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### Keeping the Magic Alive:

Social Sharing of Positive Life Experiences Sustains Happiness

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## **Abstract**

Social sharing of positive life experiences has been linked to increased intensity of positive emotion. Less is known about the relations among sharing, the perceived response of the listener, and the duration of positive emotion. We hypothesized that sharing an experience would sustain positive emotion when listeners responded in a manner that highlighted the appraised importance and remarkability of the experience, thereby slowing hedonic adaptation. College students who received a desirable exam grade ( $N = 165$ ) reported their emotional response, appraisals, and sharing on the day they received their grade and again the following evening. Sharing was associated with longer episodes of positive emotion and more time spent thinking about the positive event. The association between sharing and emotion duration was greatest when sharing partners were perceived as highlighting the importance and remarkability of the event. This type of sharing also mitigated the fading of emotion intensity over time. These findings suggest that sharing sustains positive emotion by promoting appraisals that “keep the magic alive.”

*Key words: social sharing, positive emotion, emotion duration, capitalization*

## Keeping the Magic Alive:

### Social Sharing of Positive Life Experiences Sustains Happiness

Life is full of triumphs and defeats. When people experience positive life events, they often share the news, allowing them to savor and capitalize on their good fortune. Sharing positive experiences is an important part of our social lives. Daily diary studies indicate that people share the best part of their day between 60% and 80% of the time (Gable, Reis, Impett, & Asher, 2004). Sharing positive life experiences with others has been shown to increase the intensity of positive emotion as well as build interpersonal ties (Gable & Reis, 2010). This study aimed to address two questions: Is social sharing associated with an increase in the *duration* of positive emotion as well as its intensity? What types of perceived responses from listeners are associated with an increase in the duration of positive emotion?

Understanding what makes good feelings last is important because the emotional impact of positive events fades quickly as people become accustomed to the events – a phenomenon known as hedonic adaptation (Frederick & Loewenstein, 1999). Even after major life successes such as winning the lottery, people tend to return to their typical levels of happiness (Brickman, Coates & Janoff-Bulman, 1978). Hedonic adaptation may serve an important function, allowing people to attend to new goals, but rapid adaptation to positive events has been identified as a major obstacle to increasing and sustaining happiness (Lyubomirsky, 2010). Savoring strategies, such as social sharing, may amplify positive emotions and slow hedonic adaptation. Thus, investigating the benefits of sharing positive events, and the conditions under which these benefits are found, is important for capitalizing on positive events and promoting well-being.

#### **Does Sharing Predict an Increase in the Duration of Positive Emotion?**

Sharing good news with responsive others is associated with greater intensity of positive

emotion (Gable & Reis, 2010). Emotion intensity is only one index of emotional impact, however, and little is known about how social sharing relates to other features of emotional experience. Recently, psychologists have argued for greater research attention to the time-dynamics of emotion (e.g., Verduyn et al., 2009). They note that emotions are dynamic processes that unfold over time, rather than momentary incidents, and intensity and duration are related but distinct features of emotion. Initial intensity predicts the duration of an emotional episode (Verduyn, Delvaux, Van Coillie, Tuerlinckx, & Van Mechelen, 2009), but time profiles of emotional experiences can follow a number of patterns (e.g. skewness, number of peaks) and these profiles are influenced by features other than initial intensity (Verduyn, Van Mechelen, Tuerlinckx, Meers, & Van Coillie, 2009). Moreover, intense positive emotion is neither necessary nor sufficient for overall well-being. Diener, Sandvik, and Pavot (1991) noted that people may experience low intensity positive emotions but report being happy in life. Thus, time-related features of emotional episodes may predict well-being better than intensity. They recommended that, instead of focusing on intensity, investigators assess the relative percentage of time individuals spend feeling happy versus unhappy. They further argue that time spent happy can be measured more easily and accurately than the intensity of happiness.

Given the importance of time-related characteristics of emotional episodes, researchers have begun to investigate the duration of emotional episodes. One study assessed how sharing was related to the duration of positive and negative emotions in everyday life (Verduyn, Van Mechelen, & Tuerlinckx, 2011). Over the course of five days, participants reported on the duration of their episodes of anger, sadness, joy, and gratitude. The researchers expected social sharing to be associated with longer duration of positive emotions, and with shorter duration of negative emotions. Instead they found that sharing was associated with longer duration of both

positive and negative emotions.

The authors conducted further studies to explore the nuanced way that sharing contributes recovery from negative emotions. In this set of studies, they noted that the previously found association between sharing and greater duration of negative emotion may have been due to the methodological artifact that longer emotional episodes provide more time and opportunity for sharing (Brans, Van Mechel, Rimé & Verduyn, 2013). To address this concern, Brans et al. measured social sharing of negative emotion at a more fine-grained level, rather than across the emotional episode as a whole. They assessed the association between sharing and emotion during each 15 minute interval within the emotion episode. Examined in this way, they found that sharing was associated with shorter, not longer, episodes of negative emotion. These findings provide evidence of the potential benefits of social sharing of life events, but the study assessed only sharing of negative experiences. It remains unclear whether sharing positive life experiences is related to longer or shorter duration of positive emotion. Thus, investigating both the duration and intensity of positive emotion would provide a more thorough understanding of the links between sharing and emotional experience.

