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Reading a Literary Passage: Anticipation, Emotion, and Comprehension

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Reading a Literary Passage: Anticipation, Emotion and Comprehension

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Abstract

Trigger warnings (TWs) are statements that provide students a caution that upcoming educational content may be emotionally disturbing. The idea is that TWs allow students to psychologically prepare themselves. However, recent studies suggest TWs may function as threat cues, rather than preparatory cues, eliciting anticipatory anxiety and avoidance. The present study examined the difference between presenting antecedent information to students in the form of a TW versus an alternative, a coping cue, introduced as a Content Notice. In a between-groups design, undergraduate students (N = 113) who received extra credit for study participation were randomized to receive a TW or CN before reading a potentially distressing literary passage. Questionnaires assessed their tendency to avoid negative emotions (experiential avoidance) before seeing the TW or CN, and their current emotional state (positive and negative affect) before and after seeing the TW or CN and the passage. The key finding was that experiential avoidance moderated anticipatory negative affect. Those who received a TW *and* were high in their tendency to avoid negative emotional states experienced the most anticipatory negative affect. For those who were more willing to have negative emotional states, receiving a TW or CN did not alter anticipatory anxiety. For students higher in experiential avoidance, TWs served to increase their negative emotional state consistent with the idea that TWs may serve as a threat, rather than preparatory, cue.

Introduction

Trigger warnings (TWs) are statements that provide students a caution that upcoming educational content may be emotionally disturbing. The purpose of TWs is to allow students a chance to prepare for (and be better able to engage with) what is to come, rather than being caught off-guard. In other words, the function of TWs is to promote engagement (Bridgland et al., 2019; Sanson et al., 2019).

If the goal is to provide information to facilitate student engagement with challenging emotional content, it might be problematic that TWs, exemplified by the very name – *trigger warnings*, are typically presented as threat cues. The potential problem is that threat cues (stimuli that signal threat/danger) may elicit the very thing they are attempting to reduce (anxiety, distress) and induce escape and avoidance behavior rather than engagement. In support of the analysis of TWs as threat cues, recent studies demonstrate TWs (compared to no information) functioning to increase anticipatory anxiety and decrease participation (avoiding contact with the negative materials; Bridgland et al., 2019). Moreover, when effects were examined immediately after experiencing negative materials, a prior TW produced no benefit, including for participants with a trauma history (Sanson et al., 2019).

Instead of TWs emphasizing risk and vulnerability (i.e., threat cues), what if more neutral and inoculating language emphasizing capacity to cope and regulate discomfort was employed? These might be referred to as coping cues (stimuli that prepare the individual for adaptive coping). Such cues might be more likely to serve the putative function of TWs – promoting preparation and engagement. Indeed, exposure to moderated stress experiences for which one is

prepared, in the absence of objective danger, is a key feature of evidence-based psychosocial treatments for anxiety (Kaczkurkin & Foa, 2015) and is considered important to the development of resilience (as in the steeling effect; Rutter, 2012).

The current study collected anonymous data from students in undergraduate courses at WMU. Participants read a potentially modestly distressing paragraph from Dostoevsky's *Crime and Punishment,* which was used effectively in prior TW research (see Bellet et al., 2018). Half of the students, determined at random, received a packet where the directions preceding the paragraph provided TW language consistent with the threat cue interpretation. The other half received a Content Notice (CN) consistent with the coping cue description above. Before presenting the TW or CN demographic information and participants' reported tendency to avoid negative internal experiences (i.e., experiential avoidance) were collected. Current affect was assessed after reading the TW or CN, and again following the reading of the modestly distressing paragraph. A question about how the participants would choose in a coin toss gamble was also included to assess risk aversion.

These following hypotheses were tested:

1. Anticipatory negative affect will be higher in the TW group than CN group.
2. Discontinuation rates will be higher in the TW than CN group.
3. Those in the TW group will be more risk averse (on the coin toss game choice) than those in the CN group.
4. Negative affect after reading the negative story will not differ between groups.
5. Experiential avoidance will moderate the anticipatory negative affect results. That is, those who are higher in experiential avoidance and receive the TW will report this highest anticipatory negative affect.

Methods

Participants.

One hundred and thirteen participants were included in this study. These participants were recruited from undergraduate sections of Child Psychology (PSY 1600) taught at a large Midwestern university. Figure 1 provides the demographic data for the sample and the TW and CN conditions.

