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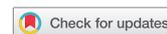
Parent Expectancies and Preferences for Mental Health Treatment: The Roles of Emotion Mind-Sets and Views of Failure

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Because parents are primary gatekeepers to mental health care for their children, parental expectations that mental health treatment is ineffective may undermine treatment seeking, retention, and response. Thus, a need exists to understand parents' expectations about treatment and to develop scalable interventions that can instill more favorable views. We examined parents' treatment expectancies and preferences for their offspring and themselves in relation to two global beliefs: *mind-sets* (malleability beliefs) of emotions and anxiety, and *views of failure* as enhancing versus debilitating. Study 1 ($N = 200$; 49.5% fathers; 70.4% Caucasian) examined associations among parents' emotion mind-sets, anxiety mind-sets, failure beliefs, and treatment expectancies and preferences. Study 2 ($N = 430$; 44.70% fathers; 75.80% Caucasian) tested whether online inductions teaching "growth emotion mind-sets" (viewing emotions as malleable), adaptive failure beliefs, or both improved parents' treatment expectancies and hypothetical preferences for treatment (vs. no-treatment). Participants received one of three 8- to 15-min inductions or a psychoeducation control, rating treatment expectancies. and preferences pre- and postinduction. In Study 1, fixed emotion mind-sets and failure-is-debilitating beliefs were associated with lower parent psychotherapy expectancies for offspring and themselves and stronger "no-treatment" preferences for offspring. In Study 2, inductions teaching (a) growth emotion mind-sets only and (b) growth emotion mind-sets *and* failure-is-enhancing beliefs improved parents' psychotherapy expectancies for themselves ($ds = .38, .51$) and offspring ($ds = .30, .43$). No induction increased parents' hypothetical preferences for treatment (vs. no-treatment). Findings suggest scalable strategies for strengthening parents' psychotherapy effectiveness beliefs for themselves and their children.

Expectations of mental health treatment have potential to shape treatment-seeking behavior, engagement, and clinical outcomes (Greenberg, Constantino, & Bruce, 2006). Adult patients' preferences for the treatment they receive predict greater symptom reductions, improved therapeutic alliance, and reduced dropout (Swift & Callahan, 2009). Conversely, depressed individuals receiving treatment misaligned with their preferred modality (e.g., receiving medication after stating a preference for psychotherapy) miss more sessions and show smaller symptom reductions over time (Dunlop et al., 2012). Treatment beliefs in parents

may also influence treatment outcomes in offspring with mental health needs—largely because parents often select, consent, and transport their children to services. For instance, Nock and Kazdin (2001) found that negative parent expectancies of outcomes in child psychotherapy predicted lower treatment engagement and premature termination. Conversely, optimistic parent treatment expectations have predicted improved therapy outcomes for youths with depression (Stevens et al., 2009) and obsessive-compulsive disorder (Lewin, Peris, Bergman, McCracken, & Piacentini, 2011). Other research suggests that receiving a treatment matched with parents' preferences may reduce children's likelihood of dropout: Bannon and McKay (2005) found that families receiving the type of mental health service that parents reported wanting for their child attended two more sessions, on average, than families receiving preference-mismatched services.

Together, these findings highlight the need to identify factors linked to parents' expectations and preferences related to mental health services, both for themselves and their offspring. They also suggest the value of exploring whether such factors can be shaped, via targeted interventions, to strengthen parents' beliefs in the effectiveness of mental health treatment. If parents' beliefs about treatment are, in fact, malleable, then such interventions may help improve treatment seeking, engagement, and retention among parents and offspring with mental health needs.

Regarding targets for such interventions, focusing on global belief systems that are not explicitly linked to mental health treatment, but which nonetheless influence treatment-relevant attitudes, may be especially fruitful. Targeting such belief systems—as opposed to providing traditional psychoeducation about psychotherapy—may maximize interventions' relevance for large swaths of the parent population, including parents who are already considering treatment *and* those who may consider treatment in the future. Thus, we examined two such global belief dimensions that might influence parents' treatment attitudes and preferences. One of these was *malleability beliefs* ("mind-sets") related to mental health symptoms. We reasoned that parents who believe such symptoms to be malleable would be more favorably inclined toward mental health services than parents who do not share that belief. In this initial test, we focused on malleability beliefs about *emotion* and *anxiety* for two reasons. First, evidence consistently suggests that emotion and anxiety malleability beliefs are associated with depression and anxiety symptoms, respectively (Tamir, John, Srivastava, & Gross, 2007; Valentiner, Jencius, Jarek, Gier-Lonsway, & McGrath, 2013), whereas other types of malleability beliefs (e.g., about intelligence) show weaker links with symptomatology after accounting for emotion and anxiety-related beliefs (Schroder, Dawood, Yalch, Donnellan, & Moser, 2015). Second, mood and anxiety disorders are the most common psychiatric illnesses in both children and adults, with lifetime prevalence estimates ranging from 20% to 30%, both for any type of anxiety disorder and for any type of mood disorder (Kessler et al., 2005).

The other dimension we addressed was *beliefs about failure*—specifically, views of failure as enhancing (e.g., as a growth opportunity) or debilitating (e.g., that it debilitates performance and should be avoided; Haimovitz & Dweck, 2016). Although this possibility has not been empirically explored, to our knowledge, parents who view failure as *debilitating* might be particularly distressed by failure to overcome mental health problems in themselves or offspring: They might view such failure as something to be avoided rather than confronted and addressed (as in therapy). In contrast, parents who regard failures as *opportunities* for learning and self-improvement might be more inclined to confront mental health problems. Thus, they might view mental health services more favorably—

potentially as a means of transforming difficulties into growth opportunities. Study 1 examined relations between failure beliefs, emotion mind-sets, and anxiety mind-sets and parents' expectations of and preferences regarding mental health treatment. Study 2 tested whether brief inductions targeting these factors could (a) improve parents' beliefs about the potential effectiveness of mental health treatment for themselves and offspring, and (b) reduce parents' likelihood, in a hypothetical treatment-choice task, of declining services for themselves and offspring.

Mind-sets and Mental Health Treatment Beliefs

Mind-sets are beliefs about the potential to change personal abilities and attributes. Individuals with fixed mind-sets view such attributes as immutable, whereas those with growth mind-sets view them as malleable through personal effort (Dweck, 1999). Mind-sets form a framework for interpreting and responding to adversity (Molden & Dweck, 2006). Whereas fixed-minded individuals tend to attribute their capacities to genetic causes (Keller, 2005) and view setbacks as indicative of innate inability (Dweck, 1999), growth-minded individuals more often attribute their performance to motivation and learning. Thus, individuals with growth mind-sets in various domains—such as intelligence or personality—have shown greater resilience and more adaptive problem-solving following academic and interpersonal setbacks (Burnette, O'Boyle, VanEpps, Pollack, & Finkel, 2013; Schleider & Weisz, 2016a).

Fixed mind-sets are rather consistently linked to higher levels of psychopathology, especially following transitions and stress (Schleider, Abel, & Weisz, 2015; Schleider & Schroder, in press). Specifically, fixed mind-sets of emotion predict greater use of maladaptive coping strategies after in vivo social stressors (Kneeland, Nolen-Hoeksema, Dovidio, & Gruber, 2016), higher depressive symptoms across the 1st year of college (Tamir et al., 2007), and greater social anxiety and depression in clinical samples (De Castella et al., 2014). Similarly, fixed anxiety beliefs predict greater anxiety and depressive symptoms in socially anxious (Valentiner et al., 2013) and community adult samples (Schroder et al., 2015).

In addition to shaping the experience of psychopathology, mind-sets linked to mental-health-relevant constructs (such as emotions and anxiety) might foster different attitudes toward mental health treatment. For instance, fixed-minded individuals are more likely than growth-minded individuals to attribute personal traits to genetic make-up (Keller, 2005). Those who view emotional dysregulation as a genetically determined trait may be unlikely to believe that psychological treatment could relieve their distress. Thus, they may be less likely to engage in and benefit from treatment—and more likely to decline treatment altogether. Indeed, individuals who endorse genetic (i.e., uncontrollable) influence on mental illness tend to expect less positive

change from treatment of any type and believe that only extreme treatments (e.g., long-term hospitalization) could alleviate their symptoms (Dar-Nimrod & Heine, 2011; Phelan, Yang, & Cruz-Rojas, 2006).