With the exception of Verduyn et al. (2011), no study has directly examined how sharing relates to the duration of positive emotion but indirect evidence suggests that sharing may increase duration. Verduyn, Delvaux, Van Coillie, Tuerlinckx and Van Mechelen (2009) examined the duration of daily emotional episodes and found that key predictors of longer duration included the reappearance of the emotion-eliciting source, the importance of the eliciting situation, and the intensity of the emotion at onset. The emotional stimulus did not need to reappear physically – mental reappearance, merely thinking about the event, also prolonged the emotional episode. Sharing a positive event with another person always involves thinking

about the event and frequently involves elaborating on it. Thus, the first aim of the current research was to determine whether sharing positive experiences would be associated with an increase in the duration of positive emotion as well as its intensity.

### **How Social Sharing May Increase and Sustain Positive Emotion**

Little is known about how social sharing sustains positive emotion (Gable et al., 2004). Thus, the second aim of this research was to identify the types of sharing responses that predict greater duration and intensity of positive emotion. According to appraisal theories, emotions are initially evoked when events are appraised as novel and important or goal relevant (Frijda, 1987; Levine, 1996; Scherer, 2001). The more novel the event and the more important the goal, the more intense and lasting the resulting emotional experience will be (Smith & Lazarus, 1993). Appraisals of novelty and importance may also contribute to the benefits of social sharing of positive events. Reis and colleagues found that benefits of sharing were observed only when sharers viewed the responses to sharing as enthusiastic (Reis et al., 2010). Gable et al. (2004) had romantic couples report incidents when they shared the news about positive events with their partner and describe their partner's response. Active and constructive responses, characterized by showing excitement and asking a lot of questions, were associated with greater well-being than were passive or destructive responses. What is it about enthusiastic, active and constructive responses by sharing partners that enhances positive emotion? Such responses may be related to increases in positive emotion, not only because they make the event accessible in memory through rehearsal, but also because they encourage the sharer to appraise the event as more important. Thus, we hypothesized that sharing will predict positive emotion when the process of sharing alters how the sharer appraises the importance of the shared event. This hypothesis is consistent with findings that sharing negative events attenuates their emotional impact when

sharing stimulates the cognitive work of modifying initial appraisals of the events (Rimé, 2009).

Sharing may also increase and sustain positive emotion by slowing adaptation to positive events. Research on hedonic adaptation shows that, over time, emotions fade as people become accustomed to the events. When people experience novel and important events, they change their beliefs, expectations, and goals in an attempt to make sense of those events. Transforming remarkable, uncertain, and attention-grabbing events into familiar, understandable ones hastens recovery from negative events and allows people to understand their world so that they can predict and control what happens to them (e.g., Pennebaker, 1997; Wilson & Gilbert, 2008).

The downside of this sense-making is that it also speeds recovery from positive events, a process that Wilson and Gilbert (2008) refer to as the “pleasure paradox.” Focusing on the ways in which a positive outcome is remarkable, rather than predictable, prolongs positive emotion. For example, uncertainty about the reason for a positive event (receiving an unexpected monetary gift) prolonged the pleasure people felt but when the reason for the gift was explained, people derived less pleasure from it (Wilson, Centerbar, Kermer, & Gilbert, 2005). Similarly, thinking about how a positive outcome was surprising and might never have happened led to more positive affect than thinking about how the outcome actually did happen and was unsurprising (Koo, Algoe, Wilson, & Gilbert, 2008). In contrast, writing about positive life events in a systematic and analytical way reduced positive emotion compared to simply thinking about the events (Lyubomirsky, Sousa, Dickerhoof, 2006). Thus, sharing positive events may sustain emotion when enthusiastic sharing partners respond in ways that make the event seem more remarkable and less easily explained, thereby slowing down hedonic adaptation and keeping the magic alive.

## **The Present Research**

The present research examined the association between social sharing and the duration and intensity of positive emotion. We also investigated how this relationship differed depending on the response of the listener. We focused on social sharing of a real world positive event – receiving a desirable exam grade. In past studies on the sharing of positive events, participants have been asked to recall autobiographical events or to complete daily diaries. Both methods assess positive events that vary greatly in importance and remarkability across people (e.g., getting lunch with a friend, getting married). Investigating sharing about a desirable exam grade had the benefit of providing a degree of control by keeping the positive life event constant across participants. Thus, the importance of the event, and the degree to which the event lent itself to explanation, was similar across participants. This allowed us to measure how the response of the listener was related to hedonic adaptation. At the same time, the study preserved ecological validity because it captured sharing of a personally significant event that occurred naturally. This was also the first investigation to assess participants' perceptions of how sharing altered their appraisals of a positive event.

We defined the duration of positive emotion as the interval between the moment students learned about their grade and the first return to their baseline emotional state; that is, when positive emotion was no longer felt for the first time (Verduyn et al., 2009). Alternative conceptualizations of emotion duration have also been proposed. Even after the first return to baseline, thinking about an event can re-elicite emotion and influence overall mood (e.g., Frijda, 1987; Rimé, 2009). Thus, we also measured emotion duration by asking participants to report the percentage of time they spent thinking about, and feeling happy about, their grade.

