Does Broadening One's Concept of Trauma Undermine Resilience?

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Abstract

The term 'trauma' seems to have expanded from a narrow usage (referring exclusively to extreme events such as rape and warfare) to a broad usage (encompassing almost any event that results in emotional distress). Today, individuals vary widely in the extent to which their personal 'trauma concept' is relatively narrow or broad. In this study, we explore whether this variation is important to individuals' actual experience when facing a stressful event (in this case, watching a disturbing film clip). Individuals with broader beliefs about trauma experienced more intense negative emotions and were more likely to report viewing the film clip as a personal trauma. Moreover, those who saw the film clip as a personal trauma reported more event-related distress (e.g., intrusions, nightmares) several days following. However, we find limited support for causality, with an experimental manipulation showing a significant effect on personal trauma concepts but mixed effects on other outcomes.

Keywords: trauma, PTSD, belief

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The word 'trauma' is often used by physicians to describe grave and potentially long-lasting physical injury (e.g., head trauma). Its usage in psychiatry, however, refers to injuries of an emotional variety. This usage of trauma denotes events capable of producing intense acute distress that may persist for many years, exemplified by posttraumatic stress disorder (PTSD).

PTSD is characterized by a re-experiencing of traumatic events, hypervigilance and startle reactions, dysphoria or emotional numbness, and other symptoms that endure for at least one month following a distressing event (APA, 2013). PTSD first appeared in the DSM-III in 1980 because of discussions surrounding post-Vietnam war syndrome (McNally, 2003a).

Individuals returning from the Vietnam War experienced symptoms such as flashbacks and intrusive memories, prompting psychiatrists to examine the phenomenon more closely. War veterans were grouped with those traumatized by rape, natural disasters, and the Holocaust to form the category of PTSD, which dealt with nonrecovery from traumatic events in general (McNally, 2003a).

Conceptual Bracket Creep in the Definition of Trauma

Initially, only extremely terrifying and rare events were presumed capable of producing PTSD. Since that time, the range of events deemed capable of producing PTSD has substantially expanded (McNally, 2011). For example, individuals have reported PTSD resulting from being bullied at work (Matthiesen & Einarsen, 2004). This "conceptual bracket creep in the definition of trauma" (McNally, 2003, p. 281) has also extended more generally to other types of harm (e.g., bullying, aggression; Haslam, 2016).

We must distinguish, however, between bracket creep within the formal diagnostic definition of PTSD and bracket creep within individuals' personal understanding of trauma. We

hereafter refer to the former as the *diagnostic concept* of trauma and the latter as a *personal concept* of trauma. These two concepts are not necessarily independent. For example, individuals may modify their personal concept of trauma upon learning about changes to the official version.

Diagnostic Concept Bracket Creep

The diagnostic concept of trauma has changed substantially over the past decades. Originally implicitly confined to extremely severe events (e.g., combat, torture, rape), the definition of trauma as embodied in the DSM's Criterion A for PTSD has significantly expanded. Why did this occur?

When committees met to update the criteria for PTSD for later versions of the DSM, empirical research had complicated the DSM-III diagnostic definition (McNally, 2015). Evidence suggested that most individuals suffering from canonical stressors do not develop PTSD, and those who did develop PTSD often had pre-existing risk factors (Breslau, Davis, Andreski, & Peterson, 1991). More importantly, cases were observed in which individuals who had not experienced canonical DSM-III stressors nevertheless met the symptomatic profile of PTSD (Dohrenwend, 2010). DSM-III-R explicitly defined trauma in Criterion A, broadening it to include vicarious exposure (e.g., witnessing another person being harmed; APA, 1987). DSM-IV committee members further expanded the stressor criterion to include a much wider variety of potential traumatic experiences. If the committees did not broaden the concept of trauma, individuals who otherwise qualified for the diagnosis would have been unable to receive reimbursable treatment for their suffering. DSM-5 scaled back this expansion in comparison to DSM-IV but remained expanded compared to DSM-III. Many researchers have since expressed concern that the expanding definition of PTSD may undermine the integrity of the

psychobiological concept of PTSD (Bracha & Hayashi, 2008; Elhai, Kashdan, & Frueh, 2005; McNally, 2003b; McNally, 2009).