Individuals with fixed mind-sets of emotion and anxiety might also be more likely to favor medication-only mental health treatments. For instance, adults who view depression as due to chemical imbalances tend to prefer antidepressants and decline psychotherapy (Deacon & Baird, 2009). Schroder and colleagues (2015) found that college students with stronger fixed emotion and anxiety beliefs were more likely to choose medication over individual psychotherapy when presented with hypothetical treatment options. Because combined treatments (e.g., cognitive-behavioral therapy *and* medication) show greater effectiveness than medication-only treatment for depression and anxiety, both in adults (Cuijpers et al., 2014) and children (March et al., 2004; Walkup et al., 2008), improving parents' optimism about psychotherapy—perhaps by strengthening growth mind-sets of anxiety and emotion—may boost their and their children's odds of seeking, completing, and benefiting from gold-standard treatments.

Failure Beliefs and Mental Health Treatment Beliefs

In addition to mind-sets, parents' views of failure as *enhancing* versus *debilitating* may affect treatment-relevant attitudes. Negative views of failure (e.g., fear or devaluing of failure; overvaluing of success) predict multiple adverse outcomes, including reduced achievement, intrinsic motivation, and psychological health (Atkinson & Feather, 1966; Heckhausen, 1975). Negative failure beliefs shape these outcomes indirectly, prompting shame and avoidance-focused goals and strategies (e.g., self-handicapping), in turn compromising social-emotional functioning (Elliot & Church, 1997). Further, parents who view failure as harmful tend to respond maladaptively to perceived failures in their offspring (e.g., doubting the child's ability), whereas parents who view failure as helpful display learning-oriented reactions (e.g., discussing what their children can learn from failure experiences; Haimovitz & Dweck, 2016). Notably, maladaptive failure beliefs have been shown to predict adverse emotional outcomes over and above associated constructs such as perfectionism (defined as "striving for flawlessness"; Flett & Hewitt, 2002). Indeed, studies suggest that perfectionism is *motivated by* maladaptive failure beliefs (Neumeister, 2004), and these underlying failure beliefs predict shame, fear, and sadness about perceived setbacks independent of self-reported perfectionism (Conroy, Kaye, & Fifer, 2007).

To our knowledge, links between failure beliefs and attitudes toward mental health treatment have not been empirically explored. However, such beliefs might influence parents' treatment-relevant expectancies and preferences. Parents who view failure as harmful might view mental health problems as "failures" to manage symptoms; thus, they may be less inclined to seek appropriate supports. These parents may respond similarly to mental health problems in offspring, which they might view as failures to parent effectively or to prevent their child's difficulties. These parents might also have concerns about "failing treatment"—that is, entering treatment and not experiencing symptom reductions—which could prevent them from seeking care, or increase early dropout if rapid gains are not apparent. Treatment avoidance among these parents could be especially strong in the case of psychotherapy, compared to medication: A "failure" of medication might be easier to attribute to external causes (e.g., individual differences in brain chemistry), whereas a "failure" of psychotherapy may be interpreted as reflecting personal inadequacies (e.g., inability to implement new skills).

Parents who view failure as enhancing may have very different reactions to psychopathology. Although these parents might also view mental health problems as setbacks or "failures," their motivation would be to *approach* those setbacks, not to avoid them. Treatment, in turn, might be viewed more optimistically: as an opportunity to learn from their mental health difficulties and to alter their behaviors to improve functioning in the future. Thus, believing that failure is enhancing might facilitate more optimistic treatment expectations in parents, both for themselves and offspring, and increase their odds of seeking services versus declining them.

Present Investigation

We had two primary hypotheses. In Study 1, we predicted that parents with stronger fixed mind-sets of anxiety and emotion, as well as parents who viewed failure as more debilitating than enhancing, would (a) rate psychotherapy as less likely to be helpful for themselves and their children and (b) prefer "no treatment" to psychotherapy as a hypothetical treatment option for themselves and their children. (Relatedly, we hypothesized that fixed-minded parents would prefer medication to psychotherapy, given evidence suggesting this trend in young adults; Schroder et al., 2015.) In Study 2, we predicted that brief, online inductions teaching growth mind-sets of emotion and adaptive failure beliefs would (a) improve parents' optimism about the helpfulness of psychotherapy and (b) reduce their likelihood of choosing "no treatment" as a hypothetical treatment preference, for themselves and their children.

STUDY 1

In Study 1, we asked three questions: First, do parents with stronger fixed mind-sets of emotion and anxiety (relative to those with stronger growth mind-sets) and stronger failure-is-debilitating beliefs (relative to those with failure-is-

enhancing beliefs) view psychotherapy as less likely to be effective for themselves and their offspring? Second, are these parents more likely to prefer "no treatment" for themselves and their offspring, given a hypothetical treatment selection task? Third, which parental beliefs (among emotion mind-sets, anxiety mind-sets, and failure beliefs) are independently associated with parents' treatment expectancies and preferences, when assessed simultaneously?

Method

Participants

Two hundred six Amazon Mechanical Turk (mTurk) participants completed Study 1.[1] A power analysis indicated that a sample of 99 would be required to detect a medium-sized linear regression effect (f^2 = .15) with three predictors and two covariates at $p < .05$ (power = .80). We more than doubled this sample size to ensure that we had ample power to detect small-to-medium associations between parental beliefs and outcomes of interest. MTurk workers located in the United States with a 95% or greater task approval rate for prior human intelligence tasks (HITs: online tasks which mTurk workers can complete in exchange for payment) were eligible for the study. Participants were also required to be parents of one or more children ages 7–17 (procedure for identifying parent status detailed next). Studies show that mTurk participants perform tasks similarly to laboratory participants (Hauser & Schwarz, 2016) and provide reliable, valid survey data on psychopathology (Chandler & Shapiro, 2016). Research has also shown that parents recruited via mTurk provide high-quality reports of their own and their children's mental health (Schleider & Weisz, 2015). Here we excluded six participants who completed the survey battery in an unusually short or long period, which can indicate inattention to questions and/or extended breaks from the study (3 *SD*s above/below the mean completion time; 22.13 min), resulting in a sample of 200 parents (49.5% male; *M* age = 36.24 years, range = 24–64 years; 50.50% college graduates, 25.0% single parents, 70.40% Caucasian). Most parents (70.90%)

reported having one child 7–17 years of age (range = 1–5), and 31.60% reported having received mental health treatment at some point in their lives (of these parents, 13.80% had received psychotherapy, 43.08% medication, and 43.12% both types of treatment). Parents were asked to identify and report on whichever of their children of ages 7–17 has displayed "the most difficulty with emotional, behavioral, and/or mental health difficulties." Identified children were 44.90% female and 10.26 years old, on average. Parents reported that 16.0% of these children had received mental health treatment of some kind (of which 34.38% had received psychotherapy, 31.25% medication, and 34.38% both treatment types).

To determine parent status, we followed procedures outlined by Schleider and Weisz (2015). Interested mTurk workers completed a three-item qualifying questionnaire as part of a linked survey. The questions were as follows: (a) Are you or any of your immediate family members fluent in any languages aside from English? (b) Do you have one or more children (either biological or nonbiological) between the ages of 7 and 17? (c) Do you have any siblings (biological or nonbiological) within 4 years of your age? Worker IDs were collected to identify individuals who attempted the screener more than once; we also programmed the survey such that it was accessible only once from a given IP address and could not be restarted once initiated. The second screener question determined participants' eligibility, whereas the first and third questions were filler questions (included so participants did not know which screening item determined qualification). For participants selecting *no* for Question 2, the survey automatically ended; these participants were instructed not to accept the HIT and did not receive payment. Participants who selected "yes" for Question 2 continued to the full study; study completers received $2.00 for their time. Of the 560 mTurk workers who completed the screen, 217 were identified as parents of a child 7–17 years of age (11 individuals who qualified for the study chose not to continue participating after the screener).

Procedure

Participants consented to the study prior to data collection, and the university's Institutional Review Board approved all procedures. Participants completed a questionnaire battery, programmed using Qualtrics software, including the following measures:

Demographic and treatment history questionnaire. This questionnaire asks about basic socioeconomic and demographic information (e.g., age, gender, number of children, marital status, and educational attainment), as well as information about mental health treatment history (i.e., history of receiving psychotherapy, medication-based treatment, or both for mental health, emotional, or behavioral

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[1] MTurk is a popular method for recruiting and collecting survey, experimental, and intervention data online (Paolacci & Chandler, 2014). Using MTurk, "requesters" (including researchers) can recruit "workers" (individuals with an MTurk account) to complete HITs, such as completing surveys or summarizing articles. Requesters pay eligible workers upon submission of HITs they choose to complete. MTurk is used for data collection by researchers from widely varying fields, such as linguistics, behavioral economics, and clinical psychology (Chandler & Shapiro, 2016). Previous work suggests that MTurk samples are more diverse and representative of the population as compared to college student samples and community samples collected near college towns, across many demographic dimensions (e.g., gender, age, race/ethnicity, employment status, number of children; Berinsky, Huber, & Lenz, 2012).