Participants reported their emotions and appraisals the day they found out about their

grade. One day later they again reported their emotions, appraisals, and sharing practices. We hypothesized that sharing predicts sustained positive emotion because partners respond in ways that alter the sharer's appraisals of the positive event and slow hedonic adaptation. Thus, we expected sharing to be associated with affective benefits when the sharing interaction highlighted the importance of the event, and highlighted novel or remarkable aspects of the event, henceforth referred to as "remarkability." Existing literature does not indicate whether appraisals of importance and remarkability differentially affect intensity or duration of positive emotion so no *a priori* hypotheses were made regarding which type of appraisal would be more strongly associated with affective gains.

## **Method**

### **Participants**

Participants ( $N = 165$ ) included 133 female and 32 male undergraduates at the University of California, Irvine (mean age: 20.32 years, range: 18 - 42). Ethnicities reflected the larger UC Irvine student population (36% Asian, 29% Latino, 22% White, and 13% other). Participants were recruited through announcements in large undergraduate courses. For partial course credit, students were asked to complete a 5-minute online questionnaire the day they first received their midterm exam grade (Time 1) and a 30-minute online questionnaire during the evening of the day after they received their exam grade (Time 2). Only participants who indicated that they felt slightly, very, or extremely good about their grade on a 7-point scale ranging from 1 (*extremely bad*) to 7 (*extremely good*), were asked about their positive emotional episode and included in analyses for the current project ( $N = 165$ ). Those who reported feeling neutral, slightly, very, or extremely bad about their grade ( $N = 255$ ) completed an alternative questionnaire and were not included in this investigation of social sharing and positive emotion.

## **Design and Procedure**

Participants completed two online questionnaires. By coordinating with instructors, an email announcing that exam grades had been released was sent to students and included a link to the first questionnaire. Participants who completed the first questionnaire were emailed a link to the second questionnaire which they completed the evening of the day after they received their exam grade. The first questionnaire assessed emotion intensity. The second questionnaire assessed emotion intensity, emotion duration, and sharing practices.

### **Measures: Time 1**

**Emotion intensity.** At Time 1, the day they received their grade, participants first indicated the extent to which they were feeling good or bad about their grade, using a 7-point scale ranging from 1 (*extremely bad*) to 7 (*extremely good*). Those who indicated that they were feeling either slightly, very, or extremely good proceeded to answer the following questions about the intensity of their feelings. They were asked, “How happy are you feeling about your grade right now?” Participants indicated the intensity of happiness they felt using a 7-point scale ranging from 1 (*not at all happy*) to 7 (*extremely happy*).

**Participants’ appraisals.** We also assessed participants’ appraisals of their exam grade. Two questions assessed importance (e.g., “How important is this exam grade for you?”) and two questions assessed remarkability (e.g., “How remarkable is it to have gotten this exam grade?”). Questions used a 7-point scale ranging from 1 (*not at all*) to 7 (*extremely*).

### **Measures: Time 2**

**Emotion intensity.** At Time 2, in the evening of the day after they received their exam grade, participants indicated the intensity of happiness they were currently feeling about their grade using a 7-point scale ranging from 1 (*not at all happy*) to 7 (*extremely happy*).

**Emotion duration.** The duration of the emotional episode was assessed similar to Brans et al.'s (2013) technique. First, to explain the concept of emotion duration to participants, participants were told that an emotional episode ends as soon as the emotion is no longer felt for the first time or as soon as another emotion takes over (Verduyn, Delvaux et al., 2009). They were asked to remember when they first felt happy about their grade and to think about how long this emotion lasted. To indicate duration, a bar representing a total length of 120 minutes was presented. The bar was divided into eight equal intervals, with each interval representing 15 minutes. The choice of 120 minutes was based on previous studies which indicate that the duration of the majority of emotional episodes falls within this time window (e.g., Verduyn, Delvaux et al., 2009). Options labeled, "The emotion lasted longer than 120 minutes," and "The emotion is still ongoing," were also presented. If participants indicated that the episode was still ongoing, they were asked how long the emotion had lasted up to then.

Two additional questions measured time-related emotion outcomes. Participants were asked to think about the time since they first found out about their grade and to indicate what percentage of the time they spent 1) thinking and 2) feeling happy about their grade since finding out about the grade. They responded using a sliding bar which ranged from 0% to 100% of the time.

**Sharing during the emotional episode.** After indicating the duration of the emotion episode, participants were asked about sharing practices during each 15-minute interval of the episode. Allowing sharing to vary within intervals in the emotional episode made it possible to conduct analyses that avoided the potential artifact identified in Verduyn, Delvaux et al. (2009) in which longer emotional episodes provide more sharing opportunities (Brans et al., 2013). First, participants were asked whether they had talked with someone about their grade,

or their feelings about their grade, during each 15-minute interval in which their emotion was still ongoing (yes, no). They also indicated how many people they shared with across the entire emotional episode and their relationships with these sharing partners.

**Appraisal changes during sharing.** Participants who had shared the news about their grade with others then reported whether the sharing interaction had changed their appraisals of the positive event and, if so, how their appraisals had changed. If there were multiple sharing interactions, they were asked to report on the sharing partner who meant the most to them. First, they answered an open-ended question which asked them to describe in detail how this person responded. Next, using a 7-point scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*), they indicated whether their sharing partner responded in ways that highlighted the importance or remarkability of the event. Three items assessed importance appraisals (e.g., “The person I shared with made me feel like getting this grade was important,” “The person I shared with made me feel like the grade was a big deal”). Three items assessed remarkability (e.g. “The person I shared with made me feel that it was remarkable to do so well,” “The person I shared with made me feel special that I did so well”).