Personal Concept Bracket Creep

In addition to diagnostic concept changes, many individuals seem to have expanded their personal definitions of trauma. However, research in this area is comparatively lacking. There are anecdotal suggestions that at least some conceptualizations of traumatic distress have expanded far beyond even the broadened version in the DSM. For example, one report suggested that a quarter of college students reported clinically significant event-related symptoms in response to the 2016 election results (Hagan, Sladek, Luecken, & Doane, 2020). Others have suggested that being bullied at work (Matthiesen & Einarsen, 2004) or giving birth to a healthy baby with no complications (Olde, van der Hart, Kleber, & van Son, 2006) can result in PTSD. Indeed, some leading scholars have suggested that speech can be a form of violence (e.g., Feldman-Barrett, 2017) and therefore potentially a trauma. These evolving views confirm Haslam's (2016) concern that our concept of psychological harm continues to expand dramatically. This trend seems especially evident on the American college campus where calls for protective policies such as trigger warnings, safe spaces, and disinvitations of potentially distressing speakers have increased (Lukianoff & Haidt, 2018). Yet strong conclusions in this area are premature, as they are limited to specific demographic groups and may not generalize widely.

What influences the breadth of one's personal concept of trauma? Formal diagnostic concepts likely have some impact, but it is unclear how this process takes place. Psychological characteristics such as neuroticism, trait anxiety, or anxiety sensitivity may play a role. Directly experiencing a traumatic event or having a traumatic event occur to a friend or family member may also influence an individual's perception of trauma.

Some recent studies illuminate this issue. Schroeder and colleagues (2017) found that parents who scored higher on victim sensitivity and entitlement had broader concepts of 'bullying'. Expanding this line of research, McGrath and colleagues (2019) evaluated personal concepts of harm, including bullying, abuse, prejudice, and trauma. They found that variations in concept breadth were correlated across each of these contexts. Those with broader concepts of harm were more likely to endorse liberal political attitudes, greater empathic concern, and sensitivity to injustice towards others. Consistent with Schroeder et al. (2017), those with broader concepts also reported greater entitlement and personal vulnerability. Surprisingly, findings on age were mixed, with one sample showing a link between broader concepts and younger age, whereas the other found no such link (McGrath et al., 2019).

Perhaps personal concepts of trauma are impacted by general exposure to life adversity either directly or through one's social group. That is, a mildly stressful event in the context of a relatively stress-free life might cause more acute distress than the same event in the context of a challenging life (McNally, 2016). One recent insight in this area comes from research on *prevalence-induced concept change* (Levari, Gilbert, Wilson, Sievers, Amodio, & Wheatley, 2018). Prevalence-induced concept change means that when instances of a concept become less prevalent, individuals broaden their interpretation of the concept, changing the context in which future instances are evaluated. For instance, imagine that a judge spends the day sentencing many criminals. If a judge is in the midst of evaluating many rapists and murderers, the context may cause the judge to be more lenient to petty criminals, letting them off with only a warning. However, as the number of serious crimes decreases, the judge's decision-making changes. The judge may now behave more strictly towards petty crimes, doling out large fines or stiff sentences. The judge has broadened his conceptual bracket.

One recent investigation found no evidence for prevalence-induced concept change in the concept of trauma over the course of a short experiment (Jones, Levari, Bellet, & McNally, 2020). However, the authors found a *range*-induced concept change – that is, individuals who read brief descriptions of exclusively nonserious events ("walked up a flight of stairs," "was not hired after a job interview") broadened their conceptual brackets, whereas individuals who saw exclusively serious events ("received chemotherapy," "was raped by a family member") narrowed their conceptual brackets. In summary, it appears that personal trauma concepts are malleable and depend on context.

Does the Personal Concept of Trauma Matter?

Although personal concepts of trauma have likely changed over time, it is unclear whether the actual clinical phenomena surrounding trauma – that is, the emotional and psychological *consequences* of a given event – have been similarly altered.

One possibility is that the concept of trauma has changed, but the emotional consequences following stressful events have remained stable. That is, distress in the wake of any given event may have remained constant over time, but we merely refer to the same emotional reactions by using different words. For example, an individual bullied in the 1970s might have had a comparable emotional experience to an individual bullied in the 2010s, the only difference being that the latter might be labelled 'trauma' by the individual and his/her contemporaries. Yet there is a second possibility: as personal concepts of trauma have changed over time, so have the average emotional consequences of a given event. That is, an average individual bullied in the 1970s may have experienced a very different emotional experience than an average individual bullied in the 2010s.

114 In other words, emotional reactions to an event may partly depend on how the event is
115 understood by the person experiencing it. For example, consider the case of childhood sexual
116 abuse. Many children who are sexually abused do not understand what is happening, and thus
117 experience their molestation as confusing or sometimes even pleasant (Clancy, 2005). However,
118 when recalling these experiences years later through the eyes of an adult, they can experience
119 intense betrayal, shock, and symptoms of delayed onset PTSD (McNally, 2012b). That is, the
120 emotional sequelae of this event depend heavily on the victim's beliefs and understanding of the
121 world.

