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ORIGINAL ARTICLE

The Impact of Experiential Avoidance on the Inference of Characters' Emotions: Evidence for an Emotional Processing Bias

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Abstract Experiential avoidance is a functional class of maladaptive strategies that contribute to the development and maintenance of psychopathology. Although previous research has demonstrated group differences in the interpretation of aversive stimuli, there is limited work on the influence of experiential avoidance during the online processing of emotion. An experimental design was used to investigate the influence of self-reported experiential avoidance during emotion processing by assessing emotion inferences during the comprehension of narratives that imply different emotions. Results suggest that experiential avoidance is partially characterized by an emotional information processing bias. Specifically, individuals reporting higher experiential avoidance scores exhibited a bias towards activating negative emotion inferences, whereas individuals reporting lower experiential avoidance scores exhibited a bias towards activating positive emotion inferences. Minimal emotional inference was observed for the non-bias affective valence. Findings are discussed in terms of the implications of experiential avoidance as a cognitive vulnerability for psychopathology.

Keywords Experiential avoidance · Emotion knowledge activation · Emotion bias · Cognitive vulnerability

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Introduction

The pathways to the development and maintenance of psychopathology are multifarious. It is commonly accepted within the field of Psychology that chronic avoidance of aversive private experiences, such as thoughts, emotions, and memories, is one pathway to a variety of negative outcomes, including psychopathology and the exacerbation of symptom severity. However, the specific mechanisms underlying the avoidance of aversive experiences are relatively unknown. To begin to understand the cognitive processes underlying the avoidance of emotional information, the current study used an emotion inference reading task (Gernsbacher et al. 1992) to investigate the impact of self-reported experiential avoidance on the activation of emotional knowledge.

Experiential avoidance has been repeatedly conceptualized as a functional class of maladaptive strategies having two related components: avoidance and escape (Hayes et al. 1996). The avoidance component is defined as an unwillingness to experience aversive private events such as thoughts, feelings, memories, and bodily sensations (Hayes et al. 1996). The escape component is described as the actions taken to alter the experience of such events or to minimize the occurrence of the contexts in which the events occur (Hayes et al. 1996). Theoretically, experiential avoidance is a pathogenic process, pivotal in the development and maintenance of psychopathology (Hayes et al. 1999). Common examples of experientially avoidant behaviors aimed at reducing both the experience and the reoccurrence of aversive private events would be excessive alcohol or drug use (Hayes et al. 1996). However, experiential avoidance also encompasses cognitive and affective strategies aimed at the reduction of aversive private experiences (Hayes et al. 1996), such as thought and

emotional suppression. Regardless of the specific strategies used, the support is strong that experiential avoidance is implicated in the development and maintenance of a variety of psychopathologies (see Chawla and Ostafin 2007 for a comprehensive review of the negative outcomes associated with experiential avoidance).

According to relational frame theory (RFT; Hayes et al. 2001), experiential avoidance is a natural outcome of the human ability to use language and cognition to problem solve. RFT states that humans create equivalence associations between aversive experiences and verbal recollections of these experiences (Hayes et al. 1999, 2001, 2002). In addition, humans make evaluative judgments about the present moment based on these derived associations (Hayes et al. 1999, 2001, 2002). Therefore, RFT argues that language and cognition allow pain and suffering to exist in most situations because of the many relations that are derived between emotions, memories, and evaluations of these experiences (Hayes et al. 2001). At any time, language and cognition can bring these into existence. In turn, experiential avoidance strategies are employed as self-defense to the pain and suffering that humans create and experience on a moment-to-moment basis (Hayes et al. 1996, 2001). Over time, the experiences and contexts that individuals are willing to encounter become narrow and rigid, which may foster the development of psychopathology (Hayes et al. 1996, 2001).