Mean ratings for the three importance questions, and for the three remarkability questions, were computed for each participant. Mean ratings of 5 (*somewhat agree*) and above were defined as “high” importance or remarkability; mean ratings below 5 were defined as “low” importance or remarkability. Based on participants’ response to the dichotomous sharing question and their mean ratings, five sharing groups were created: (1) those who did not share ( $n = 42$ ), (2) those whose sharing interactions were characterized by appraisals of high importance and low remarkability ( $n = 24$ ), (3) those whose sharing interactions were characterized by appraisals of high remarkability and low importance ( $n = 16$ ), (4) those whose

sharing interactions were characterized by appraisals of both high importance and high remarkability ( $n = 46$ ), and (5) those whose sharing interactions were characterized by appraisals of both low importance and low remarkability ( $n = 26$ ). Creating sharing groups allowed us to examine, in a single model, the relation between emotion outcomes and sharing versus not sharing (group 1 versus all other groups), importance versus remarkability (groups 2 versus 3), and both appraisals together (group 4).

**Sharing over two days.** The questions above concerned sharing during the initial emotional episode. Participants also reported whether or not they had told someone about their grade, or about their feelings concerning their grade, at any time during the two day period since receiving their grade. They indicated the number of sharing partners, frequency of sharing, and relationship to partners (e.g., friend, family).

**Participants' appraisals.** We repeated the assessment of participants' current appraisals of the importance and remarkability of their exam grade using the same questions as at Time 1.

**Personality.** We administered the Ten-Item Personality Inventory (TIPI, Gosling, Rentfrow, & Swann, 2003) to measure extraversion and openness because these traits could be related to social sharing or to the duration and intensity of positive emotion (Verduyn & Brans, 2012). However, preliminary analyses indicated that including extraversion and openness as covariates did not change the general pattern of results for any emotion outcome. Therefore, these personality traits were not included in the reported analyses.

Data from the above measures was also collected for students who reported they felt neutral or bad about their grade. For future analyses on sharing and negative emotion, we also included the Center for Epidemiologic Studies Depression scale (Santor & Coyne, 1997) and the State-Trait Anxiety Inventory, Trait version, Form Y (STAT-T; Spielberger, Gorsuch, Lushene,

Vagg & Jacobs, 1983), which were not analyzed for the current study on positive emotion. We have reported how we determined our sample size, all data exclusions, all manipulations, and all measures in the study.

### **Data Analyses**

Longer emotional episodes provide more opportunities for sharing. Therefore, we tested the relation of sharing to emotion duration using discrete time survival analysis. This analysis accounts for episode length by assessing sharing during discrete time periods within the emotional episode. In line with Brans et al. (2013), sharing was measured at a fine-grained level, which allowed it to vary within an episode. For this purpose, emotional episodes were segmented into a number of equal intervals and participants indicated whether or not they shared within each interval of the episode.

A discrete-time proportional hazards model (an extension to the proportional hazards model) is appropriate when analyzing interval durational data and can incorporate time-varying predictors such as social sharing (Singer & Willett, 2003). Discrete-time survival analysis involves the calculation of a hazard rate: the conditional probability that an episode, which has not yet ended at the beginning of an interval, will end during that interval. To test the relationship between sharing and emotion duration, the logit of the hazard rate was modeled as a proxy for emotion duration. That is, the dependent variable in the regression was the conditional probability that an episode ends during an interval, given that it is ongoing at the start of the interval. A higher value indicates shorter duration.

Indicator variables for each interval under study were first included in the regression as predictors. Including this set of predictors yielded a representation of the baseline hazard function (the probability that an emotional episode that had not yet ended would end during that

interval). A second set of predictors was the five sharing groups (as a time-invariant variable) with the no sharing group acting as a reference group. In this model, the coefficient for each dummy variable captured the difference in duration between a specific type of sharing and not sharing. Lastly, initial intensity was included in the model as a control variable.

For the two other emotion duration outcomes (percentage of time thinking about grade and percentage of time spent feeling happy about grade), we used hierarchical regression analyses to understand the relation of sharing type to emotion duration. We also examined the relation between sharing, appraisals, and all three emotion duration outcomes using correlations, t-tests, and regressions. Finally, we conducted a mixed model analysis of variance (ANOVA) to assess difference in emotion intensity across time and across group. Analyses revealed that the assumptions of the ANOVA, including homogeneity of variances, were met.

## **Results**

Consistent with prior research, the majority of participants shared news of their good grade with at least one other person. About 67% of participants shared during the initial positive emotional episode and 87% shared in the two days since finding out about their grade. Sharing was often immediate. Many who shared did so within the first 15 minutes (49%), or within the first 30 minutes (61%), after finding out their grade. Over the course of the two days, participants reported sharing with an average of 2.6 people ( $SD = 2.13$ ). When participants shared, they shared with friends (64%), romantic partners (33%), parents (27%), classmates (25%), and roommates (23%). Only 4% of the sample reported sharing using social media. Below we report results related to sharing and emotion duration followed by results related to sharing and emotional intensity.