122 This opens the possibility that events that could not have caused PTSD in the past can
123 cause PTSD today. As McNally (2012a) noted, "Vicarious trauma provides especially dramatic
124 examples. Witnessing the torture and execution of human beings was long a form of
125 entertainment throughout the world. In ancient Rome, amphitheaters featured Christians,
126 criminals, and others tied to stakes as hungry lions devoured them alive to the delight of
127 thousands of cheering fans (pp. 223-224)." Today, witnessing such events would almost certainly
128 result in PTSD for a nontrivial proportion of individuals.

129 Humans constantly adapt their classifications and categorizations of the world, but
130 humans' concepts do not necessarily affect the *referent* of the concepts. The philosopher Ian
131 Hacking thus makes a useful distinction between 'indifferent kinds' and 'interactive kinds' of
132 categorizations (Hacking, 1999, pp. 100-124). For instance, a tree is an indifferent kind—
133 regardless of whether humans might call the tree an alder or an oak, the tree does not respond to
134 its classification. In contrast, a 'police officer' is an interactive kind—humans' collective
135 categorization of an individual as a police officer directly influences how the police officer acts
136 as well as how others act around the police officer.

PTSD may be an interactive kind insofar as the trauma survivor's personal concept of trauma following an adverse event at least partially influences the course of symptoms. The 'interactive kind' hypothesis would imply that the conceptual bracket of trauma interacts with one's emotional responses to a stressful event. For example, people who believe that a stressor is likely to cause a chronic and relapsing emotional condition from which they will never recover may be especially unlikely to take steps enabling them to confront and overcome their distress following the experience. Indeed, trauma survivors who report negative appraisals about a traumatic event (e.g., mental defeat, mental confusion) are more likely to develop PTSD and to experience it more persistently (Dunmore, Clark, & Ehlers, 1999; Beierl, Böllinghaus, Clark, Glucksman, & Ehlers, 2019).

In this study, we investigated whether personal concepts of trauma are related to stress vulnerability. We conducted a randomized experiment in which individuals were trained to have either narrow or broad beliefs about trauma. Participants then watched a stressful film clip (i.e., trauma film paradigm; James et al., 2016) and responded to various self-report measures. We contacted participants several days later to collect follow-up reports of event-related symptoms (e.g., intrusive memories of the clip). This experiment helps test several important questions. First, we test whether broader concepts of trauma predict poorer stress reactions, including negative emotions and event-related symptoms. Second, we test the extent to which personal concepts of trauma are malleable based on a brief manipulation. Finally, we test whether our brief manipulation of personal trauma concepts has a causal effect on negative outcomes.

Method

Participants

Participants were recruited from Amazon Mechanical Turk and were invited to participate in a two-part study. Part 1 of the study was projected to take roughly 30 minutes, and Part 2 was projected to take roughly five minutes. Part 2 was made available to participants after either a minimum of a 48-hour window following Part 1. Participants were excluded from the data analysis if they failed an English language verifier, if they failed more than one attention check across both parts of the study, if they reported having seen the film clip before, or if they voluntarily reported that their data should not be used for any reason (see Supplemental Materials for details). Accordingly, 309 participants provided valid data for Part 1 and 293 participants did so for both parts.

Procedure

We randomized participants to one of two groups. The Narrow Group received psychoeducational materials and exercises meant to induce the belief that the definition of trauma is limited to exceptionally severe events, whereas the Broad Group received a paired series of psychoeducational materials and exercises meant to induce the belief that the definition of trauma extends to virtually any event that may cause emotional distress.

After the manipulation, participants watched a film clip from the movie *The Last King of Scotland* that depicts a mutilated corpse (Claderwood, Bryer, Steel, & Macdonald, 2006). Participants rated their emotions in response to the film and answered basic verification questions to ensure they had watched it in its entirety.

Participants then reported on several psychological scales (see Measures). They also completed a Trauma Breadth scale that we developed as a manipulation check. This scale measures the extent to which participants construe trauma broadly. Participants reported demographic information and completed an English verifier question. Finally, after assuring

participants that their replies would not imperil their compensation, we asked participants to report if there was any reason their responses might be considered invalid and we asked them for any feedback about the survey that the researcher should know.

In Part 2, participants completed the Impact of Events Scale (IES-R; Weiss, 2007; Horowitz, Wilner, & Alvarez, 1979) in reference to watching the film clip and repeated the Words Can Harm Scale and Trauma Breadth Scale. They were also asked to report if they considered watching the film clip in Part 1 of the study to be a trauma.

Measures

Experimental Manipulation

Part 1: Psychoeducation. Participants read a single page of psychoeducational material. They were required to remain on the screen for at least eight seconds and were told to read carefully, as they might be tested on the information later. In the Narrow Condition, participants were given the following vignette:

What is Trauma?