Hayes and colleagues (1996) have proposed that avoidance strategies are functionally related to psychopathology because the strategies likely strengthen or increase the availability of the associations that the avoidance is attempting to eliminate, reduce, or control (e.g., "I don't want to think about/feel…" "If I am drunk I won't think/feel…"). The strategies may further strengthen the aversive experience because the efficacy of the strategy is evaluated through language (e.g., "Am I still thinking about/feeling X?"). As stated previously, language then allows the pain and suffering to exist in any situation because of a derived association between the avoidance strategy, the aversive experience attempting to be avoided, and the evaluation and monitoring of the effectiveness of the avoidance strategy (Hayes et al. 2001). Therefore, experiential avoidance strategies may lead to the development or exacerbation of difficulties rather than the elimination of problems because the strategies are ineffective (Hayes et al. 1996). From this perspective, investigating the cognitive processes underlying experiential avoidance might be best accomplished through the use of tasks aimed at activating knowledge included in the networks of derived associations.

Although previous research has not directly examined the cognitive processes of experiential avoidance, the research has begun to investigate the differences between individuals scoring high and low on measures of experiential avoidance. Specifically, there is preliminary support for emotional interpretation differences between high and low experiential avoidance groups. Generally, it is accepted that individuals high in experiential avoidance report similar levels of perceptual acuity and sensation intensity to aversive experiences as their low experiential avoidance peers (Feldner et al. 2006; Zettle et al. 2005, 2007). However, their *reactions* to such experiences are different. For example, high experiential avoidance groups compared to low experiential avoidance groups report lower levels of tolerance and endurance to painful cold-pressor tasks (Feldner et al. 2006; Zettle et al. 2005), greater lack of control and higher ratings of anxiety in response to the inhalation of carbon dioxide enriched air (Feldner et al. 2003; Karekla et al. 2004), higher ratings of negative emotion in response to fear and disgust film clips (Sloan 2004), longer reaction times and higher ratings of anxiety associated with a matching task that would result in the viewing of negatively valenced pictures (Cohrane et al. 2007), and slower performance and higher ratings of distress associated with a perceptual motor task that induced unpleasant physical sensations (i.e., sorting colored straws while wearing "drunk goggles" to simulate alcohol intoxication; Zettle et al. 2007). Although there are established emotional interpretation differences between high and low experiential avoidance groups; there is still a need for creative methodologies to investigate the nature of these differences. One such methodology, language comprehension tasks (i.e., knowledge activation tasks), may provide a method to investigate the nature of these differences in greater detail.

Theories of language comprehension provide insight into how people comprehend events with, and without, emotional content. During comprehension, readers construct representations of the events referred to in a text (i.e., situation models; van Dijk and Kintsch 1983; Zwaan and Radvansky 1998). Readers construct these models by activating knowledge associated with the events, making inferences based on the activated knowledge, and integrating information across the story. Given this, situation models can contain information not explicitly mentioned in a text, such as an inference about how the character may feel in the narrated situation (e.g., an inference that a character must feel scared when walking alone in a dark alley). When constructing situation models, readers monitor story dimensions relevant to the main character, such as their goals, identity, and emotion, in order to maintain coherence across the story episodes (Gernsbacher et al. 1992; Zwaan, et al. 1995a, b; Zwaan and Radvansky 1998; Zwaan et al. 1998). Specifically relevant to the current study, Gernsbacher et al. (1992) investigated readers' representation of character emotion during comprehension.

