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Preemptively finding benefit in a breast cancer diagnosis

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ABSTRACT

Objective: The current mixed-method investigation seeks to discover if and how people engage in preemptive benefit finding (i.e. seeking silver linings in a potential future outcome), specifically in the context of awaiting a breast biopsy result. **Design:** A total of 201 patients were interviewed just prior to undergoing a breast biopsy at a county hospital. **Main outcome measures and results:** A qualitative analysis identified themes in women's descriptions of preemptive benefit finding. A majority of participants (76%) reported engaging in preemptive benefit finding at their appointment, a week or more before learning their result. Patients identified two categories of benefits – self- and other-focused – and eight subcategories: health benefits, personal growth, appreciation for life, physical change, strengthening relationships, spreading awareness, supporting others, and role modelling. We also identify differences between those who engaged in self-focused and other-focused preemptive benefit finding. **Conclusion:** Benefit finding begins long before bad news arrives, and people find a variety of benefits in even the most dire of anticipated news. Clinicians who interact with patients during the diagnostic process (e.g. mammography technicians) may find it useful to know that their patients are already grappling with the possibility of a diagnosis, including the positive reappraisal process of identifying potential silver linings.

The American Cancer Society estimates that over 250,000 women in the United States will be diagnosed with invasive breast cancer in the year 2017 alone (American Cancer Society, 2017). Prior to diagnosis, women undergo diagnostic procedures during which they face stressful uncertainty about whether they will be added to that number. This period of uncertainty often begins with women discovering a lump in the breast, either on their own or at a doctor's appointment. At this point, patients are thrust into a series of medical tests and procedures that culminate in a biopsy to definitively determine the nature of the lump. As patients await their biopsy results, they vacillate between hopeful optimism and fearful pessimism as they attempt to cope with the possibility that they may be told, 'It's cancer'. Is there anything patients can do to prepare for the possibility of bad news? In the present investigation, we explore one

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strategy that might serve to build psychological resources during these moments of acute uncertainty. Specifically, we examine the incidence and nature of preemptive benefit finding, a strategy in which people find silver linings in the possibility of a cancer diagnosis in an effort to reappraise the feared outcome as less devastating (i.e. engaging in benefit finding before the outcome is known).

The waiting game

The stressful waiting period reviewed above is a common experience. Research has emphasised the importance of understanding the 'waiting game' (i.e. the period of time in which women await breast diagnosis) given the significant distress many women experience during this period (Poole, 1997). In fact, women in one study who were uncertain about their diagnosis of breast cancer displayed similar cortisol levels as women who recently learned they had a malignant disease (i.e. breast cancer; Lang et al., 2009). In another study, women diagnosed with breast cancer were interviewed after their mastectomy surgery and asked which phase of the process was the most stressful for them (i.e. diagnostic phase, treatment phase, post-treatment phase; Northouse, 1989). A large majority (83%) categorised the 'diagnostic phase' (i.e. the period of time prior to receiving a diagnosis of breast cancer) as the most stressful phase due to the uncertainty inherent to that phase and the lack of support they received during it. The 'waiting, not knowing' phase (O'Mahoney, 2001) prompts experiences of worry and confusion across a variety of medical contexts (Boivin & Lancastle, 2010; Northouse et al., 1997; O'Mahony, 2001; Ockhuijsen et al., 2014; Poole et al., 1999) and is associated with poor sleep and poor subjective health (Howell & Sweeny, 2016).

Coping with uncertainty

People have a number of coping strategies at their disposal when awaiting health-related news. The uncertainty navigation model (Sweeny & Cavanaugh, 2012) outlines a set of coping strategies that are particularly, and in some cases uniquely, relevant during acute moments of uncertainty, including consequence mitigation (proactively managing objective and psychological consequences of receiving bad news about one's health), direct emotion management (distracting oneself from or suppressing thoughts and feelings about the uncertain future), and most pertinent to the current investigation, reappraisal (reevaluating the situation in a way that makes it feel more manageable). Reappraisal comes in several forms (including bracing for the worst and maintaining hope and optimism), but one that has received relatively little empirical attention is preemptive benefit finding or seeking silver linings in an undesirable outcome before that outcome has come to pass (Sweeny & Andrews, 2014; Sweeny, Christianson, & McNeill, 2019; note that the word 'preemptive' has been added in later iterations of the model to distinguish it from post-traumatic benefit finding).