Scientists define trauma as “very rare, horrifying events, such as witnessing the murder of innocents and children, being violently raped by a stranger, or tortured as a prisoner of war.”

Although the word "trauma" is sometimes used in conversations to reference any distressing event, this does a disservice to individuals who have suffered from actual psychological traumas such as rape or systematic abuse. Many experiences in life can be upsetting, but trauma refers only to a specific and extreme class of event experienced by few.

In the Broad Condition, participants were given the following vignette:

What is Trauma?

Scientists define trauma as “any event which could cause intense distress to a person.”

Trauma can consist of a wide range of events but is often as simple as learning about a frightening event, being verbally harassed, or experiencing social rejection.”

Although the word "trauma" might bring to mind extreme experiences outside the range of common experience, trauma also includes more common but damaging experiences such as being bullied or learning about horrifying events that have happened to others.

Part 2: Guessing Task. Participants were asked to guess the prevalence of PTSD for several different events (e.g., War combat experience has a ____% chance of causing PTSD). Participants were then given feedback on the "correct" answer. In the narrow condition, the feedback was based on actual rates of PTSD (Liu et al., 2017; e.g., war combat experience = 1.9%). In the broad condition participants were asked about less severe events (e.g., being fired from a job) and were given inflated rates of PTSD (e.g., being fired from a job = 55%).

Part 3: Sorting Task. Participants viewed a series of brief descriptions of stressful events (e.g., "being shoved," "being a victim of sexual assault," "witnessing violence on TV"). They were asked to sort the events into one of two categories: "Not Trauma" or "Trauma." They were only allowed to proceed once they had the answer "correct" according to the information provided in the psychoeducation section.

Film and Emotions

Film Clip. The 7-minute film clip included selected scenes from the film *The Last King of Scotland* (Claderwood et al., 2006). The same clip was used in a previous trauma film study (Marks & Zoellner, 2014). Participants were instructed to enter full screen mode and to watch it in its entirety. A man and a woman are shown to be romantically involved. The woman tells the

man that she is pregnant and that her husband will kill them; they discuss possibilities for her to obtain an abortion. The man is later shown desperately searching for the woman, and eventually finds her corpse. An image is shown depicting her limbs having been removed from her torso and the position of her arms and legs switched. The man vomits and the clip ends.

Emotions. After watching the clip, participants rated their emotions (Fearful, Anxious, Depressed, Sad, Happy, Horrified, Helpless, Irritable, Ashamed, Guilty) on a slider scale from 0 to 100. Emotions (except Happy) were aggregated as Negative Emotions for analysis.

Self-Report Scales

Words Can Harm Scale (WCHS-10) (Bellet, Jones, & McNally, 2018; Jones, Bellet, & McNally, in press). The WCHS is a 10-item scale with sliders (0-100; Strongly disagree – Strongly agree) measuring the extent to which participants believe that words can cause long-lasting emotional harm. Examples of items include "I should be careful about what I say, as it could permanently damage someone's emotional health" and "Even a simple phrase can be emotionally traumatizing for someone vulnerable." The WCHS-10 was administered at both time points.

Perceived Posttraumatic Vulnerability Scale – Self and Other (PPVS-S; PPVS-O) (Bellet et al., 2018; Jones et al., in press). The PPVS-S is a 19-item scale measuring the extent to which participants believe they would be vulnerable to an imagined future trauma ("A stranger threatens to take your life and tries to kill you, but you survive the incident"). Participants are asked to rate their projected PTSD-like responses to the event (e.g., "I would never be the same as I was before the event," "I would have difficulty sleeping") on a slider (0-100; Strongly disagree – Strongly agree). The PPVS-O is identical to the PPVS-S but asks participants to first imagine "a specific individual who would be considered an 'average' person," and imagine the

event happening to that person, rather than to themselves. The PPVS-S and PPVS-O were highly correlated in our sample ($r = 0.93$).

Trauma Screener and Life Events Checklist (LEC-5). Participants were given a Criterion A screener (Yes/No). They were also given the LEC-5 and asked to identify their most stressful or traumatic event.

Trauma Breadth Scale (TBS-5) / Manipulation Check. We developed a scale to serve as a manipulation check for this study. The scale was designed to measure participants "Narrow" vs. "Broad" beliefs about trauma: that is, the degree to which they endorse the view that any event can be a trauma. The items were rated on a 7-point Likert scale (Strongly disagree – Strongly agree). Example items include "Even minor, everyday events can be traumatic" and "Even if people act in a well-intentioned way, they could traumatize someone vulnerable accidentally."