[2] Results did not differ when parent and child mental health problems (BSI, SDQ) were included as covariates.

problems). Parents responded to treatment history questions with reference to both themselves and their children whom they viewed as experiencing the most mental-health-related difficulties. Parents also provided the age and gender of the identified child.

Before completing treatment history questions, parents were presented with the following information (adapted from educational materials from National Institute of Mental Health; https://www.nimh.nih.gov/health/topics/index.shtml):

> Many children and adults experience mental health difficulties at some point in their lives, such as persistent feelings of hopelessness, worry, or irritability. When these feelings do not go away, or when they start to interfere with daily activities, many people decide to seek treatment. Psychotherapy is a term for non-medication-based treatment techniques that aim to help people identify and change troubling emotions, thoughts, and behaviors. Most psychotherapy is delivered by a licensed, trained mental health care professional, such as a psychologist, counselor, or social worker, in one-on-one or group sessions with patients. Medications can also be used to treat mental health-related difficulties. These include antidepressants, which are commonly used to treat depression and some anxiety disorders, and anti-anxiety medications, which can be used to treat certain types of anxiety disorders. Medications for mental health difficulties are prescribed by medical doctors, such as psychiatrists and pediatricians. Both psychotherapy and medication can help treat mental health problems in children and adults.

Hypothetical treatment expectancies and preferences. Hypothetical mental health treatment expectancies and preferences were measured using six items, adapted from previous work in this domain (Schroder et al., 2015). Three items asked parents about hypothetical mental health treatment for themselves, and three for their identified child:

1. In the future, if you were to struggle with mental health problems (e.g., anxiety, depression) and had a choice between individual (one-on-one) psychotherapy, medication, or no treatment to help you with these problems, which would you choose?
2. On a scale from 1 (*not at all helpful*) to 10 (*extremely helpful*), how helpful do you think medication would be in reducing mental health problems, if you struggle/were to struggle with them?
3. On a scale from 1 (*not at all helpful*) to 10 (*extremely helpful*), how helpful do you think individual psychotherapy would be in reducing mental health problems, if you struggle/were to struggle with them?
4. In the future, if *your child* were to struggle with mental health problems (e.g., anxiety, depression) and you had a choice between seeking out individual therapy, medication, or no treatment to help with his or her problems, which would you choose?

5. On a scale from 1 (*not at all helpful*) to 10 (*extremely helpful*), how helpful do you think medication would be in reducing mental health problems in your child, if he or she struggles or were to struggle with them?
6. On a scale from 1 (*not at all helpful*) to 10 (*extremely helpful*), how helpful do you think individual psychotherapy would be in reducing mental health problems in your child, if he or she struggles or were to struggle with them?

Mind-set measures. Parents' malleability beliefs about emotions and anxiety were assessed using previously validated measures of four items each (Schroder et al., 2015; Tamir et al., 2007). For each item, respondents indicate their agreement or disagreement with a given statement (e.g., "The truth is, people have very little control over their emotions"; "Your anxiety is something about you that you cannot change very much"). The anxiety mind-set scale includes four statements worded in the fixed-minded framework (Schroder et al., 2015); the emotion mind-set scale includes two fixed-minded statements and two growth-minded statements (e.g., "Everyone can learn to change the emotions that they have"). After reverse-coding, higher summed scores on both scales indicate stronger fixed mind-sets of anxiety or emotion. Both scales have shown strong internal consistency and construct validity: Anxiety mind-sets have shown significantly stronger associations with anxiety symptoms than with depressive symptoms, and emotion mind-sets are more strongly associated with symptoms of depression than anxiety (Schroder et al., 2015; Tamir et al., 2007). Studies suggest that mind-sets across domains are associated but psychometrically distinct (Schroder et al., 2015), such that (for instance) individuals can hold a fixed anxiety mind-set while holding growth mind-sets of emotion or intelligence. Reliabilities for the emotion and anxiety mind-set measures were $\alpha = .88$ and $\alpha = .94$, respectively.

Failure Beliefs Scale (Haimovitz & Dweck, 2016). Parents' views of failure as enhancing versus debilitating were assessed with six items: "The effects of failure are positive and should be utilized," "Experiencing failure facilitates learning and growth," "Experiencing failure enhances my performance and productivity," "Experiencing failure inhibits my learning and growth," "Experiencing failure debilitates my performance and productivity," and "The effects of failure are negative and should be avoided." Parents rated items from 1 (*strongly disagree*) to 6 (*strongly agree*); a total score was created by reverse-scoring items describing enhancing views of failure and summing all item responses. Higher scores indicated less adaptive failure beliefs. This scale has shown adequate reliability ($\alpha = .88$) and a single-factor structure; it was found to be

psychometrically distinct from parents' mind-sets of emotions and intelligence (Haimovitz & Dweck, 2016). Reliability for the scale was α = .91 in this study.

Brief Symptom Inventory-18 (BSI-18; Derogatis, 2001).   Parental psychological distress was measured using the BSI-18, a self-report questionnaire measuring general psychological distress (Derogatis, 2001). Respondents indicate on a scale from 0 to 4 the extent to which they are troubled by each of 18 physical and emotional complaints. (In this study, one item assessing suicidal ideation was removed.) The total sum score of these items yields a total distress score. The BSI-18 is a widely used psychiatric screening tool in clinical settings and epidemiological studies and has demonstrated adequate reliability (α = 0.74–0.89) and construct validity (Franke et al., 2017). Reliability was α = .86 in this study.

Strengths and Difficulties Questionnaire (SDQ; Goodman, 2001).   The SDQ asks parents about their child's behavioral, emotional, and peer difficulties, as well as their prosocial fucntioning. It comprises five scales of five items each rated on a 3-point scale. The scales are Emotional Symptoms, Conduct Problems, Hyperactivity, Peer Problems, and Prosocial Behavior. A Total Difficulties score (range = 0–40) representing increasing difficulties is derived by summing scores on the first four subscales. We used the SDQ total score in this study. Parents completed the SDQ referencing the child they identified as experiencing the most mental health, emotional, or behavioral difficulties. The SDQ total score has shown adequate internal consistency and construct validity (Smedje, Broman, Hetta, & Von Knorring, 1999). Reliability was α = .79 in this study.

Frost Multidimensional Perfectionism Scale (MPS; Frost, Marten, Lahart, & Rosenblate, 1990).   The MPS is a 35-item measure of perfectionism that has shown adequate psychometric properties in clinical and community samples (Frost et al., 1990; Purdon, Antony, & Swinson, 1999). Here, the MPS total score was used to index overall perfectionism (α = .80) due to possible theoretical overlap between parental perfectionism and failure beliefs. Thus, we examined whether the predicted association between failure beliefs and treatment beliefs might be explained, in part, by parents' perfectionism.

RESULTS

Correlations

Zero-order correlations between parents' treatment expectations, mind-sets of anxiety and emotions, failure beliefs, parent and child symptomatology, parental perfectionism, and demographic variables are presented in Table 1 (point-biserial correlations are displayed where applicable). Parents with stronger fixed mind-sets of anxiety, stronger fixed mind-sets of emotion, and stronger failure-is-debilitating beliefs rated psychotherapy as significantly less likely to be helpful in reducing mental health problems, both for themselves and their children (ps < .003). However, neither mind-sets nor failure beliefs were significantly associated with parents' beliefs about the effectiveness of medication-based treatment. Beliefs about the effectiveness of mental health treatment were not significantly associated with treatment history (i.e., whether parents or their children had received mental health treatment previously), parent educational attainment, parent gender, or child age or gender. Similarly, parental perfectionism was not significantly associated with treatment effectiveness beliefs, mitigating questions regarding conceptual overlap between failure beliefs and perfectionism. Parents reporting higher levels of mental health problems in themselves (BSI) and their children (SDQ) rated psychotherapy as significantly less likely to be effective, so total scores on the BSI and the SDQ were included as covariates in follow-up regression analyses.

