Research Report

How Do I Love Thee? Let Me Count the Words

The Social Effects of Expressive Writing

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ABSTRACT—*Writing about emotional experiences is associated with a host of positive outcomes. This study extended the expressive-writing paradigm to the realm of romantic relationships to examine the social effects of writing. For 3 consecutive days, one person from each of 86 dating couples either wrote about his or her deepest thoughts and feelings about the relationship or wrote about his or her daily activities. In the days before and after writing, instant messages were collected from the couples. Participants who wrote about their relationship were significantly more likely to still be dating their romantic partners 3 months later. Linguistic analyses of the instant messages revealed that participants and their partners used significantly more positive and negative emotion words in the days following the expressive-writing manipulation if the participants had written about their relationship than if they had written about their daily activities. Increases in positive emotion words partially mediated the relation between expressive writing and relationship stability.*

Over the past two decades, multiple studies have demonstrated the positive benefits of expressive writing in domains as diverse as health, achievement, and well-being. Most of these studies have used a relatively straightforward procedure in which participants write about their deepest thoughts and feelings about a particular topic for 20 min a day, 3 or 4 days in a row. The findings indicate that expressive writing can result in fewer doctor visits, fewer depressive symptoms, enhanced immune system functioning, better grades, and a host of other positive outcomes (for reviews, see Lepore & Smyth, 2002, and Smyth, 1998).

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Researchers now are examining the social effects of expressive writing, working from the assumption that confronting conflicting or complex emotions or thoughts can facilitate social interactions. The preliminary findings suggest that expressive writing may be particularly beneficial for people in romantic relationships. For example, when people write expressively about recent relationship breakups, they are somewhat more likely than control participants to reunite with their partners (Lepore & Greenberg, 2002). Similarly, when married couples recovering from infidelity write emotionally expressive letters to each other, they experience reductions in depression, anger, and marital distress (Gordon, Baucom, & Snyder, 2004). The social effects of writing need not be limited to people recovering from a relationship breakup or to those whose relationship is in distress. People in healthy and committed romantic relationships also might benefit from expressive writing.

There are a number of ways in which one could measure the effects of expressive writing on the functioning of relationships. One way is to examine the impact of writing on relationship stability. Results from the few studies examining the social effects of expressive writing indicate that it may enhance relationship stability among couples in distress (Gordon et al., 2004; Lepore & Greenberg, 2002). Expressive writing could lead to improved stability for individuals in normal, healthy relationships as well.

Although previous studies have addressed the potential benefits of expressive writing for couples, none have examined the underlying mechanisms that might mediate writing's effects on relationship outcomes. One potential mediator is natural language use (Pennebaker & Graybeal, 2001; Sillars, Shellen, McIntosh, & Pomegranate, 1997). By measuring the words that people use with others in their social worlds, researchers can gain insight into the social changes that occur after expressive writing. The use of emotion words may be particularly relevant. Positive emotion words—such as *happy* and *love*—and negative emotion words—such as *angry* and *nervous*—can

reveal deeply felt emotions (Pennebaker, Mehl, & Niederhoffer, 2003; Twenge, Catanese, & Baumeister, 2003). Expressive writing provides an opportunity for reflection, and, accordingly, one would expect it to lead to increased emotional expressiveness with other people—reflected in increases in emotion words during social interactions. Such increases in emotion words might mediate higher-level changes in relationship functioning, such as improvements in relationship stability.

There are various ways to measure the words that people use. One technology—instant messaging (IM)—holds great promise. For many people (53 million adults, including 30% of all Internet users over the age of 40), IM is quickly replacing e-mail as a preferred mode of on-line dyadic communication (Shiu & Lenhart, 2004). Unlike e-mail, IM allows users to chat with each other so that a conversation can unfold in much the same way that spoken conversation does. The analysis of IM conversations can allow researchers to examine the ebb and flow of people's natural language use.

In the present study, we sought to investigate the social effects of expressive writing. Individuals in committed romantic relationships were randomly assigned either to write about their deepest thoughts and feelings about their relationship or to write about a superficial topic for 20 min a day, 3 days in a row. Three predictions were tested. First, we predicted that those who wrote about their relationship would be more likely to be dating their partners 3 months after the experiment. Second, we predicted that participants who wrote about their relationship would change in the way in which they communicated with their partners. Specifically, we expected those in this group to increase their use of positive and negative emotion words in their daily IM conversations. Finally, we predicted that changes in use of emotion words would mediate the relation between expressive writing and relationship stability.

METHOD

Participants

Eighty-six undergraduate psychology students (55 women, 31 men; mean age = 18.7, SD = 1.0) and their partners (31 women, 55 men; mean age = 19.3, SD = 1.6) were recruited on the basis that they were in a committed heterosexual romantic relationship and that they engaged in IM conversation with each other every day. The couples had been dating an average of 1.31 years (SD = 1.06).