To avoid demand characteristics, we prefaced this scale with the following text: "For the next few items, we are interested in your *own genuine opinions*. Again, please do not respond how you think the researcher might want you to respond. Instead, provide your *own honest opinions*." Participants viewed this text for five seconds before they were able to proceed. This text was repeated at each page break during the TBS-5.

The full version of the scale included 10 items. We removed one item because multiple participants reported that it was confusing. We further performed exploratory factor analyses on the scale based on data from the first time point aiming to characterize the scale properties and to the items converging on a single factor. Based on this analysis, we removed four additional items. The final five-item version of the scale had good reliability at the first time point and excellent reliability at the second time point (Cronbach's $\alpha = 0.89, 0.91$) and demonstrated

acceptable properties in single factor confirmatory factor analyses at both time points ($CFI = 0.98, 0.99$; $RMSEA = 0.08, 0.09$; $SRMR = 0.02, 0.02$). We use the standardized sum scores from the five-item version of the scale in all future analyses.

Impact of Event Scale – Revised (IES-R) (Weiss, 2007). The IES-R is a 22-item self-report scale that measures PTSD-like symptoms in response to a specific anchor event. In our case, we asked participants to answer in reference to "the film clip you viewed in Part 1 of the study." Items are rated on a 5-point Likert scale ("Not at all" – "Extremely").

Other. In Part 2 of the study, we asked participants "In your own view, was watching the film clip in Part 1 of the study a trauma?" (Yes/No). Four attention checks (e.g., "Please select 'Strongly Agree'") were interspersed throughout the survey.

Research Questions and Analyses

Our analyses were guided by a series of research questions. First, we were interested in whether beliefs about trauma affected outcomes. Thus, we tested several questions related to the TBS-5, and to participants' binary rating of whether they considered the film clip a trauma.

Q1: Did individuals with a broader view of trauma (i.e., higher scores on the TBS-5) experience more intense negative emotions in response to the film clip?

Q2: Were individuals with a broader view of trauma (i.e., higher scores on the TBS-5) more likely to rate viewing the film clip as a trauma several days following viewing the clip?

Q3: Were individuals with a broader view of trauma (i.e., higher scores on the TBS-5) more likely to experience increased symptoms on the IES-R and its intrusions subscale?

Q4: If individuals viewed the film clip as a trauma, did they experience increased symptoms on the IES-R and its intrusions subscale?

Next, we were interested in the causal effects of our experimental manipulation. That is, was it sufficient to cause changes in participants reported beliefs about trauma on the TBS-5 or on their rating of the film as trauma? If so, did the experimental manipulation have a causal effect on negative emotions and experienced symptoms?

Q5: Did our experimental manipulation change beliefs about the definition of trauma, as measured by scores on the TBS-5, in the expected direction?

Q6: Did our experimental manipulation change whether participants viewed the film clip as a trauma?

Q7: Did our experimental manipulation change the extent to which participants experienced negative emotions in response to the film clip?

Q8: Did our experimental manipulation change the extent to which participants experienced intrusion symptoms or general symptoms as measured by the IES-R?

We analyzed all data by using linear regressions in R. For binary response variables, we used logistic regression. Responses on the IES-R were heavily skewed, with most responses close to zero. Thus, for analyses with the IES or IES subscales as the DV, we used negative binomial regression. Analyses were conducted with all available valid participants. This means that analyses relevant to the first time point had a slightly higher sample size ($n = 309$) than analyses that included data from the second time point ($n = 293$). In analyses relevant to the first time point, we for the following variables: Age, Political Orientation, Gender, and Previous Psychiatric Diagnoses (Y/N) because they were potentially relevant to the dependent variables (i.e., TBS-5, negative emotionality, rating the clip as trauma, IES-R). In analyses relevant to the second time point, we additionally controlled for the amount of time elapsed between viewing the film clip and completing Part 2 of the study. We report effect sizes as Cohen's f^2 , which is a

ratio of the unique contribution of the variable of interest to the model r^2 to the overall r^2 of the model (subtracted from 1). For generalized linear models, we computed a pseudo- r^2 based on the ratio of residual to null deviance values. Cohen's f^2 values of 0.02, 0.15, and 0.35 represent the thresholds for small, medium, and large effect sizes, respectively.

