Empirical Research Paper

Preparing Silver Linings for a Cloudy Day: The Consequences of Preemptive Benefit Finding

Kyla Rankin[1] iD and Kate Sweeny[1] iD

Abstract

Waiting for important news is stressful. In four studies, we assess the utility of preemptive benefit finding, a coping strategy in which people seek silver linings in bad news *before* receiving news, for emotional well-being across several waiting periods (waiting for bar exam results, the outcome of political elections, and results of a fictitious health risk assessment). Our findings support the effectiveness of preemptive benefit finding while waiting, such that identifying benefits in bad news while waiting predicts more positive emotions during the wait (Studies 3 and 4) and buffers people against the emotional consequences of bad news by boosting post-news positive emotions (Studies 2–4). Importantly, engaging in preemptive benefit finding does not backfire if a person ultimately receives good news (Studies 1, 3, and 4). We discuss results from a mini meta-analysis and consider implications of our findings for interventions to improve well-being while waiting and after news arrives.

Keywords

uncertainty, preemptive benefit finding, coping, emotion

> When things go wrong, don't go with them.
>
> —Elvis Presley

Waiting periods typically end with good news or bad news—you passed or failed the exam, your candidate won or lost the election, your blood pressure is normal or elevated. People find the waiting periods that precede such news to be anxiety-provoking (Shepperd et al., 1996; Sweeny & Andrews, 2014; Sweeny & Falkenstein, 2015), and they are often unsuccessful in using strategies that mitigate their distress in these moments (Sweeny et al., 2016). Although harnessing useful coping strategies can be difficult to do during the wait, little research has tested the downstream consequences of uncertainty-related coping. Specifically, what strategies prepare people for good and bad news? As Elvis Presley suggested, strategies that protect well-being and buffer the blow of bad news are practical, even if they do not minimize distress during the wait. Across four studies, we examine the consequences of one such coping strategy, preemptively finding benefit in a bad outcome, among law graduates awaiting their bar exam results, voters approaching the results of the 2016 U.S. presidential election and 2018 U.S. midterm election, and undergraduates waiting for the results of a health risk assessment.

Seeking Silver Linings While Uncertain

The uncertainty navigation model (Sweeny & Cavanaugh, 2012) provides a theoretical lens through which to view various types of uncertain waiting periods. Although originally developed as a theoretical approach to understanding the experience of awaiting health news, it has since been extended to non-health contexts (e.g., waiting for bar exam results, Howell & Sweeny, 2016; Sweeny & Andrews, 2014; Sweeny et al., 2016; approaching Election Day, Rankin & Sweeny, 2019). The model classifies different types of coping strategies that people use to manage their worry (i.e., a combination of anxiety and repetitive thoughts about a future outcome; Sweeny & Dooley, 2017).

Specifically, the uncertainty navigation model outlines various ways people can cope with worry prompted by uncertainty, rather than strategies people employ in response to emotional distress alone. The coping strategies outlined in

[1]University of California, Riverside, USA

Corresponding Author:
Kate Sweeny, University of California, Riverside, Riverside, CA 92521, USA.
Email: ksweeny@ucr.edu

this model fall into three categories: consequence mitigation (preparing to deal with bad news), reappraisal (thinking differently about various aspects of one's uncertainty), and direct emotion management (directly tackling one's worry). The primary goal of the current study was to examine how one future-oriented reappraisal strategy, *preemptive benefit finding*, might predict emotional well-being following the receipt of news that lies at the end of a stressful, uncertain waiting period.

Preemptive benefit finding entails identifying silver linings in bad news before the news arrives. Although very little research has examined this proactive coping strategy during waiting periods, a wealth of research has addressed the process and consequences of benefit finding, also known as posttraumatic growth. In that literature, benefit finding entails reappraising a traumatic or distressing event *after* it occurs, identifying the good that came from an otherwise undesired outcome. The benefits people identify are often centered on self-growth (e.g., recognizing one's own resilience), social connections (e.g., being able to offer and receive social support), and shifts in meaning (e.g., appreciating life more; Joseph & Linley, 2006), all of which are similar to themes found in *preemptive* benefit finding (Rankin et al., 2019).

Several meta-analyses have examined benefit finding across a variety of contexts (Grace et al., 2015; Helgeson et al., 2006; Sawyer et al., 2010; Shakespeare-Finch & Lurie-Beck, 2014), all of which draw a similar conclusion: Posttraumatic benefit finding is a marker of well-being. Benefit finding is associated with less depression and greater life satisfaction, self-esteem, and positive affect (Helgeson et al., 2006); better mental and subjective physical health (Sawyer et al., 2010); and more positive evaluations of a negative event (Grace et al., 2015). We would note that recent discussions identified limitations to this area of research (Frazier et al., 2009; Jayawickreme & Blackie, 2014), namely, with regard to differences in the predictive value of perceived versus actual growth (actual growth predicting less distress, perceived growth predicting greater distress; Frazier et al., 2009) and the limitations of using retrospective measures of posttraumatic growth. These important caveats aside, the base of evidence supporting the value of (true) posttraumatic growth remains quite strong.

Many studies show the positive consequences of engaging in benefit finding following stressful life events, but must the process of identifying silver linings wait until bad news arrives? In other words, is preemptive benefit finding (i.e., considering the silver linings that may come from bad news before news arrives) similarly beneficial for psychological well-being when met with bad news? For example, prior to an election, voters can consider the ways they could benefit if the opposing candidate were to win, thus rendering the possibility of electoral loss less devastating. Similarly, while waiting for a blood pressure test result, patients can contemplate the ways a bad result could motivate them to live a healthier lifestyle. In fact, recent evidence suggests that people do exactly that. In a sample of women waiting for a breast biopsy result, 76% of women said that they could imagine at least one silver lining in a cancer diagnosis (Rankin et al., 2019), and several studies of law school graduates awaiting their bar exam results have documented similar instances of preemptive benefit finding (Sweeny & Andrews, 2014; Sweeny et al., 2016).

Although evidence suggests that preemptive benefit finding is common when people are awaiting important news, studies have not found a link between preemptive benefit finding and reduced worry or other measures of distress while waiting (Sweeny & Andrews, 2014; Sweeny et al., 2016, 2019). Rather than ameliorating suffering during the wait, preemptive benefit finding may be best suited for buffering the blow of bad news by prompting people to identify silver linings of that bad news in advance. That is, "waiting well" has two definitions (Sweeny et al., 2016): coping in a way that reduces worry *during* the wait or coping in a way that helps people *respond* to bad news with less distress. Preemptive benefit finding does not seem to help people wait well by the first definition; the purpose of the current study is to test whether it aids in waiting well by the second definition.

Predicting Reactions to News From Waiting Experiences

The largest body of work on the downstream consequences of uncertainty focuses on expectations and consistently finds that reactions to news are in part a function of whether an outcome meets, exceeds, or falls short of expectations (Krizan & Sweeny, 2013; Shepperd & McNulty, 2002; Sweeny et al., 2016; Sweeny & Shepperd, 2010; van Dijk & van der Pligt, 1997). However, very little research has provided theoretically-grounded tests of the ways in which people's use of coping strategies when dealing with uncertainty might produce echoes in their reactions to news. The uncertainty navigation model suggests that engaging in preemptive benefit finding may buffer people against distress over bad news by preparing them to see the bad news in a relatively positive light. However, the one study to explore this hypothesis found no association between preemptive benefit finding and reactions to news, specifically pleasant and unpleasant surprise and a set of cognitive responses to bad news (Sweeny et al., 2016). Although this (non)finding is certainly relevant to our endeavor, the previous study did not test the question of whether preemptive benefit finding predicted general emotional reactions to good and bad news, and it tested the question in a single study of law graduates awaiting their bar exam results with a very small sample of participants receiving bad news (*n* = 33, using the 2013 California bar exam). The current endeavor not only includes a similar study of law graduates (taking the bar exam in a different year) but also extends the inquiry to the contexts of

awaiting election results and health assessments. Furthermore, we manipulate preemptive benefit finding in an in-lab study to determine the causal relationship between preemptive benefit finding and emotional well-being both during and following the wait for uncertain news.