Table 1: Demographic Data for the Total Sample, Content Notification, and Trigger Warning Groups.

Variable M (SD)	Total Sample	Content Notification	Trigger Warning	Test Statistic (df)	P value
	N = 113	n = 59	n=54		
Age	19.99 (1.76)	19.93 (1.94)	20.06 (1.56)	$t(110)=-0.37$	.71
Gender				$\chi^2(3) = 8.55$	.04
Cis Male	21%	12%	31%		
Cis Female	77%	86%	67%		
Trans Male	1%	2%	0%		
Trans Female	0%	0%	0%		
Non-Binary/Third Gender	1%	0%	2%		
Race-Ethnicity				$\chi^2(5) = 5.87$	.32

White or Euro-American	74%	70%	80%		
Black or African-American	10%	9%	11%		
Hispanic or Latinx	6%	7%	6%		
Asian or Asian-American	4%	7%	0%		
Indian or Pacific Islander	2%	2%	2%		
Mixed	4%	7%	2%		
Year in College				$\chi^2(3) = 1.93$	.59
Freshman	35%	36%	33%		
Sophomore	27%	27%	28%		
Junior	20%	24%	17%		
Senior	18%	14%	22%		
Grade Point Average	3.32 (0.53)	3.31 (0.57)	3.32 (0.48)	$t(109)=-0.10$	.92
Political Views	2.72 (.96)	2.66 (0.85)	2.80 (1.05)	$t(110)=-0.78$	.44

Design.

The study used a between-groups experimental design. Participants randomly received one of the two antecedent cues: either the Trigger Warning or Content Notice. Examined were differential effects of the two levels of the independent variable on the dependent variables of anticipatory negative affect, the decision to read the passage, risk aversion, and post-passage negative affect.

Procedure

The researcher attended undergraduate classes where instructors offer extra credit for research

participation and have agreed to allow the researcher to use 15 minutes of time. Due to the

COVID-19 pandemic this turned out to include two sections of Child Psychology (PSY 1600).

The researcher initially read a recruitment script the detailed the procedure. This involved

describing the study as the Honor thesis of the author and the purpose of the research to examine

reactions to anticipating and then reading a contentious literary paragraph. Those who were

interested in considering participation received a packet with a consent document on the outside

and a stapled, sequenced, series of type written materials on the inside. The consent document

explained that

> If you take part in the research, you will be asked provide some anonymous information about your background characteristics, how you generally respond to emotions, and your immediate emotional state at several points as you go through the materials. You will also be asked to read a paragraph from world literature and answer a couple of questions after finishing the passage. Your replies will be completely anonymous, so do not put your name anywhere on the surveys. It will take about 10 minutes to complete the packet of materials. Possible risk and costs to you for taking part in the study may be discomfort from answering sensitive questions and the time to complete the surveys. The potential benefits of taking part may be earning some extra credit from your instructor. Alternative options for earning extra credit are available from your instructor.

> If you do not want to take part in the study simply return the un-opened packet to the researcher. If you choose to participate, the packet of study materials is included in the attached envelope.

After reviewing the consent form, those interested in participation opened the packet. The packet

included the following materials in the following sequence:

1. Brief demographic form (with no personal identifying information requested)

2. Acceptance and Action Questionnaire-II

3.   Antecedent cue: Trigger Warning or Content Notice (Randomly determined)

4.   Positive and Negative Affect Scale (PANAS-1)

5.   Decision sheet (1-item choice to continue on to the literary passage or not)

6.   Literary passage

7.   Comprehension items

8.   PANAS-2

9.   Coin flip gamble choice (a one-item measure of risk aversion)

Below are descriptions of each of the 9 items in the packets.

Measures

All data occurred via paper-and-pencil self-report instruments each of which is described below.

Demographic Questionnaire**.** A series of questions asked about participant's age, gender identification, ethno-racial identification, year in school, grade point average, and political (1 [very liberal] to 5 [very conservative]) and religious (1 [no convictions] to 5 [strong

Acceptance and Action Questionnaire-II. The AAQ-II (Bond et al., 2011) is a 7-item scale measuring experiential avoidance, participants' sense of their ability or inability to take action despite uncomfortable thoughts/feelings. Higher scores indicate greater experiential avoidance. Psychometric findings indicate acceptable internal consistency ($\alpha = .78$) and normative mean score of 20.72 (SD = 8.18) for college students.