### **Sharing and Duration**

We assessed the relation of sharing to three measures of emotion duration: 1) the length of the emotion episode, 2) the percentage of time participants spent thinking about their grade across the two days, and 3) the percentage of time participants spent feeling happy about their grade across the two days. Participants who shared had significantly longer emotional episodes ( $M = 39.27, SD = 38.02$ ) than those who did not share ( $M = 16.83, SD = 20.32$ ),  $t(158) = 3.92, p < .001$ , controlling for initial intensity. Participants who shared reported spending more time thinking about their grade ( $M = 26.89, SD = 22.39$ ) than those who did not share ( $M = 19.44, SD = 21.25$ ),  $t(154) = 2.09, p = .04$ . Sharers did not differ significantly in the amount of time they reported feeling happy about their grade compared to non-sharers,  $t(154) = 1.83, p = .14, ns$ .

**Number of sharing partners and duration.** The more partners participants shared with, the longer the episode lasted,  $r(156) = .31, p < .001$ , after controlling for initial intensity. Number of sharing partners was also positively correlated with the amount of time participants reported thinking about,  $r(151) = .26, p = .001$ , and feeling happy about,  $r(151) = .23, p = .004$ , their grade.

**Discrete time survival analysis.** We also assessed the relation of sharing to the duration of the emotion episode using discrete time survival analysis. This analysis accounted for increased opportunities to share during longer episodes by assessing sharing during discrete time periods within the emotional episode. Table 1 displays results for the survival analysis, with participants who did not share as the comparison group. Compared to the no sharing group, all types of sharing were associated with longer emotional episodes. The largest difference was between the no sharing group and the sharing group with appraisals of both high importance and high remarkability. Compared to not sharing, sharing with appraisals of both high importance and remarkability was associated with a 78% lower probability of an emotion episode ending in

a given interval, suggesting longer duration. There was marginal difference between the sharing group with high importance and remarkability appraisals and the group with low appraisals ( $p = .06$ ). Emotion duration did not differ significantly between any other groups. Thus, sharing predicted more lasting positive emotion using survival analyses, which takes into the account the possibility that longer episodes provide more opportunities for sharing.

**Appraisals associated with sharing and emotion duration.** To assess relations among sharing, appraisals, and all three emotion duration outcomes in greater detail, three hierarchical linear regressions were conducted on: length of emotional episode, total time spent thinking about the grade since finding out about the grade, and total time spent feeling happy about the grade since finding out about the grade. For each analysis, the duration outcome was the dependent variable and initial emotion intensity was entered in Step 1 as a control. Dummy-coded variables for each of the sharing groups were added in Step 2 with the no sharing group serving as a reference group. Residual plots for multiple regression analyses indicated that homoscedasticity assumptions were met. Collinearity statistics were all within acceptable limits.

Figure 1 shows group differences in the length of emotional episode, and in the total time spent thinking about the grade across two days. For length of the emotional episode, analyses at Step 2 revealed that sharing group contributed significantly to duration after controlling for initial intensity,  $F(4,152) = 5.18, p = .001$ , and accounted for 11.9% of the variation in emotion duration. The length of the emotional episode differed across sharing groups. Emotion episode lasted longer for the sharing group with appraisals of both high importance and high remarkability ( $M = 47.88, SD = 43.38$ ) than for the no sharing group ( $M = 27.75, SD = 29.31$ ),  $\beta = 0.41, t(151) = 4.49, p < .001$ , and the sharing group with low appraisals ( $M = 27.75, SD = 29.31$ ),  $\beta = 0.26, t(151) = 2.47, p = 0.01$ . The emotion episode was also longer for the group with

appraisals of high importance ( $M = 34.56$ ,  $SD = 31.35$ ) than for the no sharing group ( $M = 16.21$ ,  $SD = 21.03$ ),  $\beta = 0.18$ ,  $t(151) = 2.08$ . Episode duration for the sharing group with appraisals of high remarkability ( $M = 32.23$ ,  $SD = 32.97$ ), did not differ from the other groups.

The amount of time participants thought about their grade also differed across sharing groups after controlling for emotion intensity,  $F(4, 148) = 3.01$ ,  $p = .02$ . Sharing group accounted for 8% of the variability in time spent thinking about grade. The sharing group with appraisals of both high importance and high remarkability ( $M = 31.96$ ,  $SD = 26.16$ ) thought about their grade more than did the sharing group with low appraisals of importance and remarkability ( $M = 21.23$ ,  $SD = 16.35$ ),  $\beta = 0.24$ ,  $t(151) = 2.12$ ,  $p = .04$  and those who did not share ( $M = 17.09$ ,  $SD = 17.89$ ),  $\beta = 0.32$ ,  $t(151) = 3.34$ ,  $p = .001$ . There were no significant differences between the sharing group with high importance appraisal ( $M = 25.63$ ,  $SD = 24.13$ ) and all other groups and the sharing group with high remarkability appraisals ( $M = 24.46$ ,  $SD = 19.53$ ) and all other groups. No significant differences across sharing groups were found in the amount of time over the two days that participants spent feeling happy about their grade,  $F(4, 148) = 1.75$ ,  $p = .14$ , *ns*.

In summary, sharing was associated with longer emotion episodes and more time spent thinking about the good grade. This was found when comparing sharers to nonsharers on these outcomes and also when correlating the amount of sharing (number of sharing partners) with duration outcomes. The content of sharing also mattered. Those who perceived the sharing target as leading them to appraise the event as more important and remarkable reported longer episodes of happiness, and spent more time thinking about their grade, than those who did not share and those who shared but reported low changes in appraisals as a result of sharing.