Relative relations of failure beliefs, emotion mind-sets, and anxiety mind-sets to parents' psychotherapy effectiveness beliefs

We ran two linear regressions to assess whether parents' failure beliefs, emotion mind-sets, and anxiety mind-sets were independently associated with parents' beliefs about the effectiveness of psychotherapy for themselves and their children, respectively (see the appendix for full regression results). Parent and child mental health problems were included as covariates. Parents' failure beliefs were significantly, independently associated with psychotherapy effectiveness beliefs, both for themselves (β = −.18, t = −2.14, p = .03) and their children (β = −.18, t = −2.25, p = .03). Specifically, parents who viewed failure as more debilitating (vs. enhancing) rated psychotherapy as less likely to be effective for themselves and their offspring, independent of parent and child psychopathology, emotion mind-sets, and anxiety mind-sets. Fixed emotion mind-sets were marginally associated with lower parental expectations about psychotherapy with regard to themselves (β = −.16, t = −2.26, p = .07) but not offspring (β = −.08, t = −1.47, p = .14). Anxiety mind-sets did not relate to parents' psychotherapy effectiveness beliefs independent of the aforementioned variables.

Parents' emotion mind-sets, anxiety mind-sets, failure beliefs, and hypothetical treatment choices

We conducted two multivariate analyses of variance (MANOVAs) to examine how emotion mind-sets, anxiety mind-sets, and failure beliefs related to parents' hypothetical mental health treatment preferences for themselves and their

TABLE 1
Correlations and Descriptive Statistics (Study 1)

Variable	M (SD)	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.
1. Psychotherapy Effectiveness Belief (Self)	6.66 (2.26)	.12	.63**	.06	-.20**	-.26**	-.27**	-.04	-.22**	-.23**	-.05	.09	-.06	.10	-.08	.07
2. Medication Effectiveness Belief (Self)	5.67 (2.79)	—	.19**	.66**	-.01	.04	.06	-.02	-.04	-.05	.07	.04	.06	.06	.02	.02
3. Psychotherapy Effectiveness Belief (Child)	7.43 (2.06)		—	.06	-.23**	-.26**	-.29**	-.07	-.32**	-.36**	.15*	.19**	.00	-.04	-.02	.01
4. Medication Effectiveness Belief (Child)	5.23 (2.86)			—	.06	.07	.07	.00	.06	.13	-.11	.04	-.02	.03	-.03	.10
5. Fixed Anxiety Mind-Set	11.54 (5.04)				—	.74**	.50**	.34**	.47**	.42**	-.04	-.13	-.06	.04	.13	-.03
6. Fixed Emotion Mind-Set	11.24 (2.45)					—	.55**	.26**	.42**	.41**	-.02	-.12	-.11	-.01	.03	-.01
7. Failure-Is-Debilitating Belief	17.25 (5.48)						—	.20**	.35**	.34**	-.02	-.10	.03	.11	.08	-.05
8. Perfectionism	83.22 (18.77)							—	.40**	.29**	-.11	-.19**	-.02	.11	.07	-.03
9. Psychological Distress (BSI)	13.77 (15.06)								—	.68**	-.18**	-.33**	-.21**	-.05	.03	-.11
10. Child Psychopathology (SDQ)	11.64 (7.63)									—	-.29**	-.35**	-.18*	.03	-.02	-.07
11. Child Treatment History: No Prior Treatment	N/A										—	.37**	.21**	.11	.15*	-.22**
12. Parent Treatment History: No Prior Treatment	N/A											—	.20**	.13	.08	-.03
13. Parent Gender (Male)	N/A												—	.07	.09	-.07
14. Parent Education Level	N/A													—	-.06	-.07
15. Child Gender (Male)	N/A														—	-.15*
16. Child Age	10.26 (3.16)															—

Note. BSI = Brief Symptom Inventory-18; SDQ = Strengths and Difficulties Questionnaire.
*$p < .05$. **$p < .01$.

children, respectively. Outcomes for both MANOVAs were total scores on the emotion mind-set, anxiety mind-set, and failure beliefs scales; factors in the first and second MANOVAs were parents' hypothetical treatment choice (psychotherapy, medication, or no treatment) for themselves and their children, respectively (Table 2).[2] With regard to parents' treatment preferences for themselves, the MANOVA effects were significant for failure beliefs, $F(2, 197) = 3.10$, $p = .04$, but not mind-sets of anxiety or emotion. Bonferroni-corrected pairwise comparisons indicated that parents preferring no treatment viewed failure as more debilitating than did parents preferring psychotherapy ($p = .01$) and medication ($p = .02$). No differences emerged in failure beliefs among parents who preferred psychotherapy versus medication. Parents preferring no treatment reported stronger fixed mind-sets of emotion than did parents preferring psychotherapy, although this difference fell short of statistical significance ($p = .08$).

With regard to parents' treatment preferences for their children, the MANOVA effects were significant for failure beliefs, $F(2, 197) = 4.33$, $p = .01$, and emotion mind-sets, $F(2, 197) = 3.95$, $p = .02$, but not for anxiety mind-sets. Pairwise comparisons using a Bonferroni correction indicated that parents preferring no treatment for their children viewed failure as more debilitating than parents preferring psychotherapy ($p = .02$) or medication ($p = .01$) for their children. Parents preferring no treatment also reported stronger fixed emotion mind-sets than those preferring psychotherapy ($p = .04$) and medication ($p = .02$) for offspring.

Interim Discussion

Study 1 provides initial evidence that parents' general beliefs about the value of failure—and to a lesser degree the malleability of emotions (but not anxiety)—may relate to mental health treatment expectancies and preferences. Both stronger fixed emotion mind-sets and failure-is-debilitating beliefs were independently associated with a stronger tendency to decline treatment for their children. Both constructs were associated with lower optimism about the effectiveness of psychotherapy for parents, although only failure beliefs were linked to treatment effectiveness beliefs for offspring. Further, stronger failure-is-debilitating beliefs, but not fixed emotion mind-sets, were also associated with parents' preference for no treatment with regard to themselves. Notably, these patterns emerged over and above the effects of other factors that might shape treatment-related attitudes, including parent and youth psychopathology, despite the fact that neither emotion mind-sets nor failure beliefs are specific to treatment-relevant contexts.

Overall, Study 1 provides initial evidence for two global belief systems that may relate to parents' treatment-specific attitudes for themselves and their children, although evidence was more consistent for failure-is-debilitating beliefs than for emotion malleability beliefs. Treatment attitudes

TABLE 2
Study1 Parent Belief Scores (Emotion Mind-Sets, Anxiety Mind-Sets, and Failure Beliefs), M (SD), for Each Hypothetical Treatment Choice for Themselves and Offspring

Parent Belief				Analysis			
	No Treatment (Self)[a]	Medication (Self)[b]	Psychotherapy (Self)[c]	F	df	p	η^2
Fixed Emotion Mind-Set	11.98 (4.36)	11.47 (4.72)	10.83 (3.96)	1.62	2, 197	.20	.01
Fixed Anxiety Mind-Set	12.36 (4.86)	11.91 (5.53)	11.03 (4.88)	1.64	2, 197	.20	.01
Failure-Is-Debilitating Belief	18.76 (5.80)	17.09 (6.16)	16.69 (4.93)	3.10	2, 197	.04	.02
	No Treatment (Child)[d]	Medication (Child)[e]	Psychotherapy (Child)[f]				
Fixed Emotion Mind-Set	12.91 (3.96)	10.29 (4.35)	11.23 (4.16)	3.95	2, 197	.02	.04
Fixed Anxiety Mind-Set	12.97 (4.55)	10.93 (4.92)	11.42 (5.20)	1.73	2, 197	.18	.02
Failure-Is-Debilitating Belief	19.69 (4.79)	16.24 (5.51)	17.05 (5.48)	4.33	2, 197	.01	.04

[a] N = 45.
[b] N = 47.
[c] N = 108.
[d] N = 32.
[e] N = 55.
[f] N = 113.

may strongly influence parents' and children's engagement in and response to mental health services. Thus, these findings may offer a preliminary step toward identifying targets for interventions that could promote adaptive treatment-related attitudes. In Study 2, we take initial steps toward developing and testing such interventions.

STUDY 2

We next explored whether learning to view failure as enhancing and emotions as malleable might improve parents' treatment expectancies and preferences. Specifically, we conducted a randomized-controlled experiment testing the effects of brief inductions teaching parents to adopt growth emotion mind-sets, failure-is-enhancing beliefs, or both. Given observed relations between parents' emotion mind-sets and failure beliefs and their treatment attitudes, we predicted that these inductions would increase parents' optimism about the effectiveness of psychotherapy and reduce their likelihood of opting for "no treatment" given hypothetical treatment options, both for themselves and their children, compared to an active control. An exploratory question was which induction (growth mind-set, failure-is-enhancing, or their combination) would predict greater shifts in parents' treatment expectancies and preferences.