Antecedent Cue Text Page**.** Presented either the Trigger Warning text or the Content Notice text. The language for each was as follows

TRIGGER WARNING: The passage you are about to read contains potentially disturbing content. We believe it may trigger some distress, especially if you are vulnerable to

negative emotions, because people can be sensitive, and words can lead to strong

reactions in some. We want to make you aware so you can decide whether to disengage

from participation in this study.

or

CONTENT NOTICE: The passage you are about to read contains potentially disturbing

content. We believe you can handle some distress, especially if you are able to prepare

yourself in advance, because people can be resilient, and words are not the same as what

they describe. We want to make you aware so you can decide whether to engage in

participation in this study.

Positive Affect Negative Affect Schedule. The PANAS (Watson et al., 1988) is a 20-item scale

measuring current emotional state with 10 items measuring positive affect and 10 negative affect.

Watson et al. reported internal consistency of $\alpha = .85$ for the negative and $\alpha = .89$ for the

positive subscale, while the intercorrelation between the subscales was -.15. The PANAS was

used by both Bridgland et al. (2019) and Sanson et al. (2019) in their studies of TWs. Pre-

passage negative affect scores (PANAS-1) and post-passage negative affect scores (PANAS-2)

were used in this study.

Decision Sheet. Asked the participant to circle "yes" or "no" to indicate willingness to read the

literary passage.

Literary Passage Text Page. Presented the following paragraph from *Crime and Punishment*, by

Fyodor Dostoevsky

"He had not a minute more to lose. He pulled the axe quite out, swung it with both arms,

scarcely conscious of himself, and almost without effort, almost mechanically, brought

the blunt side down on her head. He seemed not to use his own strength in this. But as soon as he had once brought the axe down, his strength returned to him.

The old woman was as always bareheaded. Her thin, light hair, streaked with grey, thickly smeared with grease, was plaited in a rat's tail and fastened by a broken horn comb which stood out on the nape of her neck. As she was so short, the blow fell on the very top of her skull. She cried out, but very faintly, and suddenly sank all of a heap on the floor, raising her hands to her head… Then he dealt her another and another blow with the blunt side and on the same spot. The blood gushed as if from an upturned glass, the body fell back. He stepped back, let it fall, and at once bent over her face; she was dead. Her eyes seemed to be starting out of their sockets, the brow and the whole face were drawn and contorted convulsively."

Comprehension Questions. Asked the participant to respond to 4 brief items about the content of the passage.

Coin-Flip Gamble Choice. Was a one is one-item measure of risk aversion (Charlton & Sobel, 2012). Participants' were asked to imagine a fair coin is to be flipped into the air. If the coin lands on heads, the person would win $150, but if the coin lands on tails the person would owe $100. The person is asked to respond "yes" or "no" as to whether s/he would play this game?

The data were collected anonymously. The response sheets completed by participants were all pre-labeled with a random number from 001-300. This random participant number was used to identify the data from each participant in the databases created. The response are stored in the Behavior Research and Therapy Lab of Dr. Scott Gaynor where they will be maintained for a period of at least 3 years. The de-identified information collected for this research may be

used by or distributed to investigators for other research without obtaining additional informed consent from participants.

Analytic Strategy

The effect of the antecedent cue condition on pre- and post-passage PANAS negative affect scores were examined using separate independent samples *t* tests. The effects of antecedent cue condition on choice to read the passage or choose the coin-flip gamble were with separate Chi-square tests. The potential for a moderating role of experiential avoidance (AAQ-II) was examined by dichotomized AAQ-II responses into high and low using a median split. The PANAS scores were the dependent variable, cue condition the independent variable, and AAQ-II score the moderator. A significant cue condition x AAQ-II group interaction would suggest moderation.

Results

Hypothesis 1. Anticipatory negative affect (PANAS-1 negative scores) will be higher in the TW group than CN group.

The mean PANAS-1 negative affect score was numerically higher in TW ($M = 17.44$, $SD = 7.46$) compared to CN ($M = 15.59$, $SD = 5.96$); however, an independent samples *t* test, failed to show a statistically significant difference on the PANAS-1 negative score between the TW and CN groups, $t (111) = 1.46$, $p = .15$. The between groups effect size was small-moderate, $d = .28$.