Overview and Hypotheses

The present study examined the consequences of engaging in preemptive benefit finding during stressful waiting periods. That is, what are the benefits (and potential costs) of engaging in preemptive benefit finding while waiting? We explored the relationship between preemptive benefit finding and well-being during waiting periods to replicate previous (non) findings; however, our primary hypothesis is that among people who ultimately receive bad news, those who engage in more preemptive benefit finding during the wait will report better emotional well-being following news (Hypothesis 1). We also explored the possibility that preemptive benefit finding might backfire if a waiting period ends in good news, given that preemptive benefit finding entails devaluing the hoped-for outcome (see Sweeny & Cavanaugh, 2012). Thus, we tentatively hypothesized that among people who ultimately receive good news, those who engage in more preemptive benefit finding will report poorer emotional well-being following news (Hypothesis 2).

Study 1

Method

Participants.[1] Law graduates taking the 2016 California bar exam ($N = 150$; 61% women; $M_{age} = 27.71$, $SD_{age} = 4.93$; 61% White/Caucasian, 19% Asian or Pacific Islander, 7% Latino/a, 2% Black or African American, 11% Multiple or Other) were recruited via law school alumni offices, student bar associations, and bar exam listservs approximately 1 month prior to taking the exam. Due to the significant challenges associated with recruiting such a specific sample for a lengthy study during a particularly stressful time in their lives, we did not set a target sample size; rather, we simply recruited as many participants as possible in the month prior to the bar exam.

Nearly all participants (95%) were taking the bar exam in California for the first time, and of those who responded to the post-result survey, 68% of law graduates passed. A minority of participants were already employed in the legal field at the time they took the exam (34%). Participants received their law degrees from 19 law schools, with the greatest number receiving degrees from the University of California, Los Angeles (UCLA) School of Law ($n = 57$; pass rate in relevant year = 82%); Chapman University Fowler School of Law ($n = 20$; pass rate = 57%); University of California, Irvine (UCI) School of Law ($n = 17$; pass rate = 81%); and Pepperdine University ($n = 11$; pass rate =

70%). Out of eight total questionnaires across approximately 6 months, 77% of participants completed at least six of the questionnaires.

Procedure. Questionnaires were completed in the weeks prior to the bar exam (*baseline survey*), during the 4-month waiting period between the bar exam and the day when exam results are posted online (*waiting surveys*), and within 24 hr of participants learning whether they passed or failed (*post-news survey*). We used a planned-missingness design to best examine temporal fluctuations in our variables of interest in the waiting surveys. Specifically, we randomly assigned participants to one of five arbitrary response groups. All response groups completed the first waiting questionnaire within 3 days after completion of the bar exam (a 3-day process). For the subsequent four questionnaires, the timing was staggered such that each response group completed a questionnaire every 5 weeks, and questionnaires were completed by one group each week. In other words, some participants completed questionnaires each week throughout the waiting period, but each participant completed the measures only every 5 weeks. All participants completed a final waiting questionnaire no more than 24 hr prior to checking their exam result online. All study measures and de-identified data are publicly available on the Open Science Framework (https://osf.io/mpnqt/). This study was reviewed, approved, and monitored by the Institutional Review Board (IRB) at the authors' institution.

Measures

Baseline survey. Relevant baseline measures (used as control variables in our analyses) include measures of positive and negative emotions, assessed with an adapted eight-item version of the Affect-Adjective Scale (Diener & Emmons, 1985; negative emotions: angry/hostile, frustrated, depressed/blue, unhappy; for all, $1 = $ *not at all*, $7 = $ *extremely; M = 4.62, SD = 1.39,* $\alpha = .79$; positive emotions: happy, pleased, joyful, enjoyment/fun; $M = 4.24$, $SD = 1.43$, $\alpha = .88$).

Waiting surveys. Relevant to the current investigation, we used the same measure as at baseline to assess participants' current positive emotion ($M = 5.36$, $SD = 0.90$, average $\alpha = .83$) and negative emotion ($M = 3.84$, $SD = 1.20$, average $\alpha = .85$). In addition, each waiting survey included a three-item measure of preemptive benefit finding ("I feel like I would grow as a person if I fail the bar exam," "I feel I'll learn something from the experience if I fail the bar exam," "I have been trying to focus on good things that might come from failing the bar exam"; $1 = $ *strongly disagree*, $7 = $ *strongly agree*). For the purpose of analyses focusing on responses to good and bad news, we averaged across the five waiting surveys ($M = 3.31$, $SD = 1.33$, average $\alpha = .80$).

Post-news survey. We assessed emotional reactions to news with a measure of negative emotion identical to the baseline

measure, with the addition of "disappointed" (among those who failed, $M = 4.66$, $SD = 1.38$, $\alpha = .76$; among those who passed, $M = 1.27$, $SD = 0.47$, $\alpha = .67$) and a measure of positive emotion identical to the baseline measure, with the addition of "relieved" (among those who failed, $M = 1.35$, $SD = 0.63$, $\alpha = .84$; among those who passed, $M = 6.40$, $SD = 0.98$, $\alpha = .86$). Note that the total of the two ns does not equal the total N for the study due to missing data and attrition.

Results

We first explored associations between preemptive benefit finding and emotions during the wait for bar exam results using multilevel modeling, predicting positive and negative emotions (separately) from grand mean- and person mean-centered preemptive benefit finding (see Table 1 for bivariate correlations among key measures). These models controlled for linear and quadratic time because all variables showed a quadratic pattern across the waiting period. Preemptive benefit finding was not significantly associated with positive emotion at either the between-person level, $b = .08$, 95% confidence interval [CI] = [–0.03, 0.20]; $SE = .06$; $p = .16$, or the within-person level, $b = .08$, 95% CI = [–0.03, 0.20]; $SE = .06$; $p = .15$. Although preemptive benefit finding was associated with negative emotion at the between-person level, $b = –.17$, 95% CI = [–0.33, –0.02]; $SE = .08$; $p = .03$, it was not associated at the within-person level, $b = –.07$, 95% CI = [–0.20, 0.07]; $SE = .07$; $p = .31$. This pattern of findings suggests that participants who engaged in preemptive benefit findings across the waiting period also reported less negative emotion across the wait; however, they did not report less negative emotion at times when they engaged in particularly high levels of preemptive benefit finding.

To test our primary hypotheses, we conducted multiple regression analyses separately for participants who passed and failed, predicting reactions to news from average preemptive benefit finding across the waiting period and controlling for waiting emotion. See Table 2 for full inferential statistics. Turning first to participants who failed, those who engaged in more preemptive benefit finding reported greater positive emotion in the face of bad news (albeit falling short of traditional standards for statistical significance) but no less negative emotion. Preemptive benefit finding predicted neither positive emotions nor negative emotions among those who passed.

Study 2

Study 1 provided some support for Hypothesis 1, such that participants who engaged in more preemptive benefit finding and ultimately failed the bar exam reported greater positive emotion in the face of failure. We did not find support for Hypothesis 2, that preemptive benefit finding would backfire

among those who passed. Furthermore, participants in Study 1 who engaged in preemptive benefit finding unexpectedly reported less negative emotion while waiting for their bar exam result. This finding points to the possibility that preemptive benefit finding may have some utility during waiting periods, contrary to findings from previous studies.