Results

Sample Characteristics

Our sample included 309 participants. Of these participants, a majority identified as male ($n = 175$) and the remainder as female ($n = 134$). Participants identified their ethnicity as Hispanic ($n = 20$) or Not Hispanic ($n = 289$) and their race as Caucasian ($n = 244$), Black/African American ($n = 30$), Hispanic ($n = 10$), Asian/Pacific Islander ($n = 10$), Multi-racial or multiple races selected ($n = 14$), or Other ($n = 1$). They had a median age of 37 years old with a standard deviation of 11.5 years. Most participants identified as Not Religious ($n = 155$). Participants leaned slightly liberal in political orientation ($mean = 2.75$; 1 = *very liberal* to 5 = *very conservative*). A minority of participants reported experiencing a Criterion A traumatic event in their lifetime ($n = 85$) or having been diagnosed with a psychiatric or psychological problem ($n = 50$). There were 16 individuals who did not complete Part 2 of the study, leaving us with 293 participants who completed follow-up measures.

Beliefs about Trauma

Q1: Did individuals with a broader view of trauma (i.e., higher scores on the TBS-5) experience more intense negative emotions in response to the film clip? Yes. After controlling for covariates, TBS-5 scores predicted an increase in composite negative emotions ($f^2 = 0.09$, $p < 0.001$). More liberal political orientation was also predictive of increased negative emotions ($f^2 = 0.03$, $p = 0.002$).

Q2: Were individuals with a broader view of trauma (i.e., higher scores on the TBS-5) more likely to rate viewing the film clip as a trauma several days following viewing the clip? Yes. In a logistic regression, those with higher TBS-5 scores were more likely to rate the film clip as a trauma ($f^2 = 0.03, p = 0.002$).

Q3: Were individuals with a broader view of trauma (i.e., higher scores on the TBS-5) more likely to experience increased symptoms on the IES-R and its intrusions subscale? Yes and no. In a negative binomial regression, those with higher TBS-5 scores were slightly more likely to experience symptoms in general on the full IES-R ($f^2 = 0.012, p = 0.048$), but were not more likely to experience intrusion symptoms as measured by the Intrusions subscale ($f^2 = 0.007, p = 0.151$). More conservative political orientation predicted both general symptoms and intrusions ($f^2 = 0.01, 0.02, p = 0.047, 0.012$), and younger age predicted more intrusion symptoms ($f^2 = 0.03, p = 0.010$).

Q4: If individuals viewed the film clip as a trauma, did they experience increased symptoms on the IES-R and its intrusions subscale? Yes. In a negative binomial regression, those who viewed the film clip as a trauma experienced increased symptoms on the full IES-R ($f^2 = 0.09, p < 0.001$). Those who viewed the film clip as a trauma also experienced greater intrusion symptoms on the IES-R ($f^2 = 0.11, p < 0.001$). Those of younger age and more conservative political orientation also experienced greater intrusion symptoms ($f^2 = 0.02, 0.02, p = 0.019, 0.024$).

Experimental Manipulation

Q5: Did our experimental manipulation change beliefs about the definition of trauma, as measured by scores on the TBS-5, in the expected direction? Yes. Controlling for relevant covariates, we found that those in the Narrow Condition scored lower on the TBS-5

compared to those in the Broad Condition with a medium-large effect size ($f^2 = 0.28, p < 0.001$). This effect endured at the second time point, showing that our intervention had lasting effects ($f^2 = 0.28, p < 0.001$). At both time points, more liberal political orientation also predicted TBS-5 scores ($f^2 = 0.04, 0.04, p < 0.001$).

Q6: Did our experimental manipulation change whether participants viewed the film clip as a trauma? Yes. Those in the Narrow Condition were less likely to view the film clip as trauma ($f^2 = 0.02, p = 0.020$).

Q7: Did our experimental manipulation change the extent to which participants experienced negative emotions in response to the film clip? No. There was no significant difference between conditions ($f^2 = 0.01, p = 0.109$). Those with more conservative political orientation experienced slightly more negative emotions ($f^2 = 0.02, p = 0.027$).

Q8: Did our experimental manipulation change the extent to which participants experienced increased symptoms on the IES-R and its intrusions subscale? No. There was no significant difference between the conditions for either the full IES-R ($f^2 < 0.01, p = 0.335$) or intrusion symptoms ($f^2 = 0.01, p = 0.212$). Those of younger age ($f^2 = 0.03, p = 0.010$) and more conservative political orientation ($f^2 = 0.02, p = 0.012$) experienced greater intrusion symptoms.

A summary of the results of all eight research questions appears in Figure 1. Overall, results consistently support the idea that beliefs about trauma (i.e., the TBS-5) predict reactions to a stressful film clip. Evidence regarding the results of the experimental condition are more mixed.