Since the TW and CN groups significantly differed in their self-reported gender (see Table 1), an analysis of covariance (ANCOVA), with gender entered as the covariate, was also

conducted. The ANCOVA also failed to reveal a statistically significant difference on the PANAS-1 negative affect score between the TW and CN groups, $F(1, 110) = 1.54$, $p = .22$.

Hypothesis 2. Discontinuation rates will be higher in the TW than CN group.

Only 3.5% (4/113) of the total sample was unwilling to read the passage: CN = 1.7% (1/59) and TW = 5.6% (3/54). The overall low rate of discontinuation precludes statistical analysis. However, it is interesting to note that the while the overall discontinuation rate was very low, it was three times higher in the TW condition than the CN condition.

Hypothesis 3. Those in the TW group will be more risk averse (choose "no" on the coin toss gamble) than those in the CN group.

A Chi square analysis for 2 dichotomous variables was conducted with TW or CN condition serving as the independent variable and the choice of "No" or "Yes" as the dependent variable.

The TW and CN groups were numerically different in the predicted direction. That is, 76% of those in TW declined the coin toss gamble compared to 68% in CN. However, this difference was not statistically significant, $\chi^2 = .76$, $p = .38$. Among female participants, 73% of those in TW declined the coin toss gamble compared to 69% in CW. This difference was not statistically significant, $\chi^2 = .16$, $p = .69$. Among males, there was an interesting numerical difference with 81% (13/16) of those in TW declining the coin toss gamble compared to 40% in CW (2/6). While this pattern is consistent with the prediction that those hearing the TW will be more risk aversive, the small sample precludes meaningful statistical analysis.

Hypothesis 4. Negative affect after reading the negative story (PANAS-2 scores) will not differ between groups.

The mean score was again numerically higher in TW ($M = 17.20$, $SD = 7.63$) compared to CN ($M = 16.40$, $SD = 7.40$); however, an independent samples t test, failed to show a statistically significant difference on the PANAS-2 negative score between the TW and CN groups, $t(106) = -0.54$, $p = .59$. The effect size was very small, $d = .11$. There were no significant differences in negative affect between the groups following completion of the passage.

Hypothesis 5. Experiential avoidance (AAQ) will moderate the PANAS-1 results. That is, those who are higher in experiential avoidance and receive the TW will report the highest anticipatory negative affect.

A median split dichotomized AAQ-II responders into groups with high AAQ-II scores and low AAQ-II scores. To examine the potential moderating effect of experiential avoidance an ANOVA was conducted with Condition (TW and CN) and AAQ-II (high and low) as fixed factors, and PANAS-1 as the dependent variable. The analysis of most interest was the Condition (TW v. CN) x AAQ-II (High v. Low) interaction. Consistent with the analyses used to examine Hypothesis 1, the between-group effect for condition did not reach statistical significance, $F = 2.80$, $p = .097$. The TW and CN groups did not significantly differ in their anticipatory negative affect as measured by the PANAS-1. However, the high AAQ-II group reported statistically significantly more PANAS-1 negative affect ($n = 54$, $M = 18.98$, $SD = 8.14$) than the low AAQ-II group ($n = 59$, $M = 14.19$, $SD = 4.04$), $F = 17.85$, $p < .001$. In addition, consistent with the prediction in Hypothesis 5, there was a significant Condition by AAQ-II interaction term, $F = 5.99$, $p < .02$. As illustrated in Figure 1, those with a high AAQ-II exposed to the trigger warning

had the greatest anticipatory anxiety. There was a very large ($d = 1.21$) effect size on the

PANAS-1 between those in the TW condition who scored high on AAQ ($n = 26$, $M = 21.46$, *SD*

8.64) compared to those who were low ($n = 28$, $M = 13.71$, $SD = 3.20$). Given the gender

difference in the constitution of the CN and TW groups, also conducted was an ANCOVA with

gender identification as a covariate. The pattern of significant findings was identical to the

ANOVA results.