Procedure

One member of each couple participated in the writing phase of the study. An experimenter met with participants individually or in small groups of 2 to 5 to give them an overview of the study. They were told that its purpose was to quantify the types of words that people use in writing and everyday interactions.

Participants were instructed to forward to a secure e-mail address all daily IM conversations between themselves and their partners during the 10 days of the study. Considerable effort was taken during the introductory session to reassure participants that their messages would be completely confidential.

Questionnaires assessing demographic information, relationship status, and relationship satisfaction were completed by participants and their partners on-line from home on the first day of the study. Satisfaction was measured using the Relationship Assessment Scale (RAS; Hendrick, 1988). The RAS consists of seven items, such as "In general, how satisfied are you with your relationship?" Ratings are made on a 7-point Likert scale.

Participants were randomly assigned to the experimental (n = 44) or control (n = 42) writing condition and were instructed to set aside 20 min per day on the fourth, fifth, and sixth days of the study for completion of the on-line writing exercises. Participants in the experimental condition were instructed to write about their deepest thoughts and feelings about their current romantic relationship, "to really let go and explore your very deepest emotions and thoughts about your relationship." Those in the control condition were instructed to write in detail about their daily activities—a standard control condition for expressive-writing studies. The purpose of the writing assignments was left intentionally vague to reduce the possibility of demand characteristics; participants were told that the writing assignments would be used to assess basic word use.

Three months later, participants completed a brief on-line questionnaire that assessed relationship status and satisfaction.

Linguistic Analysis

The IM conversations were analyzed using the Linguistic Inquiry and Word Count program (LIWC; Pennebaker, Francis, & Booth, 2001). All conversations from couples in both conditions were spell-checked prior to being submitted to LIWC. They were converted to text files, categorized by speaker (participant or partner), and subcategorized according to whether they dated from before or after the writing manipulation, resulting in a total of four separate IM text files per couple.

RESULTS

Relationship Stability and Language Use

Expressive writing was significantly related to the long-term stability of relationships, odds ratio = 3.09, p_{rep} = .95, Cohen's d = 0.54. Thirty-four participants (77%) in the experimental condition were still dating their partners at the 3-month follow-up mark, compared with 22 participants (52%) in the control condition. There were no significant differences in baseline relationship satisfaction between the conditions (experimental M = 6.21, SD = 0.63; control M = 6.01, SD = 0.66), nor was condition related to satisfaction at the 3-month follow-up (experimental M = 5.87, SD = 1.50; control M = 5.94, SD = 0.94).

Note that the follow-up satisfaction measures are difficult to interpret because they were available only for couples still in their relationships.

Hierarchical linear modeling (HLM; Raudenbush & Bryk, 2002) was employed to analyze changes in use of emotion words within couples' IM conversations as a function of experimental condition. Initial analyses focused on the effects of expressive writing on positive emotion words in couples' conversations. Level 1 (individual-level) predictors were baseline use of positive emotion words and speaker (participant or partner). Only baseline use of positive emotion words was a significant Level 1 predictor, $\beta_1 = .51$, $p_{rep} > .99$, $d = 1.19$. Level 2 (couple-level) predictors were gender of the participant, experimental condition, and a Gender × Condition interaction term. Only experimental condition was a significant Level 2 predictor, $\gamma_{01} = .51$, $p_{rep} = .93$, $d = 0.46$. Couples in the expressive-writing condition were more likely than those in the control condition to increase their use of positive emotion words with their romantic partners in the days following the manipulation. Additionally, participants and partners in the experimental condition increased their use of positive emotion words at similar rates as they communicated with each other via IM, even though only the participants were involved in the expressive-writing manipulation.

Next, the effect of expressive writing on negative emotion words was analyzed. Level 1 predictors were baseline use of negative emotion words, as well as the speaker variable. Only baseline use of negative emotion words was a significant Level 1 predictor, $\beta_1 = .28$, $p_{rep} = .98$, $d = 0.46$. Level 2 predictors were gender of the participant, experimental condition, and a Gender × Condition interaction term. Significant Level 2 predictors were experimental condition, $\gamma_{01} = .54$, $p_{rep} = .98$, $d = 0.64$, and the Gender × Condition interaction, $\gamma_{02} = .52$, $p_{rep} = .97$, $d = 0.61$. Compared with control couples, couples in the expressive-writing condition were more likely to increase their use of negative emotion words with their romantic partners in the days following the writing manipulation. This effect was moderated by the gender of the person in each couple who took part in the writing manipulation. Specifically, couples in which the male wrote about the relationship increased their use of negative emotion words significantly compared with control couples, whereas couples in which the female wrote about the relationship did not change in their use of negative emotion words compared with control couples.[1]

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[1]Exploratory analyses also were conducted on changes in use of first-person plural pronouns (e.g., *we, us, our*); no significant effects were found. Previous studies (e.g., Sillars et al., 1997; Wegner, 1982) have found positive correlations between relationship functioning and use of *we* when participants discussed their relationships with an interviewer. Note that this is a very different context from closed interactions between the two members of a couple, during which the use of *we* may not reflect intimacy between them (e.g., it may reflect condescension, emotional distancing, or the referencing of someone close outside the relationship).