Method

Participants

Four hundred fifty mTurk participants completed Study 2, well above the minimum estimated sample required to detect significant shifts in continuous and binary induction outcomes within a generalized estimating equations modeling framework (at $p < .05$, power = .80; Dahmen, Rochon, Konig, & Ziegler, 2004; Jung & Ahn, 2003). As in Study 1, participants were mTurk workers in the United States with a 95% or greater HIT approval rate and at least one child 7–17 years of age. Study 1 participants were ineligible for Study 2; using procedures within mTurk, we configured Study 2 such that Study 1 participants could not access or view it.

Of the 1,398 mTurk workers completing the eligibility screener, 459 (32.83%) were identified as parents and qualified for the study (Figure 1). Nine individuals exited the study prior to randomization and were thus excluded from analyses. We excluded another 15 participants who completed the survey battery in an unusually short or long period (3 SDs above/below the mean completion time, 29.05 min) and five providing insufficient responses to induction writing prompts (responses of five or fewer words following prompts requesting two to three sentences). Analyses included 430 parents (44.70% male; M age = 36.31; 75.80% Caucasian). Table 3 lists final sample characteristics.

Procedure

Participants consented to the study prior to data collection and the university's Institutional Review Board approved all procedures. All participants completed a pre-induction questionnaire battery including several Study 1 measures (demographic and treatment history questionnaire, hypothetical treatment preferences and beliefs questionnaire, mind-set measures, Failure Beliefs Scale, BSI-18, and the SDQ). Parents were then presented with the following message, which immediately preceded randomization to one of four conditions:

> Next, we would like you to read one or two brief scientific articles. After you read the article(s), we will ask you write a brief summary (2–3 sentences) describing its main points. Your anonymous summary may be used as part of a new educational program we are developing, designed to help teach new parents about emotional experiences in themselves and their children. We appreciate your help in building this new program!

A Qualtrics-embedded randomizer then assigned parents to one of four induction conditions. Three of the four experimental conditions consisted of one passage (the control passage, the growth emotion mind-set passage, or the failure-is-enhancing passage), approximately one single-spaced page in length each. The fourth, "combined" condition consisted of both the incremental theories passage and the failure is enhancing passage, presented sequentially. Single-passage inductions took 5 to 7 min to complete, and the combined induction took 10 to 15 min. Full passages are available in the appendix.

The growth mind-set passage, titled "Can We Change Our Emotions?" presents data, quotations, and real-life examples to convey the argument that emotions are
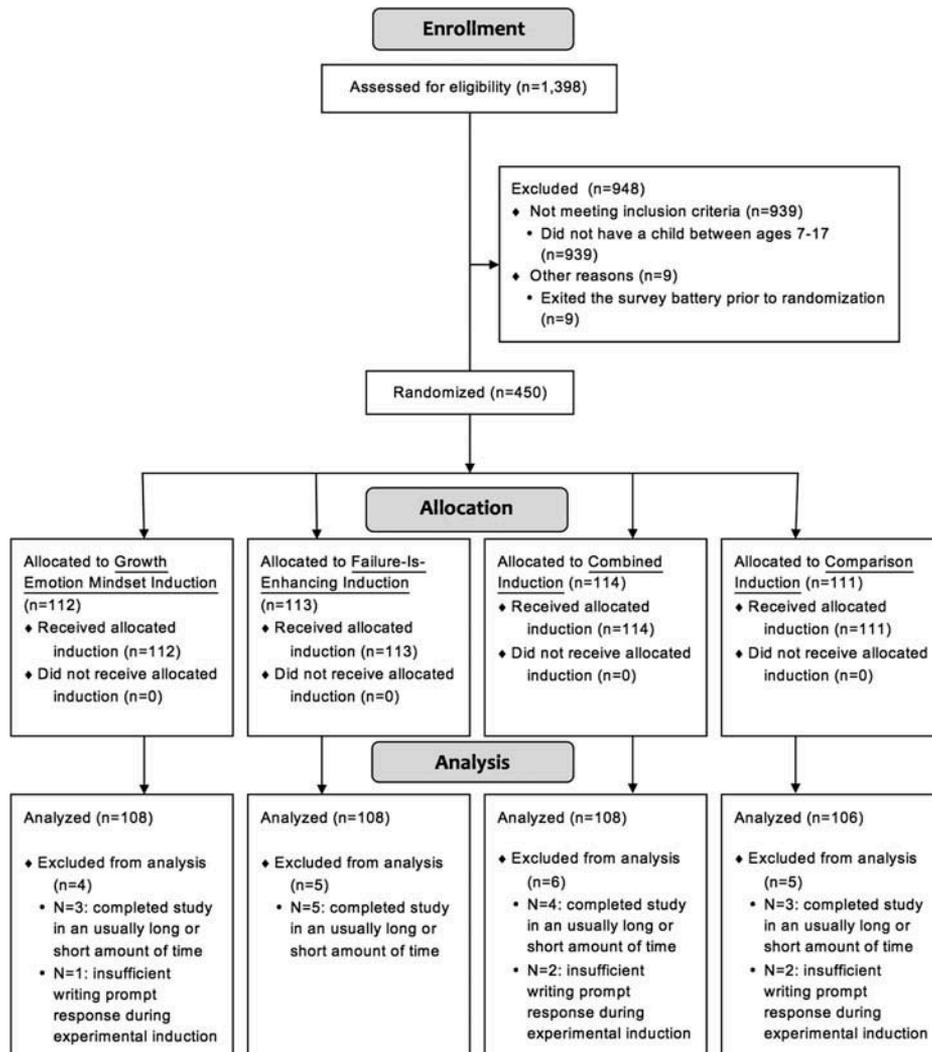

FIGURE 1 Study 2 CONSORT diagram.

TABLE 3
Study 2 Sample Characteristics by Induction Condition

	Induction Condition Assignment			
	Growth Emotion Mind-Set[a]	Failure-Is-Enhancing[a]	Combined[a]	Control[b]
Demographics				
% Female	54.60%	55.60%	53.77%	57.40%
M Age	35.54 (.64)	35.68 (.79)	36.77 (.84)	37.25 (.85)
% Caucasian	72.20%	70.40%	78.30%	76.90%
% College Graduates	44.44%	49.10%	46.20%	48.10%
% Single Parents	22.20%	25.90%	26.40%	25.00%
% Received Mental Health Treatment	36.10%	39.80%	44.30%	39.80%
Identified Child: % Female	44.40%	41.70%	49.10%	43.50%
Identified Child: M Age	10.40 (.27)	10.83 (.30)	10.56 (.32)	10.32 (.31)
Identified Child: % Received Mental Health Treatment	14.81%	18.50%	14.20%	17.92%
Parent and Child Symptoms				
Parent Psychological Distress (BSI)	13.56 (1.27)	15.18 (1.43)	15.16 (1.51)	13.53 (1.37)
Child Psychopathology (SDQ)	11.56 (1.27)	11.95 (1.33)	10.88 (1.52)	10.55 (.73)
Outcome 1: Fixed Anxiety Mind-Set				
Fixed Anxiety Mind-Set: Preinduction	11.20 (.51)	12.21 (.50)	12.09 (.52)	11.10 (.52)
Fixed Anxiety Mind-Set: Postinduction	11.20 (.51)	12.21 (.50)	12.09 (.52)	11.22 (.53)
Outcome 2: Fixed Emotion Mind-set				
Fixed Emotion Mind-Set: Preinduction	10.63 (.39)	11.72 (.37)	11.51 (.37)	11.14 (.41)
Fixed Emotion Mind-Set: Postinduction	9.08 (.38)	11.18 (.36)	9.64 (.42)	11.43 (.41)
Outcome 3: Failure-Is-Debilitating Belief				
Failure-Is-Debilitating Belief: Preinduction	16.45 (.51)	17.06 (.46)	17.10 (.48)	16.88 (.54)
Failure-Is-Debilitating Belief: Postinduction	15.50 (.50)	13.95 (.56)	13.64 (.53)	16.31 (.61)
Outcome 4: Therapy Effectiveness Beliefs				
Therapy Effectiveness Belief: Preinduction (Parent)	6.91 (.23)	6.56 (.23)	6.38 (.22)	7.14 (.21)
Therapy Effectiveness Belief: Postinduction (Parent)	7.56 (.21)	7.00 (.23)	7.17 (.21)	7.43 (.21)
Therapy Effectiveness Belief: Preinduction (Child)	7.54 (.19)	6.95 (.23)	7.09 (.21)	7.80 (.20)
Therapy Effectiveness Belief: Postinduction (Child)	7.86 (.21)	7.36 (.22)	7.63 (.20)	7.83 (.20)
Outcome 5: Medication Effectiveness Beliefs				
Medication Effectiveness Belief: Preinduction (Parent)	6.23 (.26)	5.53 (.27)	6.23 (.24)	5.83 (.28)
Medication Effectiveness Belief: Postinduction (Parent)	6.21 (.27)	5.52 (.28)	5.97 (.27)	5.98 (.29)
Medication Effectiveness Belief: Preinduction (Child)	5.82 (.27)	5.36 (.27)	5.46 (.25)	5.78 (.29)
Medication Effectiveness Belief: Postinduction (Child)	5.71 (.26)	5.27 (.28)	5.37 (.27)	5.69 (.30)
Outcome 6: Preference for "No Treatment"				
% Preferring "No-Treatment," Preinduction (Parent)	21.30%	23.10%	25.00%	18.50%
% Preferring "No-Treatment," Postinduction (Parent)	18.50%	18.50%	21.30%	16.90%
% Preferring "No-Treatment," Preinduction (Child)	12.00%	13.90%	14.20%	7.40%
% Preferring "No-Treatment," Postinduction (Child)	11.10%	14.80%	12.30%	7.40%