387 Figure 1. Summary of Research Questions

388

389 Note. *IES-R* = *Impact of Events Scale – Revised*; *TBS-5* = *Trauma Breadth Scale*

390 Solid lines indicate significant results, dashed lines indicate nonsignificant results ($\alpha = 0.05$).

391 Lines widths are weighted according to effect sizes ($f^2 < 0.07$, 1 pt, $0.07 < f^2 < 0.15$, 3 pt, $0.16 < f^2$, 4.5 pt). Measurements that took place at the second time point are colored grey. For Q3, a

392 f^2 4.5 pt). Measurements that took place at the second time point are colored grey. For Q3, a

393 significant effect was found for the IES-R total but not for the Intrusions subscale specifically.

Exploratory Analyses

We were interested in correlations between broad beliefs about trauma (TBS-5) and other variables. A summary of associations between the TBS-5 and other scales appears in Table 1. The TBS-5 was strongly associated with the belief that words can cause long-lasting emotional damage (i.e., WCHS). It was moderately associated with participants' sense of vulnerability to PTSD symptoms following a hypothetical trauma, both in terms of their own perceived vulnerability, and the vulnerability of others. This is consistent with the findings of McGrath and colleagues (2019), who found that those with broader concepts of harm felt more personally vulnerable and endorsed greater sensitivity to injustices done to others. Broad beliefs were associated with more liberal political orientation. Although the magnitude of the correlation between broad beliefs and age was similar size to that of political orientation, it was nonsignificant in this case. This is also consistent with McGrath et al. (2019), who found inconsistent correlations between harm-related concepts and age.

We were also interested in whether the effect of our psychoeducational experimental manipulation had differing effects depending on the subjects' political orientation. That is, were our manipulations more convincing to either liberals or conservatives? We found an interaction between experimental condition and political orientation, displayed in Figure 2. Those farthest to the right in political orientation appeared to be especially receptive to the "narrow" intervention. However, this interaction effect was identified in an exploratory fashion and should be treated as a potential area of future exploration rather than a conclusion of the current study.

Table 1

Correlations between Trauma Breadth Scale and Selected Covariates

Variable	TBS-5	TBS-5 (follow-up)
1. TBS-5		
2. TBS-5 (follow-up)	.83**	
3. Gender	.04	.09
4. Religiosity	.00	.00
5. Political Orientation (Right)	-.13*	-.12*
6. Age	-.10	-.08
7. Caucasian	.09	.11
9. WCHS	.70**	.69**
10. PPVS-S	.38**	.38**
11. PPVS-O	.32**	.31**
12. Previous Trauma	-.05	-.04
13. Previous Psychiatric Diagnosis	-.04	-.05

Note. TBS-5 = Trauma Breadth Scale, WCHS = Words Can Harm Scale, PPVS-S = Perceived Posttraumatic Vulnerability Scale – Self, PPVS-O = Perceived Posttraumatic Vulnerability Scale – Other, Caucasian = Caucasian/White race compared to all other identified races (collapsed due to sample size constraints). Correlations with binary variables are point-biserial correlations.

* indicates $p < .05$. ** indicates $p < .01$.

Figure 2. Exploratory Interaction of Condition with Political Orientation

Note: Trauma Broadness Scale scores are standardized. Scores are jittered to improve visualization.

Discussion

Is trauma limited to only a small subset of extreme events such as rape and warfare? Or can almost anything cause long-lasting emotional damage? We measured participants' beliefs about this issue and had them watch a disturbing film clip. We found that the more individuals viewed trauma as a broad concept applying to many different events, the more likely they were to experience negative emotional outcomes after watching the film. They reported more negative emotions immediately after the film, had more intrusion symptoms in the days following, and were more likely to report that watching the film was itself a trauma. Moreover, we found that their belief was at least somewhat malleable – after a short series of psychoeducational tasks, participants could be induced to report a somewhat broader or narrower belief about traumatic events.

Importantly, however, the belief induction in our study was insufficient to significantly alter two of the three outcomes. Those induced to have a broader belief (versus a narrow belief) did not experience significantly greater negative emotions nor did they report significantly greater symptoms on the IES-R or its Intrusions subscale. They were, on the other hand, more likely to rate watching the film as a trauma. The lack of experimental effects on emotional outcomes must qualify any conclusions about trauma concepts. Although our data show that beliefs about trauma predict important emotional outcomes, conclusions about causality remain unconfirmed. Indeed, another variable (e.g., genetics) may drive both beliefs about trauma and sensitivity to stressors. Accordingly, broadening or narrowing a person's definition of trauma may not necessarily have any effect on experienced emotions or PTSD symptoms.

That said, it is difficult to parse whether a causal effect is truly absent, or whether our study was simply inadequate to capture a causal relationship. On one hand, our intervention had

a medium-to-large effect size that persisted for several days. On the other hand, it seems unlikely that five-to-ten minutes of psychoeducational tasks would cause deeply internalized shifts in beliefs about trauma and emotional vulnerability. The measured effect on beliefs may be surface-level and ephemeral, or perhaps even the result of demand characteristics (although we did put measures in place to prevent demand characteristics). Perhaps a larger study with more potent interventions over a longer period might detect causal effects of beliefs about trauma.