Preemptive benefit finding

Although little research has examined the process of preemptively engaging in benefit finding during periods of uncertainty, a number of studies have confirmed

the value in benefit finding after uncertainty has been resolved. People who seek benefits in unpleasant and even traumatic experiences accrue a wide array of positive outcomes because they see difficult, traumatic events as chances for self-development and appreciate the positives of the situation (Davis et al., 1998; Lancastle & Boivin, 2008). Other work in this area has focused on the links between benefit finding and physical health, suggesting that the benefits of engaging in this coping strategy extend past the psychological effects (Bower et al., 2009).

Particularly relevant to our investigation, in a longitudinal study of women with early-stage breast cancer, 83% of women found at least one benefit in being diagnosed with cancer (Sears et al., 2003). In fact, engaging in benefit finding during the early stages of a breast cancer diagnosis predicts better well-being, lasting four to seven years (Carver & Antoni, 2004). Other findings have linked benefit finding to posttraumatic growth (Mols et al., 2009). A meta-analyses of 87 studies found that benefit finding after a traumatic life event (e.g. cancer diagnosis, war) was unrelated to anxiety and global distress (negative affect, overall mood) but predictive of positive markers of well-being (positive affect, self-esteem, life satisfaction) and less depression (Helgeson et al., 2006).

Current study

Taken together, these studies suggest that engaging in benefit finding is associated with psychological well-being in people dealing with difficult life events, including breast cancer. We seek to extend this research backwards in time, so to speak, to determine whether people initiate the process of benefit finding prior to a cancer diagnosis. Perhaps people are only motivated to reappraise cancer as conferring some benefit when they come face-to-face with the reality of a diagnosis, but we suspect otherwise. Some women awaiting diagnosis have described the wait for biopsy results as a 'preparatory period' (Poole et al., 1999), allowing them time to reflect on the situation, adjust to the possibility of having breast cancer, and begin planning for the next steps of the healthcare process. We reasoned that one aspect of this preparatory process might entail adjusting one's perspective on breast cancer to minimise the psychological blow of a diagnosis. Thus, the aim of the present study was to determine whether women engage in preemptive benefit finding in the context of awaiting a breast biopsy result, and if so, what benefits they anticipate. We took an exploratory approach to these questions using transcripts from interviews with women at a biopsy appointment.

We did not endeavour in this investigation to determine whether preemptive benefit finding is an effective strategy, but rather the extent and nature of its use in this context. In fact, studies of other waiting periods (i.e. the wait for bar exam results) have found no association between preemptive benefit finding and measures of distress during the relevant waiting period (Howell & Sweeny, 2016; Sweeny & Andrews, 2014; Sweeny, Reynolds, Falkenstein, Andrews, & Dooley, 2016). More relevant to the current investigation, initial quantitative analyses of the dataset used here revealed no relationship between patients' use of preemptive benefit finding (a simple

yes/no question) and markers of distress at the biopsy appointment (Sweeny, Christianson, & McNeill, in press). Of course, preemptive benefit finding is a forward-looking coping strategy, better suited to preparing for the worst than to regulating current emotions. Consistent with this reasoning, one study thus far has demonstrated an apparent benefit of preemptive benefit finding for emotional reactions to bad news (Rankin & Sweeny, unpublished). Although the context of that study differed from the context of the present investigation, this finding provides initial evidence that preemptive benefit finding is a useful preparative strategy during acute moments of uncertainty. Thus, we take a mixed-methods approach, using both qualitative and quantitative analyses (Dures, Rumsey, Morris, & Gleeson, 2011; Yardley & Bishop, 2015) to seek a deeper, richer understanding of this strategy during a highly consequential waiting period. Mixed-method studies have been successful in better understanding important issues within health psychology, including therapy decisions of breast cancer survivors (Bluethmann et al., 2017), health behavior change intervention engagement (Morrison, Moss-Morris, Michie, & Yardley, 2014; Smith et al., 2017), and the psychological and academic stressors of children of immigration (Suárez-Orozco & Todorova, 2006).