### **Sharing and Emotion Intensity**

To investigate how the occurrence and content of sharing related to changes in emotion intensity over time, a mixed model ANOVA was conducted. The dependent variables were emotion intensity at Time 1 and Time 2. The independent variable was sharing group: (1) participants did not share, or sharing was characterized by appraisals of (2) high importance, (3) high remarkability, (4) high importance and high remarkability, or (5) low importance and low remarkability.

Overall, emotional intensity faded from Time 1 ( $M = 5.49, SE = .07$ ) to Time 2 ( $M = 5.10, SE = .10$ ),  $F(1, 152) = 25.28, p < .001, \eta^2 = .14$ . An interaction was found between time and sharing group,  $F(4, 152) = 4.41, p = .002, \eta^2 = .10$ . The interaction is depicted in Figure 2. [Figure 2 near here]. For each sharing group, we assessed whether intensity changed over time. Positive emotion intensity faded from Time 1 to Time 2 for all groups ( $t$ 's  $> 2.03, p$ 's  $< .048$ ) except for the group with appraisals of both high importance and high remarkability ( $t = -.57, p = .57$ ). This interaction indicates that sharing that highlighted the importance and remarkability mitigated the fading of emotion intensity after a positive event.

At Time 1, no differences in emotion intensity were found between groups,  $F(4, 152) = 1.38, p = .24, ns, \eta^2 = .03$ . At Time 2, however, participants whose sharing was characterized by appraisals of both high importance and high remarkability were happier about their grade ( $M = 5.52, SD = .87$ ) than the participants whose sharing was characterized by appraisals of low importance and low remarkability ( $M = 4.57, SD = 1.2$ ),  $t(152) = -3.67, p < .001$ , and marginally happier than the no sharing group ( $M = 5.14, SD = .86$ ),  $t(152) = 1.67, p = .09$ . No other contrasts were significant at Time 2. The number of sharing partners was correlated with intensity at Time 1,  $r(159) = .22, p = .004$ . However, the number of sharing partners was not correlated with emotion intensity at Time 2, after adjusting for intensity at Time 1,  $r(155) = .07, p = .39, ns$ .

## Appraisals

Participants reported their own appraisals of the importance and remarkability of their exam grade at Time 1 and Time 2. Participants' appraisals of the importance of their exam grade did not change over time,  $F(1, 158) = 0.21, p = .65, ns, \eta^2 = .001$ , nor across dichotomous (yes/no) sharing groups,  $F(1, 158) = 10.26, p = .61, ns, \eta^2 = .002$ , nor was an interaction found between time and sharing group,  $F(1, 158) = 1.24, p = .27, ns, \eta^2 = .008$ . Appraisals of remarkability also did not change over time,  $F(1, 158) = 1.40, p = .24, \eta^2 = .009$ , nor across sharing groups,  $F(1, 158) = 3.75, p = .06, ns, \eta^2 = .02$ , nor was an interaction found between time and sharing group,  $F(1, 158) = 0.50, p = .48, ns, \eta^2 = .003$ . As noted above, most sharing took place within the first 30 minutes after participants received their grade. Many participants had already shared by the time they completed the Time 1 survey. As a result, their reports of their appraisals at the time they completed the first survey may already have been influenced by their sharing interactions, and we would thus observe less change in appraisals between Time 1 and Time 2. This may explain why participants' own appraisals of importance and remarkability remained stable between the Time 1 and Time 2 surveys, even for participants who reported that sharing made them feel that their grade was more important or remarkable.

## Discussion

Social sharing allows us to savor the positive experiences in our lives. Researchers have found that sharing is associated with an increase in the intensity of positive emotion, especially when the sharing partner is perceived as enthusiastic. Less is known about whether sharing is related to an increase in the duration of positive emotion and when this might occur. The present research assessed sharing among college students who received a desirable exam grade. We

assessed whether sharing the news of their exam grade was associated with greater duration as well as intensity of positive emotion relative to not sharing. We also hypothesized that sharing will sustain positive emotion when sharing interactions highlight certain features of the positive event which slow the process of affective adaptation. Specifically, we assessed whether sharing responses perceived as highlighting the importance and remarkability of the event were associated with greater duration and intensity of positive emotion.

Two major findings regarding emotion duration emerged from this study: First, social sharing was associated with longer positive emotion episodes and more time thinking about the positive event. Second, for those who shared, both the *amount* of sharing and the *content* of sharing mattered. The more partners students shared with, the longer their emotional episode and the more time they spent thinking and feeling happy about the positive event. Students who had sharing interactions in which they perceived the partner as reflecting appraisals of both high importance and high remarkability had the longest emotion episodes and spent the most time thinking about their exam score relative to other groups.

Emotion duration was conceptualized primarily as the first return to baseline (when the emotion was no longer felt for the first time) but also as the percentage of time people reported thinking and feeling good about their grade. These additional approaches to assessing duration take into account the continuity, and potential re-elicitation, of positive thoughts and feelings after the initial emotion episode ends. While sharing (versus not sharing) was associated with spending a greater percentage of time thinking about the desirable grade, it was not associated with spending a greater percentage of time feeling happy about the grade. We suspect that it may have been easier for participants to recall how much time they spent thinking about their grade rather than how much time they spent feeling happy. They may have had difficulty teasing apart

feelings of happiness attributable to their exam grade versus other events across the two day period. Nonetheless, when participants shared, the number of people they shared with was associated with how much time they spent feeling happy. This suggests that more frequent sharing likely re-elicited positive emotion and thereby increased the amount of time participants felt happy.