They reasoned that readers activate emotion knowledge relevant to the situation described in narrative to build a representation of the emotion the character would be feeling in that situation. They constructed experimental stories with specific emotional themes, such as a description of a woman walking alone in a dark alley, but excluded explicit mention of the intended emotion until the final sentence. Thus, any emotional inferences generated by the reader were mainly supported by the knowledge activated by the described situation. Gernsbacher et al. (1992) found that reading times were faster when the final sentence in the stories explicitly described the matching emotion of the character as implied by the stories than when the described emotion mismatched. This so-called *mismatch effect* provides evidence that the readers were representing the characters' emotions during comprehension. Although there may be multiple interpretations of reading time differences, a slower reading time in this context is considered representative of a processing difficulty that occurs when the mismatching target sentence conflicts with the activated emotional knowledge (Gernsbacher et al. 1992; Gernsbacher and Robertson 1992), suggesting that the reader inferred the character's emotion. The emotional mismatch effect has been found to be quite robust, holding up across a variety of emotion word manipulations (i.e., perceived converses, opposite valences, and same valences, and list composition manipulations; Gernsbacher et al. 1992; Gernsbacher and Robertson 1992). Further evidence for the activation of knowledge assertion was obtained with a naming task in which participants were faster at naming emotion words that matched as opposed to mismatched the relevant emotional inference for the story they just read (Gernsbacher et al. 1992). The mismatch effect was also unaffected by a divided attention task, suggesting that the activation of emotion knowledge is an effortless and automatic process (Gernsbacher et al. 1998). Therefore, there is strong evidence to suggest that the emotional inference paradigm is a measure of emotional knowledge activation.

The current study used the emotion inference task of Gernsbacher and colleagues (1992) to investigate the role of experiential avoidance in the activation of emotional knowledge for everyday events. Previous experimental research has supported the notion that experiential avoidance impacts the way individuals respond to and interpret emotional information (Feldner et al. 2003, 2006; Karekla et al. 2004; Sloan 2004; Zettle et al. 2005, 2007; Cochrane et al. 2007). We hypothesize that higher self-reports of experiential avoidance will be associated with greater negative emotion knowledge activation while reading stories implying negative emotions. This prediction is theoretically supported by the application of RFT to experiential avoidance strategies, which states that individuals reporting higher levels of experiential avoidance may have stronger cognitive associations and knowledge cognitive networks regarding aversive experiences. In addition, this hypothesis is partially supported by much evidence that psychopathologies and risk factors for psychopathologies (i.e., neuroticism) tend to be, at least in part, characterized by attentional, processing, or memory biases toward the content that causes distress to that individual (see e.g., Chan et al. 2007; Riskind and Alloy 2006; Teachman et al. 2007). This processing bias account predicts that those with higher scores of experiential avoidance will show significant mismatch effects for negative emotion stories, but may show little to no effect of emotional mismatch for positive stories. Such a finding would provide some initial insight into the nature of the construct, including whether experiential avoidance is partially characterized by the emotional knowledge one activates, or fails to activate, during the processing of emotional events.

Method

Participants

Participants were male and female students ($n = 108$) enrolled in an Introductory Psychology course at a large Midwestern university, where they received partial course credit for participation in departmental research. All participants were native English speakers.

There were missing demographic data for ten participants for unknown reasons (e.g., refusal on the part of the participants). The sample of 98 participants with complete demographic data was relatively representative of a college sample. The majority of participants ($n = 94$; 95.9%) were under the age of 22. In addition, 66.3% ($n = 65$) of the participants were female and 66.3% of the participants identified as White ($n = 65$). The racial composition of the remainder of the sample was as follows: 20.4% identified as Black or African-America ($n = 20$), 8.2% identified as Asian ($n = 8$), 4.1% identified as Hispanic or Latino ($n = 4$), and 1.0% identified as American Indian or Alaska Native ($n = 1$).

Materials

Narratives

The materials consisted of the 24 emotional and 24 filler stories constructed and used by Gernsbacher and colleagues (1992). The emotional stories each implied an emotional state of the main character. Twelve of the emotional stories implied positive valence emotions (e.g., happy), and 12 implied negative valence emotions (e.g., sad). The stories

were about events that affect the everyday lives of undergraduates, such as going on a date, throwing a party, living on campus, worrying about walking alone at night, etc. The emotional stories implicitly implied an emotion through character actions, settings, goal, etc. The emotion words were only explicitly mentioned in the final sentence. Critically, the emotion word in the final sentence either matched or mismatched the implied emotion of the character from the story. The emotion stories were paired in order to manipulate emotion match/mismatch across stories.