The specific goals of this mixed-method analysis are twofold. Given the limited research on preemptive benefit finding, the first goal of our study was to qualitatively examine women's response as they engaged in preemptive benefit finding while they awaited their breast biopsy results. This inductive assessment ensured that we considered the full range of ways in which women engaged in preemptive benefit finding. As described in detail below, this step revealed two broad categories of preemptive benefit finding: self-oriented and other-oriented. Therefore, the second goal of this study was to quantitatively explore differences between women who identified self-oriented versus other-oriented benefits of a cancer diagnosis with regard to demographics, management of expectations, and indicators of distress. This mixed-method approach provides a uniquely rich understanding of the nature, predictors, and potential consequences of preemptive benefit finding in the important context of breast cancer diagnosis.

Method

Participants

The sample consisted of 212 women (see Table 1 for sample characteristics) at an appointment for a breast biopsy in the Radiology Department at a large hospital from April 2015 to March 2017. Women who were between the ages of 18 and 90 years old, who spoke English or Spanish, and who were able to consent were eligible to participate in this study. Hospital staff briefly introduced the study to patients during an appointment reminder phone call, and interested patients arrived 30 min early to their appointment to meet the researcher. This study was approved by the Institutional Review Boards of the authors' university and the hospital at which the interviews were conducted. The study was funded by intramural grants from the authors' institution and university system.

Table 1. Sample characteristics.

Demographic variable	($n = 201$)
% female	100
Mean age	46.3
Education	−
Did not complete high school	47%
Completed high school only	35%
Completed college (2- or 4-year degree)	18%
Insured (any)	89%
Employed	35%
Mean health literacy (out of 7)	5.8
Ethnicity: Hispanic/Latina	75%
Race	−
White/Caucasian	70%
Black/African-American	10%
Asian	3%
Native Hawaiian/Pacific Islander	1%
American Indian/Alaska Native	<1%
Other/multiple	15%
Completed interview in Spanish	58%
Religious affiliation (any)	81%
Health history	
Personal history of breast cancer	14%
Family history of breast cancer	29%
Marital status: married	52%
Parental status: at least 1 child	93%

Procedure

Upon arrival at their appointment, a trained researcher approached eligible patients and introduced the study. Following written consent procedures, the researcher conducted a guided interview with the aid of a tablet computer. This interview was conducted in the preferred language of the patient (English or Spanish; no patient was ineligible due to language barriers) and lasted approximately 30 min or until hospital staff needed to start the biopsy procedure. All interviews were audio-recorded for later transcription. Patients were reasonably compensated for participating in this interview. The interview addressed numerous issues not pertinent to the current investigation.[1]

Relevant to our research questions, patients were asked, 'Can you think of any good that might come out of it, any silver lining, if you find out you need to get treatment?' We opted to ask about the possibility of needing treatment rather than ask directly about a cancer diagnosis to minimise distress in our patients. If the patient responded 'yes', the researcher then asked, 'What kind of good do you think might come out of that experience?' Given that this question was only one of many in a lengthy interview, responses provided by patients were relatively brief. Of the 212 patients who began the interview, 11 (5%) interviews were cut short due to time constraints, and thus the patient was not asked the questions pertinent to our inquiry. Sample characteristics for the relevant set of participants ($n = 201$) are provided in Table 1.