Figure 1. Illustration of the Condition (CN v. TW) by AAQ-II (low v. high) interaction on

PANAS-1 negative affect scores.
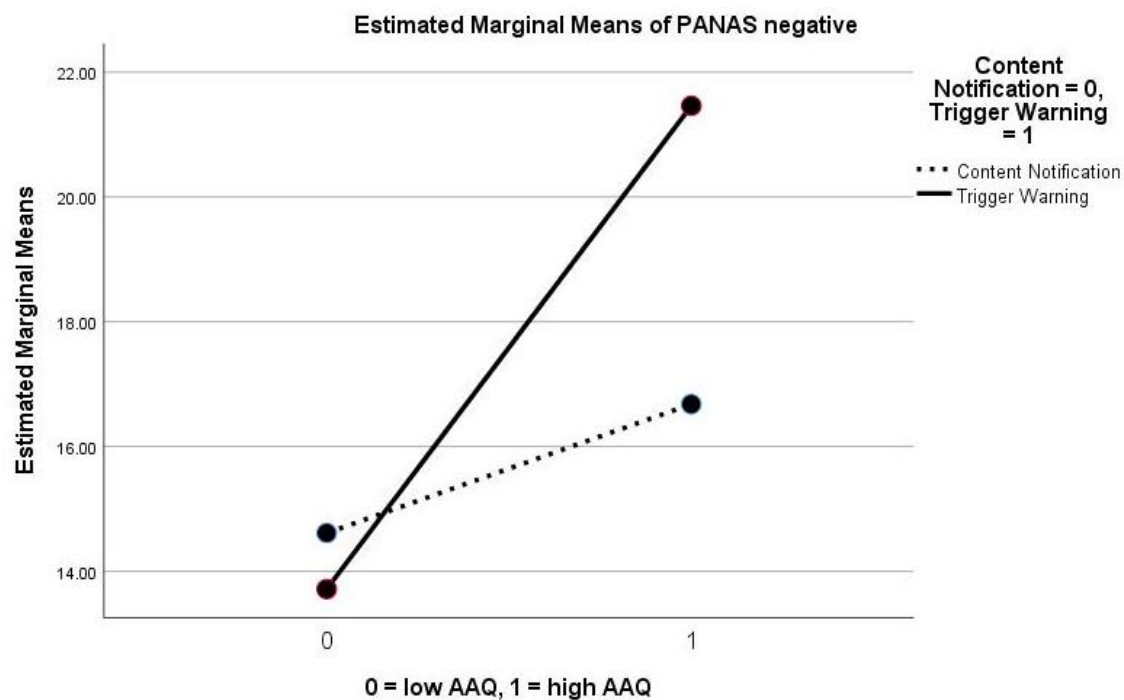
Discussion

Undergraduate students exposed to a TW before reading a distressing passage did not show statistically significantly greater anticipatory negative affect compared to those provided a CN. The key conceptual difference between the TW and CN was the postulation that the function of the former was as a threat cue and, as such, somewhat ironically, would serve to elicit more negative affect. The CN, on the other hand, as an antecedent that emphasized resilience and coping, should elicit a reduced anticipatory stress response. The lack of a statistically significant difference between the groups fails to support the conceptual analysis. It is important to note that the sample size in the present study is significantly lower than that in prior publications (see Bellet et al., 2018; Bridgeland et al., 2019). Bellet and colleagues (2018) had just over 130 in each condition and Bridgeland and colleagues (2019) had about 150 in each condition (comparing trigger warning versus no trigger warning), based on power analyses estimating the sample size needed to find small-medium effects. Following the literature, the approved HSIRB application for the present study allowed inclusion of up to 300 participants. Unfortunately, enrollment ceased at 113 due to the campus closure related to COVID-19. If the effect size observed between the TW and CN groups ($d = .28$) was observed with a sample of 150 per condition, the results would be highly statistically significant. Viewed through this lens, the current results are consistent with the Bridgeland et al's findings that trigger warned participants experienced a small but significant negative anticipatory period compared to unwarned participants.

Only 4/113 discontinued participation after receiving either the TW or CN. This was too small a number for statistical analysis. The discontinuation rates between CN (1.7%) and TW (5.6%) were consistent with the idea that the TW was more threatening that the CN, but this

must be stated with great caution because of the small numbers who opted out. Importantly, however, the percentages observed in the present study are in line with those observed by Bridgeland et al. (2019). Indeed, because of their use of large sample sizes across multiple studies, Bridgeland and colleagues were able to pool data for analysis and found a significant difference in attrition across warning conditions -- 2.7% after a trigger warning, 1.2% in the no warning conditions – despite a smaller between group difference than was observed in the current project. To the extent that TWs increase escape behavior resulting in students not engaging with material, they are clearly at odds with their intended effects. However, this extreme effect appears to apply to only a very small portion of participants examined in research samples.