Paired emotion stories shared an affective valence, whereas they differed on the exact emotion implied to eliminate a confound of whether participants represented the specific emotion or, more generally, whether they simply represented the overall valence of the story while reading (Gernsbacher et al. 1992). The pairings were *Bored-Angry, Guilty-Shy, Restless-Disgusted, Depressed-Afraid, Callous-Desperate, Sad-Envious, Proud-Curious, Joyful-Bold, Sympathetic-Happy, Caring-Content, Hopeful-Admiring, Grateful-Confident.* These pairings were those used by Gernsbacher and colleagues (1992). A member in an emotion pair served as the mismatching emotion for the other member in the pair. Table 1 gives an example of a story and of the emotion match/mismatch manipulation. The story describes a scene in which the character, Alice, becomes fearful for her safety while on her way to watch her friend perform in a play. As can be seen in the Table, the final sentence either mentions that Alice felt afraid, which matches the implied emotion from the story, or that Alice felt depressed which mismatches the implied emotion. Across stories, we used two different syntactical structures of the final sentences in order to reduce overlap in surface features across conditions (as used in Gernsbacher et al. 1992). The emotional stories were, on average, 6.3 sentences long (SD = 1.2). The filler stories described everyday events but did not imply an emotional state of the character. They had a similar average sentence length to the emotional stories ($M = 5.5$, SD = 1.5).

We followed the methodology of Gernsbacher and colleagues (1992) and created four counterbalanced material sets by crossing the emotion match variable and the two sentence frames. The filler stories were the same for each of the counterbalance lists. Participants were randomly assigned to counterbalance list. Following procedures by Gernsbacher and colleagues (1992), a single story order was created by randomly ordering stories with the constraint that at least one filler story appeared in between each emotional story. Each participant received the same story order.

Acceptance and Action Questionnaire-2 (AAQ-2)

The AAQ-2 (Bond et al. under review) is a theoretically derived questionnaire designed to determine an individual's level of experiential acceptance/avoidance. The AAQ-2 is an adaptation of the original AAQ developed by Hayes and colleagues (2004). The AAQ-2 is a 10-item questionnaire which uses a seven-point Likert scale (1 = never true, 7 = always true). It measures participants' agreement with statements such as, "My thoughts and feelings do not get in the way of how I want to live my life." Once the appropriate items are reverse scored (i.e., 7 items), an experiential avoidance score is obtained by summing all of the responses together. With this scoring method, lower scores are more indicative of higher levels of experiential avoidance. The range of scores for the current sample was 28–69.

The AAQ-2 was found to have adequate internal consistency, across seven samples ($n = 3{,}280$), ranging from .76 to .87 (Bond et al. under review), which is an improvement on the internal consistency of the original AAQ (alpha = .70). In addition, the AAQ-2 possesses adequate convergent and discriminant validity with self-report measures of psychological health, objective measures of job performance, personality dimensions, and a measure of thought suppression and demonstrated adequate concurrent validity with symptoms of psychological health (e.g., depressive symptoms, anxiety-related symptoms, stress, general psychological health; Bond et al. under review). The measure also had incremental validity over and above measures of thought suppression in predicting general health outcomes, depressive symptoms, and work-related performance, and over and above personality dimensions in predicting general health outcomes and work-related performance (Bond et al. under review). The AAQ-2 had adequate internal consistency in the current sample ($\alpha = .82$).

Table 1 Example story used in the experiment

Alice seldom left her apartment, except to go to work. She thought the city was too unpredictable. She had heard of a mugging that took place only a block from her home. But tonight she had to go out, because she had promised to go to a play that her friend was performing in. As Alice left her apartment, it was just getting dark. Alice listened closely to make sure no one was following her. She kept thinking about the recent muggings in the neighborhood. **Alice felt afraid/depressed.**

Note: The texts were presented to participants one sentence at a time. The bolded sentence represents the critical sentence. Emotion match was manipulated by using either the word afraid or depressed to describe Alice's emotional state. In this example, 'afraid' presents a matching emotion and 'depressed' represents a mismatching emotion. The bold font is used for illustration purposes only

Design and Procedure

The experiment was conducted as a 2 (emotion match: match vs. mismatch) × 2 (affective valence: negative vs. positive) repeated measures design with emotion match and affective valence as within subject factors.