We also conducted a discrete time survival analysis in order to account for the possibility that longer emotion episodes provide more opportunities for sharing. To do this, sharing was measured at a fine-grained level and included as a time-varying predictor in the model (as in Brans et al., 2013). This analysis confirmed that those who shared had longer emotional episodes compared to those who did not share. This was the first study to link sharing with longer positive emotion duration using survival analysis. Understanding how sharing is related to the duration of emotion is important given that emotions are dynamic processes that unfold over time, rather than momentary incidents (Eaton & Funder, 2001; Schimmack, Oishi, Diener, & Suh, 2000).

Overall, emotion intensity decreased over the two day period, indicating that the intensity of emotion evoked by the positive event faded over time. This decrease in emotion intensity over time was found for all groups except for those who viewed their sharing partner as emphasizing both the importance and remarkability of their grade. This finding is in line with our hypothesis that sharing positive events can serve to highlight appraisals of those events which slow the process of affective adaptation.

Social sharing was associated more consistently with the duration of emotion than with the intensity of emotion. Sharing was not related to Time 1 intensity. The number of sharing partners was associated with greater emotion duration but not with greater emotional intensity (after controlling for Time 1 intensity). One reason for the less consistent relation between

sharing and intensity may be that participants were asked to report the duration of the emotion episode from the moment they received their grade whereas they reported the intensity of emotion they were currently feeling. Many participants completed the Time 1 survey a few hours after they had received news of their grade and the intensity of their emotional response had likely diminished by then.

Participants' own appraisals of importance and remarkability of their exam grade remained stable over the course of two days. This may have happened because many participants' reported on their Time 1 appraisals hours after they found out about their grade and 61% of participants reported having shared within the first 30 minutes. Thus, any changes in participants' own appraisals are likely to have occurred before they reported their Time 1 appraisals. A briefer interval between receiving their grade and completing the initial questionnaire may have captured more changes in participants' appraisals.

This study opens important avenues for future research. One limitation of the current study is that observed relations between sharing and emotion outcomes were correlational. To help rule out alternative explanations for these relations, relevant covariates were included in all analyses. Importantly, the association found between sharing and emotion duration remained even when adjusting statistically for initial emotion intensity, initial appraisals of importance and remarkability, extraversion, and openness. However, future research using experimental paradigms is needed to make causal inferences.

Future research should also further explore the conditions under which sharing positive events is not beneficial or is socially inappropriate. In this study, participants who reported that sharing partners led them to appraise their grade as not particularly important or remarkable reported the lowest intensity of positive emotion at Time 2 compared to all other participants,

even those who did not share. Thus, negative sharing interactions may make individuals feel worse than if they did not share at all. Sharing personal achievements with competitors may be perceived as conceited or elicit guilt in the sharer.

In conclusion, a vast literature on social support addresses the processes involved in disclosing difficult life events, but less is known about positive event disclosures. This study shows that when people share good news, sharing partners can respond in ways that increase an individual's view of the event's importance and can identify remarkable features of the event to help the sharer feel better for longer. This research was the first to link sharing with longer emotion duration for positive events after addressing the potential methodological confound between emotion duration and amount of sharing identified by Brans et al. (2013). It also advances the literature on social sharing by describing conditions under which sharing predicts lasting emotion.

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Table 1

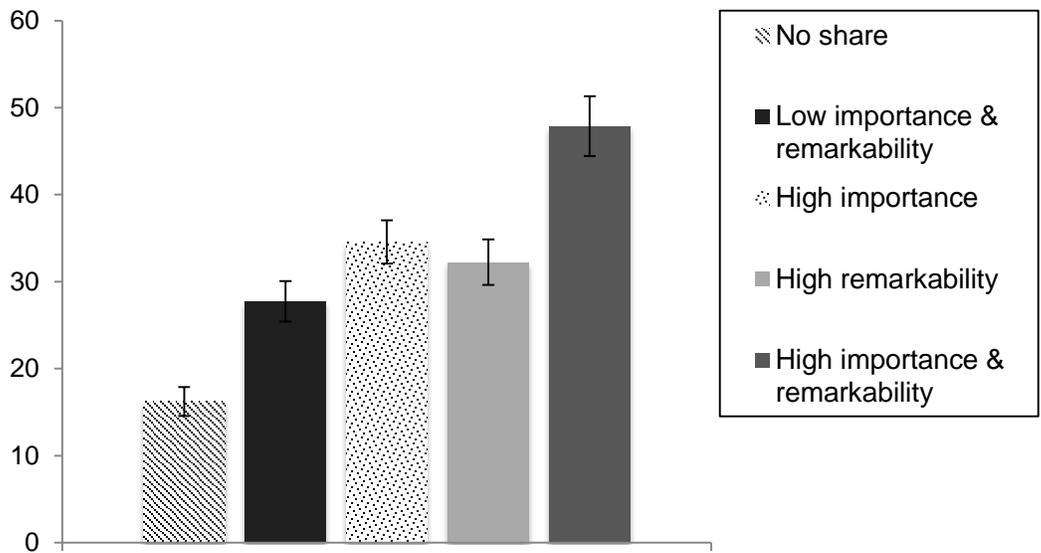
*Survival Analysis of Positive Emotion Duration for Each Sharing Group*

Predictors	<i>OR</i>	$\beta$	<i>SE</i>
Group: Sharing led to appraising the event as:			
High in importance but not remarkability	0.34	-1.08**	0.38
High in remarkability but not importance	0.42	-0.88 <sup>†</sup>	0.47
High in both importance and remarkability	0.22	-1.5***	0.34
Low on both importance and remarkability	0.42	-0.86*	0.39
Baseline emotion intensity	0.84	-0.17	0.15

<sup>†</sup> $p < .10$ , \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

*Note.* Participants who did not share were used as the comparison group. A negative coefficient indicates longer emotion duration.