Although Study 1 provided an initial test of our hypotheses, the study was limited in several ways. Perhaps most notably, the sting of defeat and the joy of success on a high-stakes professional exam may be relatively immovable. That is, despite one's best efforts, it may have been difficult for participants in our study to convince themselves that failing the bar exam would be for the best. In addition, we had no control over the proportion of our sample that failed the exam, rendering our analyses with people who failed quite underpowered. We remedy both of these limitations in Studies 2 and 3, which examine a less personally consequential and more ambiguously-valenced outcome, namely the outcome of a major political election.

Method

Participants.[2] Amazon Mechanical Turk (MTurk) workers (final $N = 748$; 375 Donald Trump supporters, 373 Hillary Clinton supporters; $M_{age} = 34.5$; 43% female) across the political spectrum were compensated US$1 for completing a pre-election survey. To participate in the study, MTurk workers had to support one of the two primary candidates (participants were not excluded based on political party or political orientation) and be over the age of 18 and a U.S. citizen (the same requirements to vote in U.S. presidential elections). Participants also had the opportunity to complete an additional post-election survey the day after the election was called for an additional US$2 ($n = 476$).

All analyses that compare Trump and Clinton supporters identify participants by the candidate for whom they indicated support in the pre-election survey.[3] We aimed to recruit at least 100 participants weekly leading up to the presidential election, following the recommendations of experts in the field (Vazire, 2015). Although we recruited 800 participants in our initial recruitment efforts (a new batch of 50 Clinton supporters and Trump supporters each week over the 8 weeks leading up to the election; see below for details), a total of 52 pre-election survey responses were removed from the data set due to participants completing the survey more than once per week or providing incomplete data that rendered their responses unusable for our analyses. After these 52 participants were deleted from the data set, 748 data points remained in the pre-election survey and 476 data points remained in the post-election survey. All materials and de-identified data are available on the Open Science Framework (https://osf.io/7j3ca/).

Procedure. Due to challenges of following participants longitudinally via MTurk, participants were recruited each week

Table 1. Intercorrelations Among Key Study Variables.

| | | Waiting | | Post-news | | | |
| | | | | Positive emotion | | Negative emotion | |
r (p)	PBF	Positive emotion	Negative emotion	Good news	Bad news	Good news	Bad news
Study 1							
Waiting							
PBF	—	—	—	.10 (.42)	.34 (.05)	-.08 (.52)	-.20 (.27)
Positive emotion	.10 (.25)	—	—	.28 (.02)	.06 (.72)	-.27 (.02)	.02 (.89)
Negative emotion	-.16 (.06)	-.33 (<.001)	—	-.03 (.83)	-.11 (.52)	.23 (.04)	.41 (.02)
Post-news							
Positive emotion	.004 (.96)	.26 (.006)	.12 (.23)	—	—	—	—
Negative emotion	-.02 (.85)	-.21 (.03)	.02 (.82)	—	—	—	—
Study 2							
Waiting							
PBF	—	—	—	-.28 (<.001)	.40 (<.001)	.24 (<.001)	-.40 (<.001)
Positive emotion	.05 (.21)	—	—	.33 (<.001)	.08 (.18)	-.29 (<.001)	.15 (.01)
Negative emotion	-.01 (.72)	-.56 (<.001)	—	.26 (<.001)	-.04 (.55)	.41 (<.001)	-.04 (.57)
Enthusiasm for non-preferred candidate (covariate)	.37 (<.001)	-.03 (.48)	.08 (.03)	-.24 (.003)	.39 (<.001)	.38 (<.001)	-.32 (<.001)
Post-news							
Positive emotion	-.13 (.003)	.25 (<.001)	-.17 (<.001)	—	—	—	—
Negative emotion	-.17 (<.001)	-.20 (<.001)	.28 (<.001)	—	—	—	—
Study 3							
Waiting							
PBF	—	—	—	.13 (.20)	.32 (<.005)	-.10 (.31)	-.07 (.57)
Positive emotion	.25 (<.001)	—	—	.61 (<.001)	.39 (<.001)	-.15 (.13)	-.02 (.86)
Negative emotion	.31 (<.001)	.03 (.54)	—	-.12 (.25)	.02 (.86)	.50 (<.001)	.46 (<.001)
Enthusiasm for non-preferred candidate (covariate)	.53 (<.001)	.20 (<.001)	.35 (<.001)	.09 (.37)	.23 (.04)	-.11 (.27)	.16 (.18)
Post-news							
Positive emotion	.20 (.01)	.48 (<.001)	-.07 (.32)	—	—	—	—
Negative emotion	-.06 (.44)	-.07 (.36)	.49 (<.001)	—	—	—	—
Study 4							
Waiting							
PBF	—	—	—	.44 (<.001)	.27 (<.001)	-.05 (.51)	.04 (.63)
Positive emotion	.33 (<.001)	—	—	.74 (<.001)	.82 (<.001)	.07 (.40)	.03 (.69)
Negative emotion	-.02 (.71)	.05 (.37)	—	.01 (.90)	.07 (.40)	.83 (<.001)	.77 (<.001)
Post-news							
Positive emotion	.36 (<.001)	.74 (<.001)	.06 (.33)	—	—	—	—
Negative emotion	-.02 (.72)	.07 (.20)	.74 (<.001)	—	—	—	—

Note. PBF = preemptive benefit finding.

Table 2. Multiple Regression Analyses Predicting Reactions to News From PBF.

Study 1

β [95% CI]	Good news (n = 73)			Bad news (n = 37)		
	PBF	Waiting emotion	R²	PBF	Waiting emotion	R²
Positive emotion	.07 [−0.16, 0.31]	.29* [0.05, 0.53]	.08	.36† [−0.01, 0.73]	−.0003 [−0.36, 0.36]	.12
Negative emotion	−.03 [−0.27, 0.22]	.24† [−0.004, 0.48]	.05	−.17 [−0.51, 0.17]	.40* [0.07, 0.73]	.20

Study 2

β [95% CI]	Good news (n = 223)				Bad news (n = 253)			
	PBF	Enthusiasm[a]	Waiting emotion	R²	PBF	Enthusiasm[a]	Waiting emotion	R²
Positive emotion	−.26** [−0.34, −0.12]	−.11† [−0.41, 0.03]	.32** [0.20, 0.43]	.21	.29** [0.15, 0.34]	.29** [0.37, 0.87]	.07 [−0.03, 0.13]	.24
Negative emotion	.18* [0.06, 0.25]	.25** [0.21, 0.60]	.37** [0.22, 0.43]	.29	−.30** [−0.40, −0.18]	−.23** [−0.83, −0.25]	.16* [0.05, 0.23]	.22

Study 3

β [95% CI]	Good news (n = 99)				Bad news (n = 77)			
	PBF	Enthusiasm[a]	Waiting	R²	PBF	Enthusiasm[a]	Waiting	R²
Positive emotion	.02 [−0.18, 0.24]	−.03 [−0.63, 0.45]	.61** [0.44, 0.77]	.37	.27* [0.02, 0.49]	.02 [−0.54, 0.63]	.37** [0.14, 0.50]	.24
Negative emotion	−.08 [−0.29, 0.11]	−.08 [−0.76, 0.27]	.50** [0.42, 0.87]	.27	−.20 [−0.48, 0.05]	.21 [−0.12, 1.20]	.43** [0.28, 0.80]	.25

Note. PBF = preemptive benefit finding; CI = confidence interval.

[a] Enthusiasm for non-preferred candidate.