The experiment proceeded in two sequential phases. In the first phase, participants read each story on the computer screen. Participants pressed a spacebar to begin reading each story. Each story was presented one sentence at a time in the middle of the screen. Each sentence remained on the screen until the participant pressed the spacebar, which cleared the sentence from the screen and presented the next sentence in the story. Reading time in millisecond accuracy was recorded for each sentence. After the end of each of 10 filler stories, participants were prompted to write a one-sentence continuation of the story on a piece of paper. This task was included to ensure that participants were reading the stories for comprehension.

In the second phase of the experiment, participants completed the AAQ-2. The AAQ-2 was presented on the computer screen, one item at a time. Participants pressed the button on the keyboard that corresponded to their desired response (e.g., 1–7).

Results

The dependent variable for this analysis was the mean reading time for the final sentences. To correct for outliers, reading times greater than 3 standard deviations from the grand mean were removed from the analysis.[1] This constituted 1.1% of the data.

Mean reading times per condition were submitted to a 2 (emotion match: match vs. mismatch) × 2 (affective valence: negative vs. positive) ANOVA with emotion match and affective valence as repeated measures, and experiential avoidance scores as a continuous predictor (Preacher et al. 2005). There was a significant valence by match interaction, $F(1,50) = 28.29$, MSE = 9.22E6, $p = .02$, partial $\eta^2 = .05$. Follow up ANOVAs, within each affective valence, with emotion match as a repeated measure and experiential avoidance scores as a continuous predictor revealed that reading times were significantly faster for the match than mismatch condition for negative stories, $F(1,106) = 8.07$, MSE = 19.28E4, $p = .005$, partial $\eta^2 = .07$ (match: $M = 2{,}603$, SD = 682; mismatch: $M = 2{,}906$, SD = 750), but not for positive stories, $F(1,106) = 1.00$, MSE = 35.41E4, $p = .320$, partial $\eta^2 = .01$ (match: $M = 2{,}295$, SD = 577; mismatch: $M = 2{,}692$, SD = 763). Critically, the overall ANOVA revealed a significant three-way interaction among emotion match, affective valence, and experiential avoidance scores, $F(1,106) = 6.58$, MSE = 30.40E4, $p = .012$, partial $\eta^2 = .06$.

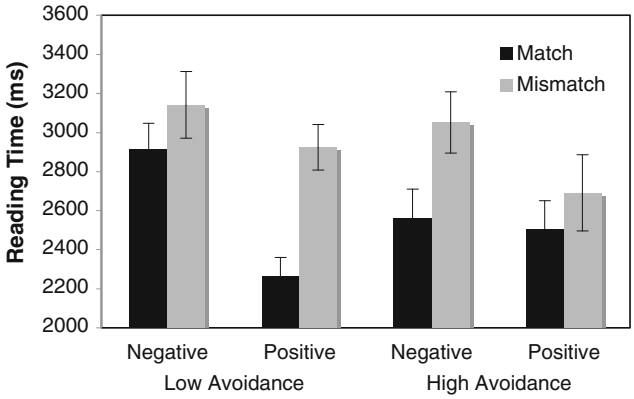

Fig. 1 Mean reading time of target sentence of emotional inference stories in milliseconds as a function of emotion match, affective valence, and experiential avoidance score grouping. *Note*. *Error bars* represent standard errors of the mean