Data analysis

Our approach to analysing these data in a qualitative manner paralleled thematic analysis procedures (Braun & Clarke, 2006), capitalising on the exploratory, 'data-driven'

aspect of thematic analysis. Procedures for thematic analysis are as follows: transcribing and reading through responses, selecting codes and themes, assessing the selected codes and themes for appropriateness, and finalising codes and themes. We did not strictly follow the thematic analytic method outlined by Braun and Clarke (2006); however, the flexibility of the method is noted as one of the greatest benefits of this procedure. Specifically, we did not complete multiple iterative processes of our coding and theme identification, as we found our initial codes and themes to be sufficient for our data.

Transcribing. All audio recordings were transcribed by trained research assistants who were fluent in the language in which the interview was conducted. Spanish transcripts were then translated into English by a research assistant who was fluent in both English and Spanish. The first and second author read through all of the responses several times to gain an understanding of the benefits women identified.

Coding. The first and second author, with consultation by the senior author, discussed patterns they observed in patients' responses and made initial determinations about which codes would be most appropriate to capture these responses. Collectively, we identified eight preemptive benefits articulated in the responses and selected the following codes to capture these benefits: health benefits, personal growth, appreciation for life, physical change, strengthening relationships, spreading awareness, supporting others, and role modelling. Two overarching themes were then identified to organise the benefits articulated in patients' responses. These themes were self-oriented benefits and other-oriented benefits. Self-oriented benefits reflect how the patient might individually benefit from a cancer diagnosis, including the subcategories of health-related outcomes, personal growth, appreciation for life, and physical change. Other-oriented benefits reflect how people other than the patient might benefit from the patient's potential cancer diagnosis, including the subcategories of strengthening relationships, spreading awareness, supporting others, and role modelling.

After finalising the codes and themes, the first and second authors independently coded each response into one or more of the subcategories. The coding categories were not mutually exclusive (i.e. some responses mentioned multiple benefits). All disagreements between the two coders were resolved through discussion with the senior author.

Measures

Demographics. Relevant to our analyses, participants reported their age, whether they identified as Latina, their level of educational attainment, their marital status, and their degree of religiosity ('I am a religious person', 1 = *strongly disagree*, 7 = *strongly agree, M* = 5.61, *SD* = 1.82).

Distress. We included three measures of distress. First, participants completed the emotional and physical subscales of the Psychological Consequences Questionnaire (PCQ), which assesses the extent to which women are having difficulty with the situation of undergoing a breast biopsy test (nine items, e.g. 'had trouble sleeping', 'felt worried about the future'; 1 = *none of the time*, 4 = *all of*

the time; M = 1.90, SD = .66, α = .89). Second, we assessed current negative emotions (tense, worried, ashamed, upset, angry; 1 = strongly disagree, 7 = strongly agree, M = 3.55, SD = 1.35, α = .75). Third, we used items adapted from the Rumination about an Interpersonal Offense Scale to assess perseverative thoughts (three items, e.g. 'I couldn't stop thinking about breast cancer'; 1 = strongly disagree, 7 = strongly agree, M = 4.05, SD = 1.95, α = .80).

Expectation management. We assessed the ways in which participants were managing their expectations about their biopsy result in three ways (for all, 1 = strongly disagree, 7 = strongly agree): bracing ('I am bracing for the worst'; M = 3.91, SD = 2.46), hope ('I am hoping for the best'; M = 6.90, SD = .53), and optimism ('I am trying to be optimistic'; M = 6.75, SD = .75).

Results

Of the 201 participants asked, 25 did not engage in preemptive benefit finding and 24 seemed to misunderstand the question or provided responses that were irrelevant to preemptive benefit finding (e.g. 'the good would be that it comes back negative'). Thus, a majority of participants (n = 152; 76%) engaged in some form of preemptive benefit finding. Of these participants, 13 were unsure of what the benefit may be. These exclusions left a total of 139 responses to be coded into content categories, 105 of which came from patients who identified as Latina. Below we note the percentage of the sample that articulated each benefit (i.e. subcategories). Given the range of responses and novel research questions posed in this study, we opted to provide numeric incidences of coded responses here due to our large sample size. All percentages below are calculated using the sample of 139 patients who identified at least one benefit. The example responses below have been edited lightly for clarity (e.g. removing dysfluencies and fillers like 'um' or 'uh').

