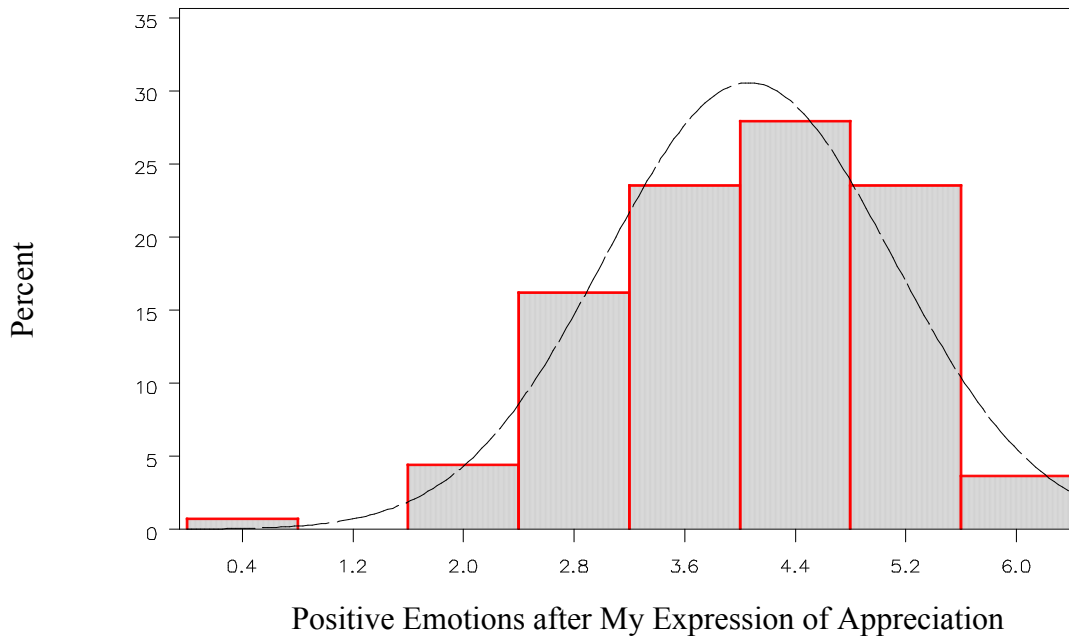


Figure 1b: Descriptive Statistics: Praising

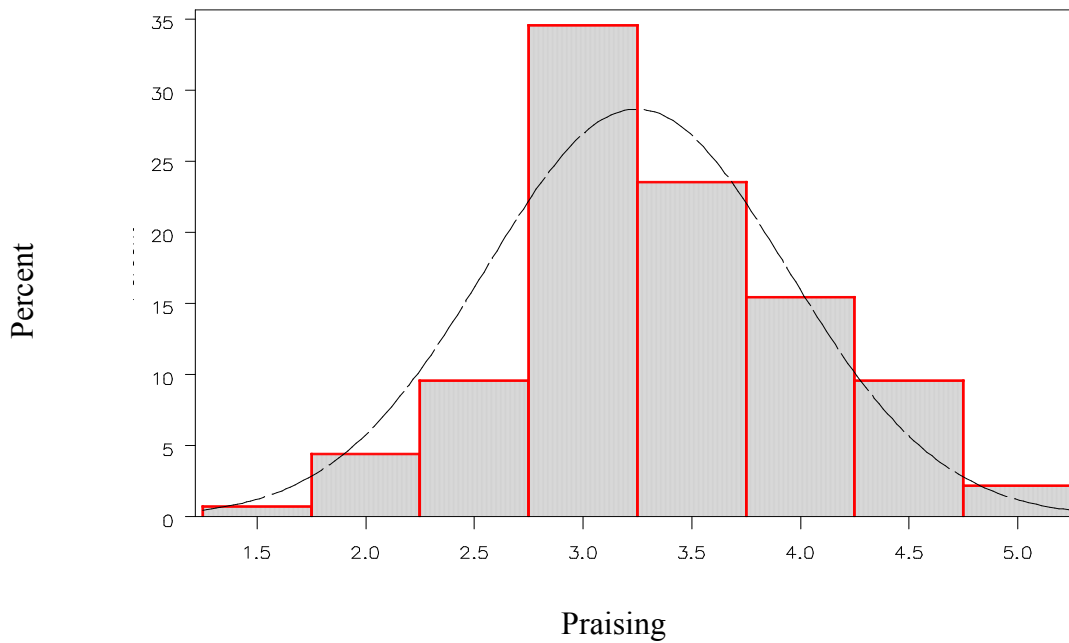


Figure 1c: Descriptive Statistics: Empathy