Mediation Effects of Changes in Use of Emotion Words

A strength of this design is that it allowed us to explore the degree to which measures of language may reflect the social psychological processes underlying the effects of expressive writing. Two sets of mediation analyses were conducted—one with positive emotion words as the potential mediator, the other with negative emotion words as the potential mediator. In both cases, the outcome measure was relationship stability at the 3-month follow-up. Means and standard deviations for couples' use of emotion words in their IM conversations are shown in Table 1.

Positive Emotion Words

Experimental condition and use of positive emotion words before and after the writing manipulation were entered in separate steps into a logistic regression in which relationship stability was the dependent variable. Higher levels of postwriting positive emotion words were associated with higher levels of couple stability, odds ratio = 3.04, $p_{rep} = .99$, $d = 0.95$. After controlling for changes in positive emotion words, the effects of experimental condition on relationship stability were no longer significant, suggesting possible mediation. The results of a Sobel z test (Sobel, 1982) supported this analysis ($z = 2.00$, $p_{rep} = .92$). Thus, the salutary effects of writing about one's relationship were at least partially mediated by increases in use of positive emotion words in daily IM conversations.

Negative Emotion Words

No relationship was found between increases in negative emotion words and couple stability ($p_{rep} < .50$). This also was the case in a separate analysis for just those couples in which the male was the participant. The effects of expressive writing on stability therefore were not mediated by changes in use of negative emotion words.

DISCUSSION

The relatively simple act of writing about their romantic relationship changed the way in which participants communicated

TABLE 1

Couples' Use of Emotion Words in Instant Messages as a Function of Time and Condition

Linguistic dimension and condition	Before the writing manipulation		After the writing manipulation	
	M	SD	M	SD
Positive emotion words				
Experimental condition	4.51	1.29	4.94	1.54
Control condition	4.39	1.42	4.31	1.36
Negative emotion words				
Experimental condition	1.84	0.61	2.36	0.96
Control condition	1.91	0.82	1.97	0.93

Note. Experimental condition $n = 44$; control condition $n = 42$.

with their partners in IM conversations; it also changed the way in which the partners communicated with the participants and improved relationship stability. Couples in the expressive-writing condition were more likely to increase their use of positive emotion words than were couples in the control condition; couples in the expressive-writing condition in which the male was the participant increased in their use of negative emotion words as well. Increases in positive emotion words partially mediated the association between writing and relationship stability.

Taken together, these findings shed light on processes underlying interactions in close relationships. In particular, the findings relating to increases in use of emotion words illuminate previous research (e.g., Butler et al., 2003; Gottman & Levenson, 2000; Laurenceau, Barrett, & Pietromonaco, 1998) suggesting that increased expression of positive emotions can result in better outcomes for relationships. This study is one of the first to go beyond self-reports to demonstrate that couples' increased emotional expressiveness may have the power to improve objective relationship outcomes.

An advantage of the current design is that it allows one to unobtrusively measure interpersonal processes underlying dyadic interactions. By analyzing the words that couples use in daily IM interactions, researchers can assess the extent to which the couples' language patterns are predictive of relationship quality and stability. Given the growth in electronic communication in recent years, IM technology may serve as a promising tool in examining real-time, on-line interactions in naturalistic settings.

That people may enhance their romantic relationships by simply writing down their thoughts and feelings about those relationships has clear implications for clinicians. The use of expressive writing as a tool for relationship enhancement could be applied to a broad range of relationships, including those in families, circles of friends, and even work groups. Expressive writing may serve to strengthen the relational connections of a broad array of social channels, particularly for persons who have not had extensive experience expressing emotions to others.

There are some potential limitations of this study. First, it is conceivable that the effects of writing on changes in word use may have been partially affected by demand characteristics. We believe that the emphasis on keeping the purpose of the study vague to participants and the fact that writing also influenced relationship stability make this an unlikely possibility. Second, it is unknown whether it was the act of writing itself that led to positive relationship outcomes, or whether simply directing people to mentally attend to and explore relationship issues would be equally beneficial; future studies should address this issue.

Unlike previous expressive-writing studies, this is the first to demonstrate some of the social processes that may underlie the effects of expressive writing. Further, this study points to the advantages gained in using current on-line technologies such as

IM for psychological research. Such technologies now allow researchers to examine natural interactions in a relatively simple, inexpensive, and straightforward manner.

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