Self-Oriented benefits

Health-related. Sixty-one participants (44%) stated that being diagnosed with breast cancer would benefit their health in some way. Many of these participants thought that receiving a breast cancer diagnosis would help them receive treatment earlier, giving them a better chance to beat cancer, but some also suggested that it would encourage them to become healthier in ways not directly related to breast cancer (e.g. quit smoking). For example:

> Probably a wakeup call that maybe I need to get healthier.

> I'm supposed to quit smoking, so I'd probably end up quitting smoking, so that's a positive.

> Hopefully if they do find something that it's early and that they could deal with it and they can work with it and I can come out victorious!

Personal growth. Twenty-three participants (17%) stated that being diagnosed with breast cancer would lead to some form of personal growth, including becoming a stronger person and valuing life more. For example:

> I think I will be psychologically stronger.

> Sometimes life is going too well that we start to take things for granted and we don't realise how things truly are … It does help you in life to become better and to see things more positively.

> That I will triumph again. I overcame once, that I will do the same this time.

Appreciation. Thirteen participants (9%) stated that being diagnosed with breast cancer would help them gain more of an appreciation for the things in their lives. For example:

> You learn to value life.

> I'd learn to appreciate life more.

> I know every once in a while I take [family] for granted, don't really quite appreciate it for what it is.

Physical change. Three participants (2%) mentioned that a benefit to being diagnosed with breast cancer would be an alteration in their physical appearance (i.e. breast reduction). These participants also seemed to incorporate humour into their responses, making light of a potential physical transformation. For example:

> I can get smaller bras [laughter].

> I have real ugly boobs, so if they took those away, I would be just fine with that, plus nobody uses 'em anymore [laughter].

> Not having breasts. Yeah! They're overrated anyways. [laughter] They are. I'm like, they are so overrated …

Other-Oriented benefits

Strengthening relationships. Thirty-four participants (24%) stated that being diagnosed with breast cancer would strengthen their relationships with others, as well as others' relationships with each other (e.g. family members would come together). Participants also frequently stated that a cancer diagnosis would strengthen their relationship with God or that the benefit of the diagnosis was 'up to God'. For example:

> I think it will bring the family closer to each other.

> Maybe my family might love me more and realise that I mean something to them.

> To value family and to be closer to God. And thank God for every day.

Awareness. Eighteen participants (13%) stated that being diagnosed with breast cancer would motivate them to spread awareness about breast cancer. For example:

> I want that what I have lived or what I will live or what is coming to have a good purpose. To help or to prevent something for my daughters that my family can see.

Yeah, awareness. I can share that with family and friends.

Just family members being more aware of it and making sure they get their breast exams and mammograms on time and stuff.

Supporting others. Eleven participants (8%) stated that being diagnosed with breast cancer would allow them to provide social support to others. For example:

If can get through this, with a goal in mind, I can help others that might go through the same.

To help other people, you know, be aware of the good and the bad. What support groups are out there to help them cope with it along the way.

If I have clients or friends that are going through it, I can help them make informed decisions … I can file reports with administrators with the hospital or other organisations to make it safe for other people.

Role modelling. Nine participants (6%) stated that being diagnosed with breast cancer would make them a role model to others. For example:

I think that being a pillar of strength for others is important.

Probably depending on how I deal with it and what I do, I could be a good role model … for my daughters in the event they should ever get diagnosed.

Being a testimony to somebody else who might be going through it. Even if it's not breast cancer … You can do things to change it or cope with it in a way that it doesn't consume you.