Our results are highly relevant to debates about conceptual bracket creep in the definition of trauma and PTSD. First, our study suggests that beliefs about trauma and PTSD can be altered by relatively small psychological interventions. Thus, it is highly plausible that bracket creep could result from intentional or unintentional social signaling about trauma. Although researchers have pointed to decreases in violence (e.g., McNally, 2003, pp. 279-281; Pinker, 2011) as a likely explanation for bracket creep in the past few decades (Haslam, 2016; Jones et al., 2020), our results suggest that trauma brackets could also be shifted (at least temporarily) in the absence of such objective societal changes. For instance, changing formal diagnostic standards regarding PTSD and then informing the public about those standards could plausibly shift beliefs regarding what types of events can cause long-lasting emotional harm. More subtly, protective policies like trigger warnings and safe spaces might signal that minor adversities are potentially traumatogenic (Lukianoff & Haidt, 2018). Indeed, some recent studies have indicated that trigger warnings increase perceptions of personal vulnerability (Bellet et al., 2018) and reinforce the perceived importance of traumatic events (Jones et al., in press), although other studies have found no such effects (Bellet et al., 2020).

Second, our results are largely consistent with previous researchers' words of caution about bracket creep, namely that "by identifying increasingly mild events and experiences as

harmful, concept creep may make people vulnerable and fragile, prone to catastrophize everyday life" (McGrath et al., 2019, p. 79). Indeed, among the top quartile scorers on the TBS-5, 56% reported that viewing a film clip from a popular Hollywood movie was a trauma.¹ Broader trauma concepts were highly correlated with the belief that words can cause long-lasting emotional harm ($r = 0.70$) and moderately correlated with the subjective perception that one is vulnerable to PTSD following trauma ($r = 0.38$). More importantly, broader trauma beliefs were associated with objective vulnerability; those with broader trauma concepts experienced more negative emotions and PTSD symptoms in response to the film clip.

We were surprised to find that although more liberal political orientation was related to higher scores on the TBS-5, more conservative political orientation was associated with greater negative emotions and intrusions symptom following the film clip. We suspect this may be a factor of the specific film clip used, as past studies have noted increased negative reactions among conservatives for stimuli primarily focused on core disgust domains (e.g., mutilated body parts, dog feces; Elad-Strenger, Proch, & Kessler, 2019; Smith, Oxley, Hibbing, Alford, & Hibbing, 2011). Extending this study to diverse stressful events would provide useful clarification.

This study had several important limitations. Our online sample was modest in size, mostly Caucasian, and entirely English-speaking, thereby limiting the generalizability of the results. The study used a single video clip for all participants, and it is possible that results might differ depending on the exact content of the stimulus used. Although some results were experimental, many were correlational, opening possibilities for spurious relationships attributable to unmeasured variables. Although the measures demonstrated good reliability, some

¹ Compared to 28% in the bottom quartile

of them are newer scales with limited tests of validity; one scale was developed in the context of this study specifically. Both direct replications of the current study and conceptual replications that vary the stimuli and measurement tools would be informative.

In conclusion, individuals' personal trauma concept varies in breadth; some reserve the term for only the most severe stressors, whereas others apply it broadly. This variation is predictive of how individuals respond to a stressful experience, namely, watching a disturbing film clip: those with broader beliefs suffer greater emotional consequences. We further found that beliefs about trauma can be influenced through psychoeducational content, but we did not find that this psychoeducational content significantly influenced emotional outcomes. Understanding shifting concepts of trauma is essential to sociocultural debates regarding harm, violence, and PTSD. Hacking argued that changes in concepts directly alter human experience by "looping" back into how individuals understand themselves (Hacking, 1999). If vulnerability to PTSD expands as adversity declines, then public health efforts that simply decrease adverse events may fail to reduce rates of PTSD (McNally, 2016). Indeed, if activists are serious about reducing rates of PTSD, there exists a serious need to grapple with the fact that PTSD rates in the United States have not fallen in tandem with decreases in violence over the same time period (Helzer, Robins, & McEvoy, 1987; Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995; Kessler, Berglund, Demler, Jin, Merikangas, & Walters, 2005; Kilpatrick, Resnick, Milanak, Miller, Keyes, & Friedman, 2013; Pinker, 2011). If Hacking's hypothesis has merit for the trauma concept, investigating the causes and consequences of conceptual bracket creep should be a primary aim in the study of trauma-related disorders.

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