†p < .10. *p < .05. **p < .01.

over the 7 weeks leading up to the 2016 presidential election using a cross-sectional panel design. The eighth and final pre-election survey was completed 1 day before the election. Following consent procedures, participants completed an online survey. At the end of the survey, participants had the option to provide their email address if they wished to complete a follow-up survey 1 day after the election. A total of 645 participants provided their email address, and 73.8% of these participants ultimately completed the second survey.

Measures

Pre-election survey. Participants responded to measures assessing candidate preference, political orientation, emotion, enthusiasm for each candidate, and the use of preemptive benefit finding. Other measures not pertinent to our current investigation were also included.

Using the Affect-Adjective Scale (Diener & Emmons, 1985), we assessed participants' current positive emotion (happy, pleased, joyful, enjoyment/fun; $1 = not\ at\ all$, $7 = extremely$; $M = 4.60$, $SD = 1.45$, $\alpha = .91$) and negative emotion (worried/anxious, angry/hostile, frustrated, depressed/blue, unhappy; $1 = not\ at\ all$, $7 = extremely$; $M = 2.48$, $SD = 1.41$, $\alpha = .91$).

Due to space limitations in the survey, preemptive benefit finding was assessed with one face-valid item that was nearly identical to one of the three items used in Study 1 ("I have been trying to focus on good things that might come if my preferred presidential candidate does not get elected"; $1 = strongly\ disagree$, $7 = strongly\ agree$; $M = 2.89$, $SD = 1.63$).

We also measured enthusiasm for the other candidate to use as control variables in our analyses ("To what extent are you enthusiastic about [Donald Trump/Hilary Clinton] becoming president?"; $1 = not\ at\ all$, $7 = extremely$; $M_{HC} = 1.42$, $SD_{HC} = 1.00$; $M_{DT} = 1.67$, $SD_{DT} = 1.16$).

Post-election survey. All participants reported their current emotional state ("right now") as before[4], but adding relief and disappointment to our measures of positive and negative emotions, respectively, given the context (four positive emotion items: $M = 3.35$, $SD = 2.31$, $\alpha = .97$; six negative emotion items: $M = 3.86$, $SD = 2.23$, $\alpha = .96$).

Results

Although not the focus of the study, we note that Trump supporters engaged in more preemptive benefit finding ($M = 3.10$, $SD = 1.61$) than did Clinton supporters ($M = 2.67$, $SD = 1.63$), $t(667) = 3.68$, $p < .001$, $d = .30$. As expected, preemptive benefit finding was unrelated to positive emotion, $r(748) = .05$, $p = .21$, and negative emotion, $r(748) = -.01$, $p = .72$, while waiting.[5]

To test our primary hypotheses, we ran multiple regression analyses predicting post-election emotions from preemptive benefit finding prior to the election, separately for Trump and Clinton supporters (see Table 1 for bivariate correlations among key measures). We also controlled for pre-election emotions and enthusiasm for the non-preferred candidate to rule out the possibility that preemptive benefit finding was simply a proxy for investment in the election or level of support for a particular candidate.[6] As hypothesized, Clinton supporters (i.e., those whose candidate lost the election) who engaged in more preemptive benefit finding prior to the election reported more positive emotion and less negative emotion following Election Day.

Trump supporters (i.e., those whose candidate won the election) who engaged in more preemptive benefit finding prior to the election reported less positive emotion and more negative emotion following the election. See Table 2 for full inferential model statistics.

Study 3

Study 2 provided clear support for Hypothesis 1 that engaging in preemptive benefit finding during an uncertain waiting period, in this case the wait for election results, predicts better well-being in the face of bad news. This finding is consistent with but more robust than the findings in Study 1, perhaps because participants were better able to generate compelling benefits of their preferred candidate losing the election, relative to generating those benefits for a devastating professional failure. This study also revealed a potential downside to engaging in preemptive benefit finding if the wait ultimately ends in success, supporting Hypothesis 2: Trump supporters who engaged in more preemptive benefit finding seemed to be somewhat emotionally underwhelmed by their victory.

Although these findings are promising when taken together, a clear limitation of this study was the single-item measure of preemptive benefit finding. In addition, the results of the 2016 U.S. presidential election largely defied pre-election polling, thus making the election outcome more surprising than usual and perhaps rendering voters' reactions to the outcome somewhat atypical. In Study 3, we sought to replicate the findings from Study 2 by assessing voters' reactions to a political outcome in the 2018 U.S. midterm election (which party would control the U.S. House of Representatives) using a more comprehensive measure of preemptive benefit finding.

Method

Participants.[7] Amazon MTurk workers (final $N = 428$; 193 preferred that the Republicans remain in control of the U.S. House of Representatives after the 2018 midterm election, 235 preferred that the Democrats gain control of the U.S. House of Representatives after the election; $M_{age} = 38.11$; 46% female; 76% White, 8% Black/African American, 6% Asian, 4% Hispanic/Latinx, 6% Other/Multi-ethnic) across the political spectrum were compensated US$1 for

completing a pre-election survey within 2 days prior to the midterm election. To participate in the study, MTurk workers had to support one of the two primary political parties (participants were not excluded based on personal political party or political orientation) and be over the age of 18 and a U.S. citizen. Participants also had to intend to vote in the election, accurately identify who was currently in control of the U.S. House of Representatives leading up to the 2018 midterm election, and have a preferred outcome (i.e., Republicans remain in control or Democrats gain control of the U.S. House of Representatives).

Participants then had the opportunity to complete a post-election survey the day after the election was called (relevant to which party would have control over the House of Representatives) for an additional US$2 ($N = 176$). We aimed to recruit at least 200 participants (100 Republican supporters and 100 Democrat supporters) but continued with data collection until the election occurred. A total of 36 pre-election survey responses were removed from the data set due to participants indicating that they did not currently live in the United States ($n = 1$) and reporting in the post-election survey that they voted for a different major party than they initially indicated supporting in the pre-election survey ($n = 35$). We strongly suspect that those who switched their apparent support between the two major parties with 48 hr were dishonest in one survey or the other. After these 36 participants were deleted from the data set, 428 data points remained in the pre-election survey and 176 data points remained in the post-election survey. All materials and de-identified data are available on the Open Science Framework (https://osf.io/kt6x7/).

Procedure. Participants were recruited 2 days prior to the 2018 midterm election. Following informed consent, participants completed an online survey. At the end of the survey, participants had the option to provide their email address to receive a follow-up survey 1 day after the election. A total of 307 participants provided their email address, and 57.3% of these participants completed the post-election survey ($n_{\text{Republican supporters}} = 77$, $n_{\text{Democrat supporters}} = 99$).

Measures

Pre-election survey. Participants responded to measures assessing their preference for the result of the midterm election with regard to the U.S. House of Representatives (i.e., which party would control the House), political orientation, emotion, enthusiasm for each outcome, and the use of preemptive benefit finding. Other measures not pertinent to this investigation were also included.

We used an adapted version of the GRID measure (Fontaine et al., 2007; Scherer, 2005) to measure positive emotions (nine items; for example, happiness, contentment, pride; $M = 3.86$, $SD = 1.31$, $\alpha = .91$) and negative emotions (15 items; for example, disappointment, hurt, irritation; $M = 1.82$, $SD = 1.05$, $\alpha = .96$).

Preemptive benefit finding was assessed with four items (e.g., "I have been trying to focus on good things that might come if the [Democrats gain/Republicans maintain] control of the U.S. House of Representatives after the U.S. midterm elections," "I feel I'll learn something from the experience if the [Democrats gain/Republicans maintain] control of the U.S. House of Representatives after the U.S. midterm elections"; 1 = *strongly disagree*, 7 = *strongly agree*; $M = 2.60$, $SD = 1.43$, $\alpha = .85$).