Characteristics associated with Self-Oriented vs. Other-Oriented benefits

Following our qualitative analysis of participants' responses, we conducted quantitative analyses comparing participants who identified only self-oriented benefits (self-only; 53%), only other-oriented benefits (other-only; 34%) or at least one benefit falling into each category (both; 12%). We conducted one-way ANOVAs followed by weighted contrast post-hoc tests comparing each group to the others (i.e. self-only vs. other-only, self-only vs. both, and other-only vs. both) for continuous measures (we focus on the weighted contrast tests below) and chi-square tests for categorical measures.

Regarding demographic characteristics, participants who engaged in other-only preemptive benefit finding were older on average ($M = 48.57$, $SD = 11.21$) than participants who engaged in self-only benefit finding ($M = 44.63$, $SD = 10.82$), $F(1, 133) = 3.69$, $p = .057$ or a combination of both ($M = 42.47$, $SD = 10.16$), $F(1, 133) = 3.90$, $p = .051$. Regarding education, participants who engaged in both other- and self-oriented preemptive benefit finding tended to be more educated on average ($M = 3.59$, $SD = 2.18$, where $3 = $ *completed high school only* and $4 = $ *completed some college*) compared to participants who engaged in self-only preemptive benefit finding ($M = 2.63$, $SD = 1.71$, where $2 = $ *completed some high school*), $F(1, 130) = 3.84$, $p = .052$; other-only participants were in between ($M = 3.11$, $SD = 1.78$) and did not differ from self-only participants, $F(1, 130) = 1.93$, $p = .17$ or participants who engaged in both, $F(1, 130) = 0.86$, $p = .35$. Regarding ethnicity, Latina participants were most likely to

engage in self-only preemptive benefit finding (59% of Latina participants), followed by other-only (28%), and then both (13%). In contrast, non-Latina participants were most likely to engage in other-only preemptive benefit finding (52%), followed by self-only (36%) and both (12%), $\chi^2(2) = 6.47$, $p = .04$. Finally, the pattern for married vs. non-married participants differed, such that nearly all of the participants who engaged in both self- and other- preemptive benefit finding were married (81% of those participants), whereas self-only (48% married, 52% non-married) and other-only participants (49% married, 51% non-married) were more evenly split, $\chi^2(2) = 6.47$, $p = .04$.

Turning to expectation management strategies, we found no differences across preemptive benefit finding groups in hope, $Fs < 1$, $ps > .35$ or optimism, $Fs < 1.30$, $ps > .25$. Inspection of the means and distribution for these items revealed a ceiling effect that resulted in a restriction of range, such that 95% of participants indicated a 7 out of 7 for hope, and 86% of participants indicated a 7 out of 7 for optimism, thus rendering group differences nearly impossible to detect. In contrast, the groups differed in the extent to which they braced for the worst, such that self-only participants engaged in more bracing ($M = 4.30$, $SD = 2.36$) than other-only participants ($M = 3.21$, $SD = 2.39$), $F(1, 132) = 5.95$, $p = .02$; participants who engaged in both were in between ($M = 3.94$, $SD = 2.26$) and did not differ from self-only, $F(1, 132) = 0.31$, $p = .58$ or other-only participants, $F(1, 132) = 1.10$, $p = .30$.

Turning lastly to our measures of distress, we found no group differences in scores on the PCQ subscales, $Fs < 1$, $ps > .45$, negative emotion, $Fs < 1$, $ps > .45$ or rumination, $Fs < 2.1$, $ps > .15$.

Discussion

The primary goal of our investigation was to provide the first documentation of preemptive benefit finding in the context of breast cancer – or for that matter, in any health context. Surprisingly, a large majority of women in our study had already identified silver linings in a cancer diagnosis, well in advance of the diagnosis itself. It seems that this form of coping is not simply a reaction to the blow of bad news but rather a strategy that people proactively pursue (see Aspinwall & Taylor, 1997 for a review of proactive coping strategies). The percentage of women in our study who identified an interpretable benefit from the possibility of a breast cancer diagnosis (76%) was similar to the percentage in a study of early-stage breast cancer patients undergoing treatment (83%; Sears et al., 2003).