Note: Continuous variables are shown as M (SE).
[a] n = 108.
[b] n = 106.

inherently flexible. The failure-is-enhancing passage, titled "Is Failure a Friend or Foe?" presents data, quotations, and real-life examples to illustrate the notion that failure promotes learning, growth, and self-reflection. Similarly structured inductions have been used to promote adaptive attitudinal shifts, including stronger emotion malleability beliefs (Kneeland et al., 2016) and personality (Yeager, Trzesniewski, & Dweck, 2013). In contrast, the control passage, titled "Where do Emotions Come From?" conveyed the idea that human emotions are universal, evolved experiences caused by reactions to environmental changes and demands. Like the other passages, the control passage presents scientific information and real-life examples to

convey its message. Content intentionally included psychoeducation regarding the nature of human emotions, so that the passage would serve as a robust comparison. Although it contains a positive message and potentially interesting information, it neither addresses nor alludes to the malleability of emotions or the value of failure.

After reading their assigned passage(s), parents were asked to briefly summarize its main arguments "as though you were trying to convince a fellow parent why the passage's main arguments are true." This process has been used successfully to strengthen the potency of subtle manipulations, using the "self-persuasion" or "saying-is-believing" effect to aid internalization of the passage's arguments (Aronson, 1999). Parents in

the combined condition were asked to summarize both the growth emotion mind-set and the failure-is-enhancing passages.

Regardless of condition, participants again completed the hypothetical treatment preferences and beliefs questionnaire (i.e., primary study outcomes), as well as the mind-set measures and Failure Beliefs Scale (as manipulation checks for conditions) immediately postinduction.

Results

Sample Characteristics

Table 3 displays final sample characteristics by condition. No group differences emerged on demographic factors or preinduction emotion mind-sets or failure beliefs, indicating successful randomization.

Correlations

Bivariate correlations between parents' pre- and postinduction study variables, as well as parent and child symptomatology, are presented in the appendix (point-biserial correlations are displayed where applicable). As in Study 1, parents with stronger preinduction fixed anxiety and emotion mind-sets and those with stronger views of failure as debilitating rated psychotherapy as less likely to be helpful in reducing mental health problems for themselves and their children. In addition, parents with stronger preinduction fixed anxiety mind-sets rated medication-based treatment as more likely to be helpful for themselves, and parents with stronger preinduction fixed emotion mind-sets rated medication-based treatment as more likely to be helpful for their offspring. Parents' anxiety mind-sets, emotion mind-sets, and failure beliefs were not associated with a preinduction preference for "no treatment" for themselves, over psychotherapy and medication. However, stronger preinduction fixed emotion mind-sets (but not anxiety mind-sets or failure beliefs) correlated with a preference for "no treatment" for offspring, over both psychotherapy and medication.

As in Study 1, no differences emerged in beliefs about the effectiveness of mental health treatment by parent or child mental health treatment history, parent education, parent gender, or child age or gender. Also as in Study 1, parents reporting higher levels of mental health problems in themselves and their children rated psychotherapy as less likely to be effective, both for themselves and their children. However, parent and child symptomatology were not significantly associated with preferences for "no treatment" (vs. psychotherapy and medication). Thus, total scores on the BSI and SDQ were included as covariates in analyses specifying mental health treatment expectations as the outcome variable.

Induction Effects on Emotion Mind-sets and Failure Beliefs

We ran two generalized estimating equations (GEE) models using a 4 (induction condition) X 2 (time: pre- and post-induction) design to test whether the inductions significantly shifted the targets they were designed to tap. GEE is an extension of linear mixed model permitting correlated repeated observations; it provides greater precision and power than alternate approaches, such as an analysis of covariance, and accommodates both binary and continuous outcomes (Hanley, Negassa, Edwardes, & Forrester, 2003). Here, linear GEE models included time, induction condition, and their interaction; covariates were parent psychological distress and child mental health problems; and outcomes were emotion mind-sets and failure beliefs. A significant Overall Time × Induction interaction indicated that the inductions led to differential shifts in fixed mind-sets of emotion or views of failure as debilitating, respectively. We followed up significant interaction effects with Bonferroni-corrected pairwise comparisons. An independent covariance structure offered the best fit to the data and was applied to all models in this study.

Significant Overall Time × Induction effects emerged for the GEE model predicting emotion mind-sets, Wald χ^2(3, $N = 430$) = 25.32, $p < .001$, and failure beliefs, Wald χ^2(3, $N = 430$) = 40.73, $p < .001$. Pairwise comparisons showed that parents in the failure-is-enhancing condition showed greater improvements in failure beliefs than parents in the growth mind-set ($p = .001$) and control conditions ($p < .001$). Further, parents in the combined condition showed greater improvements in failure beliefs than parents in the growth mind-set ($p < .001$) and control ($p < .001$) conditions. Changes in failure beliefs did not differ for parents in the failure-is-enhancing versus combined conditions ($p = .57$).

Further, parents in the emotion mind-set condition showed greater increases in growth emotion mind-sets than parents in the failure-is-enhancing ($p = .002$) and control ($p < .001$) conditions. Parents in the combined condition also showed greater increases in growth emotion mind-sets than those in the failure-is-enhancing ($p = .001$) and control ($p < .001$) conditions. Changes in emotion mind-sets did not differ for parents in the emotion mind-set versus combined conditions ($p = .84$). Thus, each induction selectively shifted emotion mind-sets and/or failure beliefs as predicted, and to significantly greater degrees than the control.

Induction Effects on Psychotherapy Effectiveness Beliefs

We conducted two linear GEE models to assess whether the various induction conditions improved parents' beliefs about the potential effectiveness of psychotherapy for themselves and their children, both using the same 4 (induction) × 2 (time) design. Predictors were time, induction, and their interaction; covariates were parent psychological distress and child mental health problems; and outcomes in the models were parents' psychotherapy effectiveness beliefs for themselves and their offspring, respectively. We

followed up significant interaction effects with Bonferroni-corrected pairwise comparisons of estimated marginal means for outcomes (adjusted for all model predictors). Figure 2 illustrates results for both models, based on estimated marginal means for outcomes.

With regard to parents' psychotherapy effectiveness beliefs for themselves, significant effects emerged for induction condition, Wald $\chi^2(3, N = 430) = 13.22$, $p = .004$; time, Wald $\chi^2(1, N = 430) = 77.70$, $p < .001$; and their interaction, Wald $\chi^2(3, N = 430) = 17.24$, $p = .001$, but not for either covariate ($ps \geq .36$). Based on pairwise comparisons using a Bonferroni correction, parents in the combined condition showed stronger postinduction psychotherapy effectiveness beliefs than did parents in the control ($p = .001$, $d = .51$), 95% confidence interval (CI) [.24, .78]. The same pattern emerged for parents in the mind-set condition ($p = .03$, $d = .38$), 95% CI [.11, .64]. No significant pairwise differences emerged between any of the other conditions after applying corrections, though the individual effect size was in the expected direction for the failure-is-enhancing induction relative to the control ($d = .17$), 95% CI [−.09, .44].

Similar effects emerged regarding changes in parents' psychotherapy effectiveness beliefs for their children. Significant effects emerged for induction condition, Wald $\chi^2(3, N = 430) = 8.37$, $p = .04$; time, Wald $\chi^2(1, N = 430) = 25.86$, $p < .001$; and their interaction, Wald $\chi^2(3, N = 430) = 11.05$, $p = .01$, but not for either covariate ($ps > .15$). Again, relative to parents in the control group, parents in the combined condition ($p = .002$, $d = .43$), 95% CI [.16, .70], and the mind-set condition ($p = .03$, $d = .30$), 95% CI [.03, .57], showed significantly stronger psychotherapy effectiveness beliefs for offspring. No significant pairwise differences emerged between any of the other conditions after applying corrections, though the individual

effect size was in the expected direction for the failure-is-enhancing inductions ($d = .24$), 95% CI [−.01, .52], relative to the control.