(a) Duration of emotion episode



(b) Duration of thinking

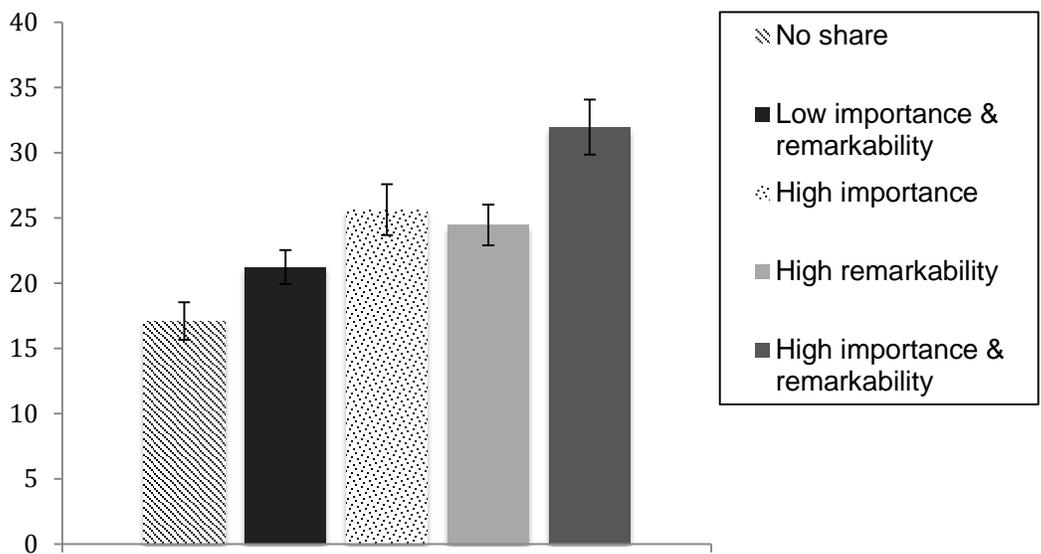
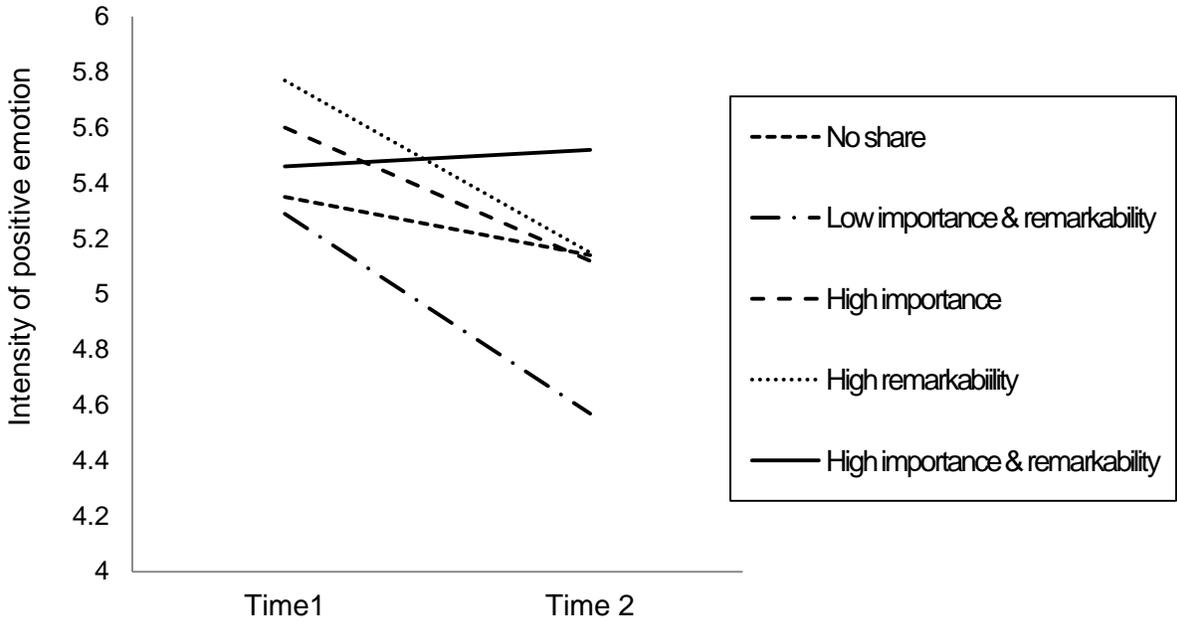


Figure 1. Duration of positive event in minutes (a), and percentage of time spent thinking about the outcome (b), for each sharing group.



*Figure 2.* The intensity of positive emotion faded over time except when participants reported that sharing led them to appraise the outcome as high in both importance and remarkability.