Furthermore, women described an array of potential benefits, often listing more than one way that a cancer diagnosis would have positive effects on their lives. Most of these benefits could be loosely identified as either self- or other-oriented. As a reminder, self-oriented benefits focused on private, internal benefits, and other-oriented benefits focused on how the patient's experience can benefit others or their relationship with others.

Interestingly, the benefits our patients identified were very similar to those identified by early-stage breast cancer patients in the study mentioned earlier (Sears et al., 2003). The researchers who conducted that study categorised their patients' responses

into six primary categories, largely aligning with established subscales in a post-traumatic growth inventory (Tedeschi & Calhoun, 1996): relating to others (the most common benefit identified by patients in that study), new possibilities, personal strength/growth, spirituality, appreciation of life, and health-related benefits. Our team was blind to these existing categories at the time of coding, and thus our findings provide converging evidence for a set of benefits patients consistently identify when considering an impending or existing diagnosis of breast cancer. Similar thematic categories have emerged in other health contexts (e.g. during a SARS outbreak; Cheng et al., 2006).

Upon identifying the distinction between self- and other-oriented benefits, we pursued the secondary goal of comparing women who identified only self-oriented benefits, only other-oriented benefits or benefits of both types. This aspect of our investigation was post-hoc and exploratory, and thus we must interpret the findings with caution. Nonetheless, our analyses revealed a number of demographic factors that differed across these groups. Older patients were particularly likely to focus on benefits for others, perhaps reflecting shifts in focus that often occur with age and a shortened personal timeline (see Charles, 2010). Although rare overall, more educated patients were most likely to identify a combination of self- and other-oriented benefits, which may simply reflect more flexible thinking that develops with education (Kim, 2008). We also found variability based on ethnicity, perhaps surprisingly such that Latina patients were particularly likely to identify self-oriented benefits despite cultural values of *familismo* (a strong emphasis on family; Campos, Perez, & Guardino, 2016; Campos, Ullman, Aguilera, & Dunkel Schetter, 2014). This finding in particular deserves further study.

Interestingly, we did not find differences between groups on any measure of distress, suggesting that preemptive benefit finding may be an equally effective (or ineffective; see Sweeny et al., in press) strategy for managing distress related to cancer whether self-oriented, other-oriented or both. However, we found that women who focused on self-oriented benefits reported bracing for the worst more so than women who focused on other-oriented benefits. It may be that bracing entails an inward focus on preparing oneself for the worst, which prompts people to focus more on the benefits one might personally accrue if the worst transpires. Of course, these findings are correlational, and thus the causal nature of this relationship is a target for further investigation.

Limitations and conclusions

Although our investigation provides an important first look at the process of preemptive benefit finding, it was limited in several ways. First, our analysis of the types of preemptive benefit finding was qualitative in nature, and thus we cannot definitively determine whether people are more likely to preemptively identify some types of benefits more than others. Perhaps the patients in our study would have responded differently if we had provided a list of possible benefits for them to endorse rather than leaving it to them to generate benefits in an open-ended fashion. Nonetheless, we observed that a common theme throughout the subcategories of benefits was a

connection to family – whether gaining an appreciation of family, promoting awareness of screening and cancer risk with one's daughters, serving as a role model for one's children or strengthening relationships with family members. Social support is a crucial resource when facing a diagnosis of breast cancer (e.g. Holland & Holahan, 2003), but support efforts can backfire if they miss the mark or make the support recipient feel needy or weak (Peters-Golden, 1982). Perhaps preemptively seeking socially-oriented benefits in a cancer diagnosis can prepare people to more openly receive support from loved ones.

Of course, our investigation also had a number of strengths. The sample size was quite large for an endeavour with a clinical population, providing reassurance that our findings are not idiosyncratic to a small group of patients. We assessed preemptive benefit finding at a poignant moment during the diagnostic process rather than assessing it in retrospect, following diagnosis. Finally, the patient population from which our sample was drawn is diverse in age, ethnicity, and socioeconomic status.