We also measured participants' enthusiasm for their non-preferred outcome ("To what extent are you enthusiastic about the [Republican Party/Democratic Party] [maintaining control/gaining control] of the House of Representatives following the 2018 U.S. midterm election?"; 1 = *not at all*, 7 = *extremely*; $M = 1.65$, $SD = 1.29$).

Post-election survey. As in Studies 1 and 2, participants reported their current positive emotions (four items; 1 = *not at all*, 5 = *extremely*; $M = 2.49$, $SD = 1.13$, $\alpha = .94$) and negative emotions (five items; 1 = *not at all*, 5 = *extremely*; $M = 1.70$, $SD = 0.87$, $\alpha = .92$) using the Affect-Adjective Scale.

Results

Consistent with Study 2, Republican supporters ($M = 2.89$, $SD = 1.54$) engaged in more preemptive benefit finding than did Democratic supporters ($M = 2.44$, $SD = 1.30$), $t(374) = 3.09$, $p = .002$, $d = .32$. Surprisingly, preemptive benefit finding was positively related to both positive emotion and negative emotion while waiting (see Table 1 for bivariate correlations).[8]

To examine associations between use of preemptive benefit finding prior to the election and post-election reactions, we ran multiple regression analyses predicting post-election emotions from preemptive benefit finding prior to the election, separately for Democrat supporters (i.e., those who preferred that the Democrats have control of the U.S. House after Election Day and ultimately received good news) and Republican supporters (i.e., those who preferred that the Republicans have control of the U.S. House after Election Day and ultimately received bad news). We once again controlled for pre-election emotions and enthusiasm for the non-preferred election outcome.[9] As hypothesized, Republican supporters who engaged in more preemptive benefit finding prior to the election reported more positive emotion and somewhat less negative emotion (albeit non-significantly so) following the Election Day. Among Democrat supporters, engaging in preemptive benefit finding prior to the election did not predict positive emotions or negative emotions following their electoral victory. See Table 2 for full inferential model statistics.

Study 4

Study 3 provides further support for Hypothesis 1 that engaging in preemptive benefit finding while waiting for news has

downstream benefits, particularly when faced with bad news at the end of the wait. Unlike in Study 2, we did not find support for Hypothesis 2 that engaging in preemptive benefit finding backfired on those who ultimately received good news. Studies 1 to 3 provide convincing evidence across three real-world waiting periods with significant consequences; however, none of the study designs allow us to draw causal conclusions regarding the benefits of engaging in preemptive benefit finding.

In Study 4, we experimentally manipulated participants' use of preemptive benefit finding as a coping strategy while they awaited the results of a (fictitious) health risk assessment, which allowed us to more clearly determine whether engaging in preemptive benefit finding buffers people against the emotional distress that would otherwise arise from receiving bad news. We preregistered the procedures described below, as well as some of the hypotheses we ultimately tested (https://osf.io/gka3f/). Specifically, we preregistered three hypotheses relevant to the current investigation: People prompted to engage in preemptive benefit would report (a) less negative emotion in response to bad news (a buffering effect), (b) less positive emotion in response to good news (a backfire effect), and (c) no difference in emotions during the waiting period. Our preregistered hypotheses focused on positive emotion in those who passed and negative emotion in those who failed simply due to the logical pairings of good news/positive emotional response and bad news/negative emotional response.

Method

Participants. Undergraduate students ($N = 293$; $M_{age} = 19.55$, $SD_{age} = 1.89$; 49% female; 40.9% Asian, 32.5% Hispanic/Latinx, 6.9% White/Caucasian, 3.9% Black/African American, 15.8% Other/Mixed) participated for course credit. We aimed to recruit 300 participants (100 per intervention prompt), again following the recommendations of experts in the field (Vazire, 2015).

Procedure. Upon arriving to the lab, participants were told that the study would assess their risk of environmental toxin exposure and then completed a baseline questionnaire assessing emotions and demographics. After receiving more information about toxin exposure, participants responded to a fictitious toxin risk inventory, designed to induce a sense of uncertainty about one's toxin exposure by including items that participants were very likely and very unlikely to endorse. On average, participants endorsed 11.40 out of 20 items (e.g., "Do you store food in plastic containers?" vs. "Have you ever had direct contact with asbestos?"). Participants were then randomly assigned to respond to one of three prompts for at least 1 min while they awaited the results from their risk assessment. The *preemptive benefit finding* prompt asked participants to write about the potential benefits of finding out that their toxin exposure is high; the *negative consequences* condition asked participants

to write about the potential downsides of finding out that their toxin exposure is high; and the *active control* prompt asked them to write about an activity they had engaged in that day to control for people's natural coping tendencies (see Table 3 for specific prompt wording and example responses). After completing the prompt, the research assistant asked the participant to wait as they calculated their level of toxin risk exposure, which took exactly 5 min.

To determine the effects of engaging in preemptive benefit finding while waiting, participants completed a second questionnaire at the end of the waiting period that assessed emotions and use of preemptive benefit finding. To determine the downstream consequences of engaging in preemptive benefit finding when responding to both good and bad news, participants were randomly given a slip in a manila envelope that stated whether the participant received a high-risk result (*bad news*; in the 85th percentile compared with same-age peers) or a low-risk result (*good news*; in the 15th percentile compared with same-age peers). Participants then completed a final post-news questionnaire assessing their emotional response to the news before being fully debriefed.

Measures. As in the previous studies, participants responded to measures of emotional well-being and preemptive benefit finding. All materials and de-identified data are available on the Open Science Framework (https://osf.io/gka3f/).

Baseline survey. As in Study 3, we used an adapted version of the GRID measure (Fontaine et al., 2007; 1 = *not at all*, 7 = *extremely*) to measure positive emotions (nine items; for example, happiness, contentment, pride; $M = 3.48$, $SD = 1.56$, $\alpha = .87$) and negative emotions (15 items; for example, disappointment, hurt, irritation; $M = 2.14$, $SD = 0.96$, $\alpha = .91$).

Waiting survey. Participants completed identical measures of positive emotions ($M = 3.85$, $SD = 1.12$, $\alpha = .83$) and negative emotions ($M = 2.36$, $SD = 1.08$, $\alpha = .92$) while waiting as in the baseline survey. Preemptive benefit finding was assessed with four items (e.g., "I have been trying to focus on good things that might come if I receive results suggesting that my toxin exposure is high," "I feel I'll learn something from the experience of receiving results suggesting that my toxin exposure is high"; 1 = *strongly disagree*, 7 = *strongly agree*; $M = 4.41$, $SD = 1.11$, $\alpha = .68$).

Post-news survey. After participants received their result, they again completed the measures of positive emotions ($M = 4.01$, $SD = 1.19$, $\alpha = .82$) and negative emotions ($M = 2.36$, $SD = 1.10$, $\alpha = .91$).

Results

Manipulation checks. We first sought to determine whether our two manipulations were successful—that is, whether

Table 3. Study 4 Experimental Prompts and Example Responses.