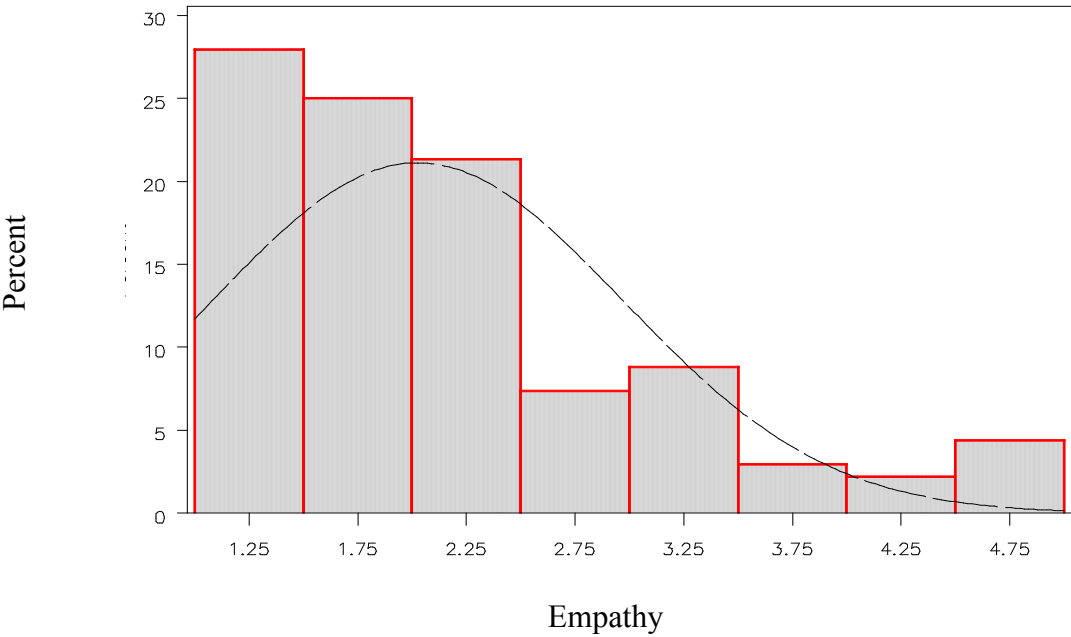


Figure 1d: Descriptive Statistics: Validation

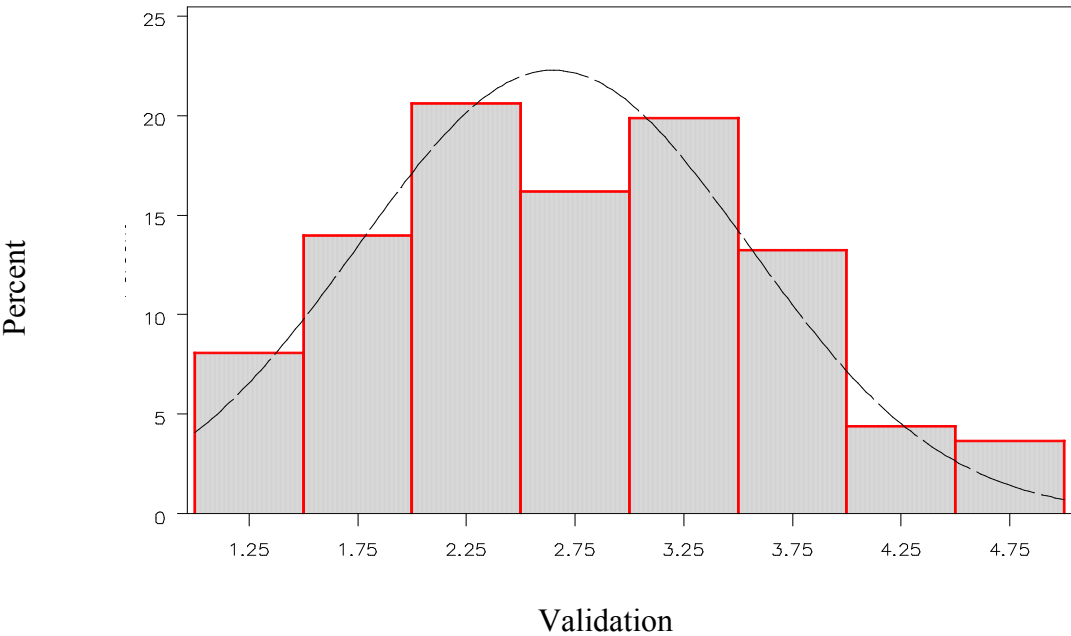


Figure 1e: Descriptive Statistics: Humility