If the TW was serving as a threat cue, and threat exposure increases risk aversion, then participants exposed to the CN should have been more reluctant to respond affirmatively to the coin toss gamble. In collegian sample, majorities decline the coin toss gamble demonstrating risk aversion (Charlton & Sobel, 2012; Kahneman, 2011). Seventy two percent of the current sample was similarly risk averse with no statistically significant differences between the TW (76%) and CN (68%) conditions. Importantly, given the sample size considerations mentioned above, the between-condition difference observed would continue to fail to reach statistical significance even at a sample size of 150 per condition.

The coin-toss gamble results from the male participants provide an intriguing hypothesis for future study. In the TW condition, 81% of males declined the coin toss gamble compared to 40% in CW. The relatively small, inequitably distributed, proportion of males in the sample precluded statistical analysis of this potentially interesting difference. Risk proneness and sensation seeking is typically greater in males (Cross, Cyrenne, & Brown, 2013), that this sex

difference could be moderated by threat versus resilience cues would be interesting to examine in future work.

The most interesting finding was how the AAQ-II, conceptualized as a measure of emotional vulnerability, differentially predicted the experience of anticipatory negative affect depending on condition assignment. Specifically, those high in emotional vulnerability when exposed to the trigger warning, reported significantly more anticipatory negative affect. Thus, providing a TW to emotionally vulnerable students may backfire, at lease in so far as it relates to contributing to them being less negatively aroused as they consider upcoming academic content. The current moderation results are consistent with the moderation findings from Bellet et al. (2018). Bellet and colleagues found that only among those high in the belief that words have the potential to cause serious harm to themselves or others, did participants receiving TWs report greater anticipatory anxiety about the potentially distressing passages. A more benign CN may be preferable, at least from a mitigation of negative affect perspective.

Interestingly, from a clinical perspective, greater learning (as it pertains to fear reduction), might be expected to have occurred among the emotionally vulnerable in the TW condition. A key, maybe *the* key, aspect of modern learning theory approaches to anxiety treatment is exposure to expectancy violations (Craske et al., 2014); that is, expecting a highly negative experience and then having that prediction go unsupported when the actual event occurs. Thus, those with a high AAQ-II in the TW condition experienced greater anticipatory negative affect but, upon reading the passage and coping effectively, should have experienced a greater expectancy violation than those in CN. Such an effect might be captured in post-passage affect ratings, which will be examined in secondary analyses using the current data set. Future studies could also recruit based on high AAQ-II scores and track affect for a longer duration

following exposure to the passage, as has been done in studies examining social stress (Frisch, Häusser, & Mojzisch, 2015).

The significant limitations of the present study warrant recognition. A collegian sample of convenience anonymously completed a packet of self-report questionnaires for extra credit at the start or finish of a course lecture. This is a face valid context for studying the effects of TWs, as they are typically provided in classroom settings, but may have reduced some of the experimental rigor associated with responding in a laboratory setting. Anonymity may have also contributed to response variation. Finally, the need to halt data collection in the face of the COVID-19 pandemic, as the University moved to a distance learning format, limited the sample size. Future work might follow strategies from other studies (Bellet et al., 2018; Bridgland et al., 2019; Sanson et al., 2019) and use online surveys to collect data from larger and more diverse samples.

The significant effects observed for one hypothesis are promising. It is also notable that the pattern of other results, even when non-significant, were line with hypotheses. Future efforts directed at replication and extension appear warranted. Future studies may also incorporate different TW or CN language or present TWs or CNs in a different modality. The current study was unique compared to those in the literature in offering a different type of antecedent (i.e., the CN) whereas other studies compared a TW to a no warning condition. Thus, the practical recommendation is not that antecedent cues should not be provided to students before potentially distressing content, but that the language used in such antecedents should be carefully considered. Why use threat language over more discretionary and inoculating language emphasizing capacity to cope? Future research can hopefully provide more definitive answers.

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