Condition	Experimental prompts	Example responses
Preemptive benefit finding	Please think of one benefit that would come from receiving results indicating that your toxin level risk is high. What silver linings can come from receiving results indicating that your toxin level risk is high? That is, list *at least one* benefit of receiving a high toxin risk result. Expand on your thinking: Why is what you listed a benefit? How is this benefit related to your health, feelings regarding your risk, or other goals?	Receiving results regarding my exposure to toxins can help me understand the potential sources and, as a result, can help me avoid coming into contact with hazardous sources of toxins present in my daily life. Avoiding these toxins can have benefits on my physical and mental health, which I feel can help me feel better about the world around myself.
Negative consequences	Please think of one negative that would come from receiving results indicating that your toxin level risk is high. What negative consequences can come from receiving results indicating that your toxin level risk is high? That is, list *at least one* bad thing of receiving a high toxin risk result. Expand on your thinking: Why is what you listed a negative consequence? How is this negative consequence related to your health, feelings regarding your risk, or other goals?	One negative consequence of receiving a high toxin risk would be that I would feel uncomfortable in my own environment. When I become stressed everyday due to my worry about having a high toxin level risk, my health would naturally decline and I would have less energy or motivation to achieve my goals.
Active control	Please think of the things you've done today. What is one thing you've done? That is, list *at least one* activity you've engaged in today. Expand on your thinking: Why is the activity you've listed relevant? How is this activity relevant to your typical day, personal goals, and feelings regarding your personal goals?	Today, I attended my first two classes of the day. That is the only thing that I have done today since waking up. This is how my days typically start on every Monday, Wednesday, and Friday. This is relevant toward my goals because it is important that I attend class so that I can get the grades that I need to achieve my ideal GPA.

Note. GPA = grade point average.

the relevant prompt encouraged the use of preemptive benefit finding as a coping strategy and whether our toxin risk feedback induced different emotional responses (see Table 1 for correlation coefficients of relevant measures and Table 4 for descriptive statistics for waiting and post-news well-being in each condition). We ran a one-way analysis of variance (ANOVA) to examine the effect of the prompt (preemptive benefit finding, negative consequences, and active control). Results suggest that there was a large effect of prompt on self-reported preemptive benefit finding engagement while waiting, $F(2, 290) = 8.77$, $p < .001$, partial $\eta^2 = .06$, with planned contrasts revealing that participants in the *preemptive benefit finding* condition engaged in more preemptive benefit finding while waiting than participants in the *negative consequences* condition, $F(1, 290) = 6.51$, $p = .01$, partial $\eta^2 = .02$, and the *active control* condition, $F(1, 290) = 17.22$, $p < .001$, partial $\eta^2 = .06$. Participants in the *negative consequences* condition reported non-significantly higher levels of preemptive benefit finding than participants in the *active control* condition, $F(1, 290) = 2.31$, $p = .13$, partial $\eta^2 = .01$.

We also ran *t* tests to determine whether our feedback manipulation affected emotions in the anticipated direction. We found that participants who received a high-risk result (i.e., bad news) felt less positive emotion ($M = 3.79$, $SD = 1.17$) and more negative emotion ($M = 2.64$, $SD = 1.06$) following news than participants who received a low-risk result (i.e., good news; positive emotions: $M =$

4.22, $SD =1.17$, $t = 3.18$, $p = .002$, Cohen's $d = .37$; negative emotions: $M = 2.10$, $SD =1.07$, $t = 4.32$, $p < .001$, Cohen's $d = .51$).

Effectiveness of preemptive benefit finding while waiting. We conducted one-way ANOVAs to examine the effects of prompt condition on positive and negative emotions at the end of the wait for toxin risk results (but prior to receiving news), controlling for baseline positive and negative emotions. Results suggest a nearly statistically significant overall effect of prompt on positive emotion while waiting, $F(2, 289) = 2.56$, $p = .08$, partial $\eta^2 = .02$. Planned contrasts suggest that participants in the *preemptive benefit finding* condition reported higher levels of positive emotion compared with participants in the *active control* condition, $F(1, 289) = 4.64$, $p = .03$, partial $\eta^2 = .02$, and slightly higher levels of positive emotion in the *preemptive benefit finding* condition compared with the *negative consequences* condition, although not statistically significant, $F(1, 289) = 2.79$, $p = .10$, partial $\eta^2 = .01$. The *active control* and *negative consequences* conditions experienced similar levels of positive emotion while waiting, $F(1, 289) = 0.19$, $p = .66$, partial $\eta^2 < .001$. We did not find an overall effect of prompt on negative emotions, $F(2, 289) = 0.94$, $p = .39$, partial $\eta^2 < .01$, or significant differences using planned contrasts across prompt conditions for negative emotion, Fs$(1, 289) < 1.64$, ps $> .19$, partial η^2s $< .01$.

Table 4. Descriptive Statistics by Condition (Study 4).

	Waiting M (SD)			Post-news M (SD)					
	PBF (n = 99)	Negative (n = 93)	Control (n = 101)	PBF (n = 49)	Negative (n = 51)	Control (n = 49)	PBF (n = 50)	Negative (n = 42)	Control (n = 52)
Condition				Good news			Bad news		
PBF	4.75 (1.06)	4.35 (1.02)	4.12 (1.15)	NA	NA	NA	NA	NA	NA
Positive emotion	3.94 (1.16)	3.81 (1.04)	3.79 (1.16)	4.25 (1.15)	4.28 (1.15)	4.14 (1.23)	4.03 (1.30)	3.60 (1.05)	3.71 (1.10)
Negative emotion	2.30 (0.97)	2.40 (1.15)	2.40 (1.12)	1.95 (1.07)	2.11 (1.09)	2.22 (1.07)	2.67 (0.87)	2.51 (1.04)	2.71 (1.25)

Note. PBF was assessed only following game play. PBF = preemptive benefit finding; NA = not applicable.

Downstream consequences of preemptive benefit finding. To test Hypothesis 1, we conducted one-way ANOVAs to examine the consequences of prompt condition on positive and negative emotions following the receipt of bad news (i.e., high toxin risk), controlling for baseline positive and negative emotions, respectively. Parallel to our preregistered hypothesis that engaging in preemptive benefit finding would protect emotional well-being in response to bad news, results suggest that there was an overall effect of prompt on positive emotion following bad news, $F(2, 140) = 3.07$, $p = .05$, partial $\eta^2 = .02$. We again ran planned contrasts and found that participants in the *preemptive benefit finding* condition reported higher levels of positive emotion compared with the *negative consequences* condition, $F(1, 140) = 5.63$, $p = .02$, partial $\eta^2 = .04$, and somewhat higher levels of positive emotion compared with the *active control* condition, $F(1, 140) = 3.15$, $p = .08$, partial $\eta^2 = .02$. Participants in the *negative consequences* and *active control* conditions reported similar levels of positive emotion following bad news, $F(1, 140) = 0.49$, $p = .48$, partial $\eta^2 = .003$. We did not find an effect of prompt on negative emotions overall following bad news, $F(2, 140) = 0.01$, $p = .99$, partial $\eta^2 < .001$, or significant differences using planned contrast across prompt conditions for negative emotion, Fs$(1, 140) < 0.03$, ps $> .87$, partial η^2s $< .001$.

Finally, we conducted similar one-way ANOVAs to examine the downstream consequences of prompt condition on well-being following the receipt of good news (i.e., low toxin risk). Contrary to Hypothesis 2 (preregistered) that engaging in preemptive benefit finding would predict less positive emotion in response to good news, we did not find a significant overall effect of prompt condition for positive emotion, $F(2, 145) = 0.90$, $p = .41$, partial $\eta^2 = .01$, nor significant differences using planned contrast across prompt conditions, Fs$(1, 145) < 1.71$, ps $> .19$, partial η^2s $< .01$. We similarly did not find a significant overall effect of prompt condition for negative emotion, $F(2, 145) = 0.43$, $p = .65$, partial $\eta^2 < .01$, nor significant differences using planned contrast across prompt conditions, Fs$(1, 145) < 0.73$, ps $> .39$, partial η^2s $< .01$.