However, our study also had several limitations, which can serve as a 'to-do list' for future endeavours on the topic of preemptive benefit finding. First, the brevity of discussion surrounding preemptive benefit finding in our interviews did not provide the opportunity for an in-depth exploration of this coping strategy. Because our time with the patients was limited, we could only scratch the surface of their experience. Future studies can better assess the extent to which patients spontaneously generate potential benefits of a cancer diagnosis as a form of coping and their goals in using this coping strategy. Importantly, the nature of our interview prompt may have spurred patients to identify benefits that they would not otherwise have generated. Our findings clearly suggest that most patients do not have to look far to find such benefits; nonetheless, more naturalistic observations of preemptive benefit finding are an important direction for future research.

Second, our sample may have been particularly likely to engage in preemptive benefit finding, relative to other patient populations. As noted earlier, one study found that patients from minority racial and ethnic groups were more likely to identify benefits following a breast cancer diagnosis compared to White patients (Tomich & Helgeson, 2004). Findings from that study also suggested that women lower in socioeconomic status were more likely to engage in benefit finding following a diagnosis. Although we do not have detailed information about the socioeconomic status of our sample, their educational attainment (nearly half did not complete high school) suggests that our sample was relatively low in socioeconomic status, and nearly three-quarters were from a minority ethnic group. Examining preemptive benefit finding in more ethnically and socioeconomically diverse samples would be a fruitful avenue for future research.

Third, and most notably, patients were interviewed at their biopsy appointment with no follow-up to determine diagnostic status or well-being following diagnosis. Thus, our study cannot determine whether preemptive benefit finding serves its ostensible purpose of softening the blow of bad news and promoting posttraumatic growth and positive coping after a diagnosis. As noted earlier, other findings from the dataset in this paper indicate that patients who engaged in preemptive benefit finding were no less (or more) distressed than those who did not (Sweeny, Christianson, & McNeill,

under review, in press) – but of course, preemptive benefit finding is primarily a future-focused coping strategy rather than a strategy focused on managing anxiety in the moment (Sweeny & Andrews, 2014; Sweeny & Cavanaugh, 2012). We strongly suspect that patients who prepare their silver linings in advance are better prepared to cope with a diagnosis than are those who view cancer as an unmitigated disaster unless or until it enters their lives. Answering this question is the clear next step for research on this topic. Longitudinal studies can also assess whether patients' preemptive perceptions of benefit fluctuate throughout the diagnostic process, as well as the point at which they begin to spontaneously identify such benefits.

Implications for practice

Although our findings warrant replication and extension, they have implications for clinical practice and care. Clinicians who interact with patients during the diagnostic process (e.g. radiologists, mammography technicians) may find it useful to know that their patients are already grappling with the possibility of a diagnosis, including the positive reappraisal process of identifying potential silver linings. It can be difficult to know how best to support people during acute moments of uncertainty (Dooley, Sweeny, Howell, & Reynolds, 2018). If future research confirms the utility of preemptive benefit finding in this context, perhaps clinicians can encourage patients to engage in this strategy by sharing uplifting stories of their own or other patients' experiences with personal growth, heightened appreciation for life, and deepening connections with loved ones following diagnosis.

Conclusion

A diagnosis of breast cancer propels patients into a hectic process of decision making, planning, scheduling, sharing the news with others, and ultimately undergoing treatment. Proactive strategies that prepare patients for the maelstrom may be critical for protecting their health and well-being during this challenging experience. We suspect that preemptive benefit finding is one such strategy, and our findings encouragingly reveal that patients naturally embrace this coping technique during the wait for biopsy results.

Note

1. All study materials are available on the Open Science Framework (osf.io/7rdf4), and deidentified data are available by contacting the first or last authors of this paper (full data are not posted publicly due to the sensitive nature of the recorded interviews).

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Disclosure statement

No potential conflict of interest was reported by the authors.

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