Induction Effects on Medication Effectiveness Beliefs

We conducted two linear GEE models to assess whether the various induction conditions improved parents' beliefs about the potential effectiveness of medication for themselves and their children, both using the same 4 (induction) × 2 (time) design. Predictors were time, induction, and their interaction; covariates were parent psychological distress and child mental health problems; and outcomes in the models were parents' medication effectiveness beliefs for themselves and their offspring, respectively. Regarding parents' medication effectiveness beliefs for themselves, a significant effect emerged for time, Wald $\chi^2(1, N = 430) = 4.16$, $p = .04$, but not for condition, Wald $\chi^2(1, N = 430) = 6.23$, $p = .10$; their interaction, Wald $\chi^2(1, N = 430) = .57$, $p = .45$; or either covariate ($ps \geq .10$). Regarding parents' medication effectiveness beliefs for offspring, effects were nonsignificant for time, Wald $\chi^2(1, N = 430) = 1.64$, $p = .20$; condition, Wald $\chi^2(1, N = 430) = 6.23$, $p = .10$; their interaction, Wald $\chi^2(1, N = 430) = .02$, $p = .99$; and both covariates ($ps \geq .06$). Thus, induction did not predict changes in parents' beliefs about the effectiveness of medication-based treatment for mental health problems in themselves or offspring.

Induction Effects on Hypothetical Treatment Choices

Because Study 1 results suggested that emotion mind-sets and failure beliefs were associated with parents' preferences for no treatment, but not for medication versus
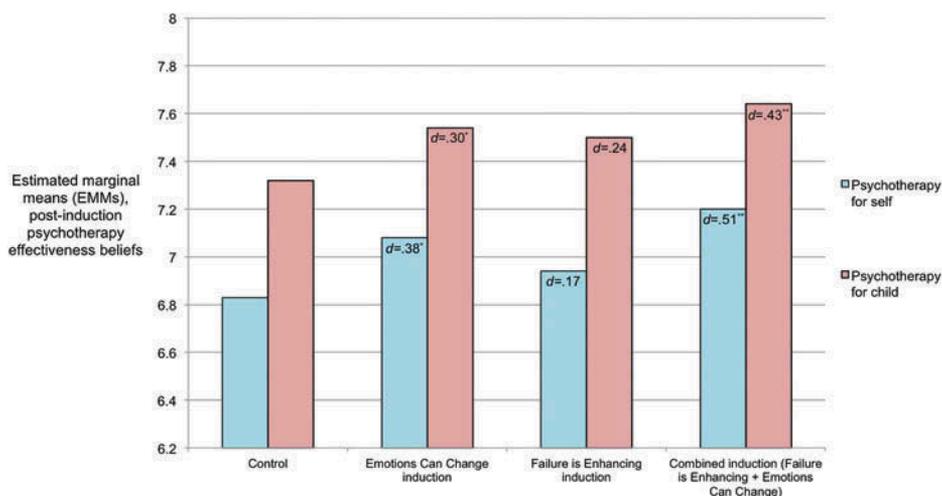
FIGURE 2   Postinduction parent beliefs about the effectiveness of psychotherapy for themselves and their children. *Note*: Estimated marginal means for outcomes are adjusted for the effects of induction condition, time, parent psychopathology, and child mental health problems. Effect sizes (*d*) reflect standardized postinduction differences in therapy effectiveness beliefs for parents in individual induction conditions, relative to the control. *$p < .05$. **$p < .01$.

psychotherapy, we tested induction effects on parents' preferences for no treatment versus *any* treatment type (psychotherapy or medication). We ran two binary logistic GEE models—one for parent preferences for themselves and one for offspring—to test induction effects on hypothetical treatment choices, controlling for baseline treatment choice. With regard to postinduction parent treatment preferences for themselves, GEE model effects were significant for time, Wald $\chi^2(1, N = 430) = 4.85$, $p = .03$, but not for condition, Wald $\chi^2(3, N = 430) = .37$, $p = .95$, or their interaction, Wald $\chi^2(3, N = 430) = .23$, $p = .97$). Similarly, with regard to offspring, effects were nonsignificant for time, Wald $\chi^2(1, N = 430) = .13$, $p = .71$; condition, Wald $\chi^2(3, N = 430) = .78$, $p = .85$; and their interaction, Wald $\chi^2(3, N = 430) = .67$, $p = .88$. Thus, induction did not predict changes in parents' postinduction hypothetical treatment preferences for themselves or their offspring.

DISCUSSION

Parents' expectancies and preferences for mental health services predict engagement, dropout, and clinical outcomes, both for themselves and offspring. We explored whether parents' global beliefs about the *malleability* of anxiety and emotions and the *utility* of failure might shape their attitudes toward mental health treatment. Study 1 showed that parents' failure-is-debilitating beliefs and, to a lesser degree, fixed emotion mind-sets (but not anxiety mind-sets) were independently associated with lower parent expectancies of psychotherapy, both for themselves and their children, and a greater likelihood of declining services for their children in a hypothetical treatment choice task. Failure-is-debilitating beliefs (but not emotion or anxiety mind-sets) were also linked to stronger parent preferences for "no treatment" for themselves. In Study 2, compared to an active control, 8- to 15-min online exercises teaching growth emotion mind-sets, as well as an exercise teaching growth emotion mind-sets *and* failure-is-enhancing beliefs, led to greater increases in parents' optimism about the effectiveness of psychotherapy, both for themselves and their children. However, inductions that taught just failure-is-enhancing beliefs did not improve psychotherapy effectiveness beliefs relative to the control. Further, none of the inductions changed parents' beliefs about medication-based treatment, nor did they reduce the likelihood that parents opted for "no treatment" in a treatment choice task.

Results support the utility of brief, targeted programs promoting positive parental attitudes toward mental health treatment, specifically psychotherapy. Primary contributions of results are twofold. First, they suggest that parents' beliefs about treatment effectiveness are *malleable*—at least to some degree—through an extremely brief online activity. Studies have documented adverse effects of pessimistic treatment expectancies for clinical outcomes in adults

(Greenberg et al., 2006), as well as for children whose parents view treatment negatively (Nock, Ferriter, & Holmberg, 2007). However, to our knowledge this study provides the first evidence that a single, self-administered exercise can improve parents' optimism about psychotherapy for themselves *and* offspring. Second, findings from Studies 1 and 2 suggest promising *targets* for such programs: beliefs that emotions are malleable and that failure is enhancing. Both belief types are general in nature; that is, neither emotion malleability beliefs nor failure-is-enhancing beliefs are specific to mental health or treatment-related contexts. Thus, either the mind-set-focused or the combined induction in Study 2 may prove acceptable, relevant, and useful both for treatment-seeking parents and for those not currently experiencing distress but who might consider services in the future. Certainly, Study 2 effect sizes were modest (in the medium range) and limited to postinduction, parent-report outcomes. Longer term replications will help gauge the durability of the effects observed and their generalizability to other outcomes of clinical importance, including treatment retention, engagement, and response in parents and children with mental health needs.

Present results also demonstrate that brief online inductions may shift parents' failure beliefs and emotion mind-sets. Compared to the control, all three active inductions significantly shifted parents' failure beliefs and/or emotion mind-sets. Brief exercises have successfully strengthened growth mind-sets in children and adolescents (e.g., Schleider & Weisz, 2016b), but it would be reasonable to expect that such core beliefs would be harder to shift in parents who have accrued more life experience to support their worldviews. The robustness of present inductions' effects on emotion mind-sets and failure beliefs may offer a useful foundation for future research exploring these constructs in parents.

Compared to the control, only inductions teaching growth emotion mind-sets significantly improved parents' psychotherapy effectiveness beliefs. The effects of the combined induction, however, appeared slightly larger than those for the induction teaching growth mind-sets alone; indeed, the mind-set-only and failure-belief-only inductions yielded roughly additive effects (see Figure 2). This outcome suggests that the two messages may be complementary: Learning about the value of failure might help individuals reflect on, reframe, and learn from times when they experienced difficulty regulating maladaptive emotions—which, as the mind-set induction teaches, are controllable through effort and support. It follows, therefore, that combining these messages might help strengthen optimism about psychotherapy: a process that (a) teaches emotion-change skills and (b) often involves challenges, setbacks, and failures—specifically around learning to regulate disruptive emotions. Future work may further unpack these messages' potentially synergistic effects.