Mini Meta-Analysis

Although our findings were generally consistent with our hypotheses, there was considerable variability across studies in terms of significant effects. To provide a sense of the average effect size and robustness of effects across the four studies, we conducted mini (internal) meta-analyses for Hypotheses 1 and 2 using a sample-size weighted method like the fixed-effects approach described by Goh et al. (2016) in their paper on internal meta-analyses. Due to differences in methods across studies, we sought a single analytic strategy for synthesis and ultimately opted to examine associations between preemptive benefit finding (self-reported) and emotions, either in bivariate correlations (for associations within the waiting period) or regression analyses controlling for waiting emotions (for associations with post-news emotions). We averaged across time points for waiting variables in Study 1.

This approach revealed relatively robust effects, generally consistent with our hypotheses. During the wait, the average association between preemptive benefit finding and positive emotion was moderate but robust ($r = .16$, $N = 1,619$, 95% CI = [0.11, 0.21]); the association with negative emotion was weak but, surprisingly, positive ($r = .06$, $N = 1,619$, 95% CI = [0.01, 0.11]).

Among those who received good news, preemptive benefit finding was negatively but very weakly associated with positive emotions ($r = −.03$, $N = 544$, 95% CI = [−0.11, 0.06]) and positively associated with negative emotions, as we tentatively hypothesized ($r = .12$, $N = 544$, 95% CI = [0.03, 0.20]). Among those who received bad news, preemptive benefit finding was positively and robustly associated with positive emotions ($r = .28$, $N = 508$, 95% CI = [0.20, 0.36]) and negatively and robustly associated with negative emotions ($r = −.15$, $N = 508$, 95% CI = [−0.23, −0.06]), as hypothesized.

General Discussion

Across four studies, we examined the links between emotional well-being and preemptive benefit finding when coping with uncertainty and following the resolution of that

uncertainty. Both studies of U.S. elections (both correlational) supported Hypothesis 1: Preemptive benefit finding while waiting predicted better emotional well-being following bad news. Specifically, people who experienced electoral loss consistently reported feeling more positive emotion following an undesired outcome to the extent they had considered the silver linings of bad news while waiting. Although the two election studies assessed preemptive benefit finding in personally relevant real-world contexts, the nature of the data limited our ability to test causal relationships.

To determine whether preemptively finding benefits in bad news while waiting causally affects how people respond to bad news, we experimentally manipulated preemptive benefit finding. Further supporting Hypothesis 1, findings from our experimental study revealed the usefulness of preemptive benefit finding. That is, compared with doing nothing or focusing on the downsides of a bad outcome, people who engaged in preemptive benefit finding reported greater positive emotion following bad news.

We also examined the possibility that preemptive benefit finding can backfire, such that doing so undermines pleasure over the receipt of good news. This tentative hypothesis was only supported in Study 2, whereas Studies 1, 3, and 4 found that preemptive benefit finding was unrelated to emotional well-being following good news. Importantly, everyone responded nearly equivalently after receiving good news in the experimental study (Study 4), suggesting that employing preemptive benefit finding comes with minimal to no cost for emotional well-being if a person ultimately receives good news.

Furthermore, when meta-analytically examining the benefits of preemptive benefit finding and emotions after news across all four studies, we come to a similar conclusion for both Hypotheses 1 and 2. The utility of preemptive benefit finding is strong for those who ultimately receive bad news; people report feeling more positive emotions and less negative emotions in response to undesirable outcomes to the extent to which they engage in preemptive benefit finding. Although we did not consistently see a backfiring effect for people who ultimately receive good news within our individual studies, our mini meta-analysis identified weak but notable positive and negative relationships between preemptive benefit finding and negative emotions and preemptive benefit finding and positive emotions, respectively.

Although preemptive benefit finding was not consistently linked with people's emotional state while waiting across studies, the mini meta-analysis revealed a moderately strong average association between preemptive benefit finding and positive emotion during the wait. This finding also emerged in our experimental study, providing further evidence that preemptive benefit finding has at least a mild benefit during waiting periods. Our manipulation may have been especially effective for boosting positive emotions due to the relatively deep level of engagement with benefit finding that it provoked. Participants in Studies 1 to 3 simply reported the

extent to which they were engaging in preemptive benefit finding, whereas participants in Study 4 generated and described their own benefits of bad news. A large body of literature finds that expressive writing benefits psychological and physical well-being and can facilitate meaning-making following a distressing event (Baikie & Wilhelm, 2005; Park et al., 2016; Pennebaker & Chung, 2007). It is possible that asking people to write about silver linings prior to a potentially distressing event shields them from the emotional suffering (or at least boosts concurrent positive emotions) that expressive writing is designed to ameliorate.

Limitations and Future Directions

The set of studies included in this article has several strengths. First, we assessed the relationship between preemptive benefit finding and emotional well-being across a range of contexts, including professional, political, and health. Second, we tested our hypotheses using real-world samples and correlational data and data from a well-controlled in-lab experimental study with an ethnically and culturally diverse sample of participants. Finally, we examined situations in which uncertainty lasted varying amounts of time, with the longest waiting period lasting 4 months (Study 1) and the shortest waiting period lasting 10 min (Study 4). This variability in our methods provides reassurance of the generalizability of our findings.

Despite these strengths, our studies were also limited in several ways that provide avenues for future research. First, one avenue for future inquiry is to tease apart the active ingredients of the manipulation we used in Study 4. It is possible that simply generating silver linings buffers emotional well-being following a negative outcome. Alternatively, it could be that the act of expressive writing in combination with generating silver linings has an additive effect. Breaking down which components of our manipulation are most effective would be useful for gaining a deeper understanding of preemptive benefit finding and ultimately creating a successful and scalable intervention.

Second, future studies should replicate and test the boundaries of our experimental finding. For example, the effectiveness of preemptive benefit finding may differ across varying levels of (un)certainty, well-being outcomes (e.g., stress, compassion, psychological needs), and timing during uncertain waiting periods. As a caveat, we caution that people should consider the benefits of other uncertainty-related coping strategies, such as bracing for the worst. Bracing, or lowering expectations at the moment of truth, can help people prepare for bad news by avoiding disappointment (e.g., Shepperd & McNulty, 2002). Testing the effectiveness of preemptive benefit finding in combination with other coping strategies would bolster our understanding of how to best cope with uncertainty.

Finally, preemptive benefit finding should be tested as an intervention while waiting for personally relevant news in

the real world. For example, future studies can prompt preemptive benefit finding in law school graduates as they await their bar exam results, voters leading up to the next election, or patients as they wait for medical test result to further test the generalizability of our experimental findings.

Conclusion

Our findings consistently demonstrate that benefit finding is advantageous even before news arrives. Preemptive benefit finding boosts emotional well-being while waiting, buffers the blow of bad news, and does not consistently undermine joy in response to good news. Returning to Elvis Presley's quote, how can people maximize emotional well-being when things go wrong? One way may be to shift focus from the dark cloud to the silver lining, even when waiting.

ORCID iDs

Kyla Rankin [iD] https://orcid.org/0000-0001-8837-3319

Kate Sweeny [iD] https://orcid.org/0000-0002-6653-422X

Notes

1. The "Participants" and "Procedure" sections are excerpted from Sweeny and Howell (2017), Study 1.
2. Portions of the "Participants" and "Procedure" sections are from Rankin and Sweeny (2019), Study 2.
3. All results remain the same if we remove participants who reported in the post-election survey that they voted for a different major party candidate than they indicated supporting in the pre-election survey (completing the pre-election survey as a Trump supporter then voting for Clinton, or vice versa; $n = 79$) or those who ultimately did not vote for Donald Trump or Hillary Clinton ($n = 56$).
4. Due to experimenter error, enjoyment/fun was not included in the post-election survey.
5. This was consistent for both Donald Trump supporters, positive emotion, $r(375) = .08$, $p = .12$, and negative emotion, $r(375) = -.04$, $p = .45$, and Hillary Clinton supporters, positive emotion, $r(373) = -.02$, $p = .75$, and negative emotion, $r(373) = .03$, $p = .60$.
6. Conclusions remained the same when controlling for enthusiasm for their preferred candidate and demographics, including gender, age, and socioeconomic status.
7. The "Participants" and "Procedure" sections are from Citation Blinded, Study 1.
8. This was consistent for both Republican supporters (positive emotion, $r = .23$, $p = .002$; negative emotion, $r = .40$, $p < .001$) and Democrat supporters (positive emotion, $r = .26$, $p < .001$; negative emotion, $r = .15$, $p = .03$).
9. Findings remained the same when controlling for enthusiasm for their preferred party and demographics, including gender, age, and socioeconomic status.