Notably, none of the inductions influenced parents' preferences for accepting versus declining treatment, given hypothetical treatment options, for themselves or offspring. This result might have reflected, in part, the relatively low base rate for parents' preferring no treatment in Study 2. At preinduction, only 21.86% and 11.88% of parents preferred no treatment for themselves and offspring, respectively. These low proportions may have reduced power to detect induction effects. For example, the percentage of parents in the combined group opting for no treatment for themselves declined by 14.8% from pre- to postinduction, versus 9.1% in the control, but this difference did not emerge as significant. Similarly, the percentage of parents choosing no treatment for offspring was unchanged at postinduction among control-group parents but declined by 13.40% among combined-group parents. Future studies targeting parents who have declined prior treatment—thereby mitigating low base rate concerns—might be better able to examine induction effects on treatment preferences.

We should also note that parents' beliefs about likely treatment efficacy, although influential, are only one of many factors that may influence treatment seeking. Family income, insurance coverage, immigration status, time constraints, knowledge about available services, and logistical and structural barriers (e.g., distance to providers; transportation issues) may all play a role (Thompson, Hunt, & Issakidis, 2004), limiting the potential effects on treatment-seeking preferences of interventions targeting parental beliefs alone. These other barriers are not addressed in the inductions tested here. Perhaps present inductions could be usefully combined with strategies addressing other barriers (e.g., psychoeducation about service-seeking procedures, identifying providers that accept one's insurance, and about evidence-based treatments for the problems affecting them or their children). Future trials are needed to test the promise of this two-pronged approach.

Study 1 results raise an additional question: Why were failure beliefs and (to a lesser degree) emotion mind-sets, but not anxiety mind-sets, independently associated with parents' treatment views and preferences? One plausible explanation is that parents in this study were not selected based on past or current anxiety treatment. Thus, anxiety-specific beliefs might not have been broadly applicable to participants. In contrast, beliefs about "emotion" (which could encapsulate *any* kind of emotion, be it anger, sadness, or fear) and failure (a universal human experience) might have applied more broadly, regardless of parents' and children's history of mental health problems. Anxiety mind-sets predicted treatment preferences in clinically anxious samples (Valentiner et al., 2013), and one study found that anxiety mind-sets (and emotion mind-sets) were linked to treatment preferences in nonreferred college students (Schroder et al., 2015). Perhaps the unique effects of anxiety mind-sets on parental treatment attitudes—independent of general beliefs about failure and emotion—might be most consistent in clinically anxious populations. Further replications will help assess this possibility.

Results also suggest that parents' mind-sets and failure beliefs might be more relevant to their views of psychotherapy than medication-based treatment. In Study 1, neither parents' mind-sets nor failure beliefs were linked with optimism about medication, and in Study 2, induction condition did not predict medication effectiveness beliefs. Consistent with these results, prior studies have supported the possibility that parental beliefs—particularly beliefs about the controllability of personal characteristics—might specifically affect attitudes toward psychosocial treatments. In one study of 101 mothers of children with ADHD, parental attributions of child ADHD behavior as within the child's control were related to viewing behavioral treatment (e.g., parent training) as more acceptable, regardless of whether the child was receiving ADHD medication (Johnston, Mah, & Regambal, 2010). In addition, programs targeting parental attributions about behavior in offspring with ADHD—including decreasing beliefs that ADHD symptoms are stable, internal traits—have enhanced the effectiveness of nonpharmacological ADHD treatments (Johnston & Ohan, 2005). Replications with clinical samples are needed to ascertain whether parents' emotion mind-sets and failure beliefs uniquely shape psychotherapy expectancies, as opposed to those regarding other treatment modalities.

Although findings are preliminary, considering implementation strategies for these inductions can suggest promising avenues for future research. In clinical settings, it might be helpful for parents to complete the mind-set or combined induction before the start of adult- or child-focused services. Either induction might strengthen readiness to engage in treatment by promoting the ideas that emotions are malleable and failure is valuable: key tenets of change-focused psychotherapies. The self-administered format (whether paper based or computer based) seems important to retain, as the "self-persuasion" facet of growth mind-set inductions may be core to their effectiveness (Miu & Yeager, 2015; Schleider & Weisz, 2016b). Future studies may explore the acceptability of administering these inductions at the start of services—for example, by including them among standard parent intake questionnaires—and whether they might yield greater benefits for parents with stronger fixed mind-sets, lower optimism about psychotherapy, or maladaptive failure beliefs prior to treatment.

In addition, given the generalized nature of emotion malleability and failure beliefs, the present inductions might be acceptable and helpful to non-treatment-seeking parents. Compared to treatment-focused psychoeducation, parents may perceive information about mind-sets and failure beliefs as more relevant to their children's lives if they are not experiencing mental health concerns. Thus, pending replications and extensions of present results, another implementation avenue might be through children's schools. For instance, the induction might be administered to all parents

whose children are entering a new elementary or middle school (e.g., it could be included with enrollment-related forms that all parents complete). Future longitudinal studies might assess this approach as a *prevention* strategy for youth and parent mental health problems: By enhancing parents' intervention effectiveness beliefs *before* problems emerge, the inductions might increase parents' openness to school-based interventions and supports and to treatment if it becomes warranted in the future.

Study limitations suggest additional directions for future research. First, Study 2 results cannot speak to the durability of induction effects on parents' treatment effectiveness beliefs. However, prior studies have found that very brief, and even single-session, psychological interventions can have sustained, positive effects across months or even years (Schleider & Weisz, 2017). Studies with extended follow-ups may explore the stability of the inductions' longer term effects on treatment attitudes, as well as on actual treatment-seeking behavior, engagement, and retention. Second, because Study 1 was cross-sectional, we could not assess whether viewing mental health treatment as ineffective increased future fixed mind-sets or failure-is-debilitating beliefs. Third, the sample was mostly Caucasian and relatively well educated, rendering generalizability to diverse populations unclear. However, nearly half of study participants were fathers; in this respect, the sample was *more* representative than many observed in clinical child psychology research (Lamb, 2010). Parent gender was unassociated with mind-sets, failure beliefs, and treatment preferences, suggesting the applicability of results to male and female caregivers. Finally, although the emotion mind-set induction improved parents' psychotherapy effectiveness beliefs, its content might be expanded in future studies—particularly in studies targeting clinical populations—to better address the varied emotional challenges that can characterize depression. Here, the mind-set induction taught the idea that *intense negative emotions* are malleable. However, for many, depression manifests as *blunted emotionality* rather than intense sadness or hopelessness. To broaden relevance for individuals with diverse depression presentations, future emotion mind-set inductions might emphasize two related ideas: that people can (a) *control negative* emotions and (b) *generate positive* emotions, even if they have difficulty experiencing them (e.g., through behavioral activation).

Overall, findings suggest two global belief systems that may influence parents' mental health treatment expectancies. Study 1 showed that parents' failure-is-debilitating beliefs and, to a lesser degree, fixed emotion mind-sets were independently associated with lower optimism about the effectiveness of psychotherapy for themselves and offspring, as well as a stronger likelihood of declining any type of mental health treatment for their children. In Study 2, compared to an active control, online inductions teaching (a) growth emotion mind-sets only and (b) growth emotion mind-sets and failure-is-enhancing beliefs improved their optimism about the helpfulness of psychotherapy, both for offspring and themselves—but not their likelihood of accepting services given hypothetical treatment options. Results suggest a scalable, lost-cost strategy for improving parents' attitudes towards psychotherapy. Future trials are needed to test the durability of intervention effects on treatment attitudes, retention, engagement for parents and youths with mental health needs, and applicability across community and clinic-referred populations.

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APPENDIX TABLE 1.

Associations between parents' failure beliefs, mindsets of emotion, and mindsets of anxiety and psychotherapy effectiveness beliefs for themselves and their children (Study 1).

	Dependent Variable	
	Psychotherapy Effectiveness Belief (for self)	
Predictors	ß	R^2
		.10**
Parent psychological distress (BSI)	-.02	
Child psychopathology (SDQ)	-.08	
Fixed mindset of emotion	-.16	
Fixed mindset of anxiety	.02	
'Failure-is-debilitating' belief	-.18*	
Predictors	*Psychotherapy Effectiveness Belief (for child)*	
	ß	R^2
		.15**
Parent psychological distress (BSI)	-.13	
Child psychopathology (SDQ)	-.07	
Fixed mindset of emotion	-.08	
Fixed mindset of anxiety	.00	
'Failure-is-debilitating' belief	-.18*	

Note.[+]$p < .10$, *$p < .05$, **$p < .01$.