References

Baikie, K. A., & Wilhelm, K. (2005). Emotional and physical health benefits of expressive writing. *Advances in Psychiatric Treatment*, *11*(5), 338–346.

Diener, E., & Emmons, R. A. (1985). The independence of positive and negative affect. *Journal of Personality and Social Psychology*, *47*, 1105–1117. https://doi.org/10.1037/0022-3514.47.5.1105

Frazier, P., Tennen, H., Gavian, M., Park, C., Tomich, P., & Tashiro, T. (2009). Does self-reported posttraumatic growth reflect genuine positive change? *Psychological Science*, *20*(7), 912–919. https://doi.org/10.1111/j.1467-9280.2009.02381.x

Fontaine, J. R. J., Scherer, K. R., Roesch, E. B., & Ellsworth, P. C. (2007). The word of emotions is not two-dimensional. *Psychological Science*, *18*, 1050–1057.

Goh, J. X., Hall, J. A., & Rosenthal, R. (2016). Mini meta-analysis of your own studies: Some arguments on why and a primer on how. *Social & Personality Psychology Compass*, *10*(10), 535–549.

Grace, J. J., Kinsella, E. L., Muldoon, O. T., & Fortune, D. G. (2015). Post-traumatic growth following acquired brain injury: A systematic review and meta-analysis. *Frontiers in Psychology*, *6*, Article 1162.

Helgeson, V. S., Reynolds, K. A., & Tomich, P. L. (2006). A meta-analytic review of benefit finding and growth. *Journal of Consulting & Clinical Psychology*, *74*(5), 797–816. https://doi.org/10.1037/0022-006X.74.5.797

Howell, J. L., & Sweeny, K. (2016). Is waiting bad for subjective health? *Journal of Behavioral Medicine*, *39*(4), 652–664. https://doi.org/10.1007/s10865-016-9729-7

Jayawickreme, E., & Blackie, L. E. (2014). Post-traumatic growth as positive personality change: Evidence, controversies and future directions. *European Journal of Personality*, *28*(4), 312–331. https://doi.org/10.1002/per.1963

Joseph, S., & Linley, P. A. (2006). Growth following adversity: Theoretical perspectives and implications for clinical practice. *Clinical Psychology Review*, *26*, 1041–1053. https://doi.org/10.1016/j.cpr.2005.12.006

Krizan, Z., & Sweeny, K. (2013). Causes and consequences of expectation trajectories: "High" on optimism in a public ballot initiative. *Psychological Science*, *24*(5), 706–714. https://doi.org/10.1177/0956797612460690

Park, J., Ayduk, Ö., & Kross, E. (2016). Stepping back to move forward: Expressive writing promotes self-distancing. *Emotion*, *16*(3), 349–364. https://doi.org/10.1037/emo0000121

Pennebaker, J. W., & Chung, C. K. (2007). Expressive writing, emotional upheavals, and health. In H. S. Friedman & R. C. Silver (Eds.), *Handbook of health psychology* (pp. 263–284). Oxford University Press.

Rankin, K., Le, D., & Sweeny, K. (2019). Preemptively finding benefit in a breast cancer diagnosis. *Psychology & Health*, *35*(5), 613–628. https://doi.org/10.1080/08870446.2019.1664740

Rankin, K., & Sweeny, K. (2019). Divided we stand, united we worry: Predictors of worry in anticipation of a political election. *Motivation & Emotion*, *43*(6), 956–970. https://doi.org/10.1007/s11031-019-09787-5

Sawyer, A., Ayers, S., & Field, A. P. (2010). Posttraumatic growth and adjustment among individuals with cancer or HIV/AIDS: A meta-analysis. *Clinical Psychology Review*, *30*(4), 436–447. https://doi.org/10.1016/j.cpr.2010.02.004

Scherer, K. R. (2005). What are emotions? And how can they be measured? *Social Science Information*, *44*, 693–727.

Shakespeare-Finch, J., & Lurie-Beck, J. (2014). A meta-analytic clarification of the relationship between posttraumatic growth and symptoms of posttraumatic distress disorder. *Journal of Anxiety Disorders*, *28*(2), 223–229. https://doi.org/10.1016/j.janxdis.2013.10.005

Shepperd, J. A., & McNulty, J. K. (2002). The affective consequences of expected and unexpected outcomes. *Psychological Science*, *13*(1), 85–88. https://doi.org/10.1111/1467-9280.00416

Shepperd, J. A., Ouellette, J. A., & Fernandez, J. K. (1996). Abandoning unrealistic optimism: Performance estimates and the temporal proximity of self-relevant feedback. *Journal of Personality & Social Psychology*, *70*(4), 844–855. https://doi.org/10.1037/0022-3514.70.4.844

Sweeny, K., & Andrews, S. E. (2014). Mapping individual differences in the experience of a waiting period. *Journal of Personality & Social Psychology*, *106*(6), 1015–1030. https://doi.org/10.1037/a0036031

Sweeny, K., & Cavanaugh, A. G. (2012). Waiting is the hardest part: A model of uncertainty navigation in the context of health. *Health Psychology Review*, *6*(2), 147–164. https://doi.org/10.1080/17437199.2010.520112

Sweeny, K., Christianson, D., & McNeill, J. (2019). The psychological experience of awaiting breast diagnosis. *Annals of Behavioral Medicine*, *53*(7), 630–641. https://doi.org/10.1093/abm/kay072

Sweeny, K., & Dooley, M. D. (2017). The surprising upsides of worry. *Social & Personality Psychology Compass*, *11*, Article e12311. https://doi.org/10.1111/spc3.12311

Sweeny, K., & Falkenstein, A. (2015). Is waiting the hardest part? Comparing the emotional experiences of awaiting and receiving bad news. *Personality and Social Psychology Bulletin*, *41*(11), 1551–1559. https://doi.org/10.1177/0146167215601407

Sweeny, K., & Howell, J. L. (2017). Bracing later and coping better: Benefits of mindfulness during a stressful waiting period. *Personality & Social Psychology Bulletin*, *43*(10), 1399–1414. https://doi.org/10.1177/0146167217713490

Sweeny, K., Reynolds, C. A., Falkenstein, A., Andrews, S. E., & Dooley, M. D. (2016). Two definitions of waiting well. *Emotion*, *16*(1), 129–143. https://doi.org/10.1037/emo0000117

Sweeny, K., & Shepperd, J. A. (2010). The costs of optimism and the benefits of pessimism. *Emotion*, *10*(5), 750–753. https://doi.org/10.1037/a0019016

van Dijk, W. W., & van der Pligt, J. (1997). The impact of probability and magnitude of outcome on disappointment and elation. *Organizational Behavior and Human Decision Processes*, *69*(3), 277–284. https://doi.org/10.1006/obhd.1997.2688

Vazire, S. (2015, March 22). *Open letter to editors*. http://sometimesimwrong.typepad.com/wrong/2014/10/open-letter-to-editors.html