In order to examine this interaction, we grouped individuals into high and low avoidance groups and conducted *t*-tests,[2] within each group, between the match and mismatch conditions for each affective valence. We grouped participants into high and low avoidance groups via a quartile split. The high experiential avoidance group was selected from the lowest quartile of the AAQ-2 score distribution in the sample (total score < 43, $n = 26$). The low experiential avoidance group was selected from the highest quartile of the AAQ-2 score distribution (total score > 55, $n = 26$); dichotomization of AAQ scores have been conducted in past research investigating group effects of experiential avoidance (e.g., Feldner et al. 2003; Sloan 2004; Cochrane et al. 2007). For descriptive purposes, Fig. 1 presents the mean reading times for each condition by avoidance group. The *t*-tests revealed that for the high avoidance group, reading times were significantly faster for the negative match condition than negative mismatch condition, $t(25) = 3.49$, $p = .002$, $d = .68$ (negative match: $M = 2{,}562$, SD = 754; negative mismatch: $M = 3{,}052$, SD = 795), whereas there was no significant difference between match and mismatch conditions for the positive emotion stories, $t(25) = .81$, $p = .425$, $d = .16$ (positive match: $M = 2{,}501$, SD = 759; negative mismatch: $M = 2{,}691$, SD = 994). For the low avoidance

[1] The raw reading time data were highly positively skewed (skew = 5.0). After correcting for outliers, skew was reduced to an acceptable level (skew = 0.89).

[2] We conducted *t*-tests on the grouped data to better characterize the effect regarding those with comparatively high and low experiential avoidance scores. The cutoff scores are based on quartiles of the distribution not clinically significant levels of experiential avoidance.

group, reading times were significantly faster for the positive match condition than the positive mismatch condition, $t(25) = 4.95$, $p < .001$, $d = .97$ (positive match: $M = 2{,}263$, SD = 493; positive mismatch: $M = 2{,}924$, SD = 593), whereas there was no significant difference between match and mismatch conditions for negative stories, $t(25) = 1.92$, $p = .067$, $d = .38$ (negative match: $M = 2{,}912$, SD = 696; negative mismatch: $M = 3{,}142$, SD = 871). No other effects were significant in the overall ANOVA, largest $F(1{,}106) = 3.09$.

Discussion

The current study employed an emotion inference reading task to investigate the impact of experiential avoidance on the activation of emotional knowledge. The results of the current study supported the prediction that a negative emotion bias would be exhibited by participants with higher experiential avoidance scores. That is, those with high levels of experiential avoidance exhibited a mismatch effect for negative emotion stories, but not for positive emotion stories. However, a finding that was not expected indicated that there was also a positive emotion bias exhibited by participants with lower experiential avoidance scores. Given that inferring an emotion while reading the emotional inference stories is the normative response (Gernsbacher et al. 1992), we see that those with high levels of experiential avoidance show a non-normative response for positive emotions (i.e., lack of a positive emotion mismatch effect), and those with low levels of experiential avoidance show a non-normative response for negative emotions (i.e., lack of a negative emotion mismatch effect). To our knowledge, this is the first demonstration of an emotion bias associated with experiential avoidance. This is particularly informative because we used stimuli designed to emulate real world experiences, such as walking home alone at night. We want to be clear that we do not claim that participants in the present experiment had the phenomenological experience of emotion during reading, but that they activated knowledge associated with those emotions. Further, Gernsbacher and colleagues (1992) would argue that the activation of emotional knowledge during emotional inference does not equate to the actual experience of emotion.

Although there may be numerous ways to interpret reading time data, the comprehensive set of experiments conducted by Gernsbacher and colleagues (e.g., Gernsbacher et al. 1992, 1998; Gernsbacher and Robertson 1992) provides a strong basis for the emotion knowledge activation interpretation offered here (see Gernsbacher 1994 for a review). The pattern of reading time data observed in the current study seems difficult to explain with alternative explanations, such as expectation violations and sensitivity to prediction error because these accounts would likely predict main effects of emotion match regardless of avoidance level. Future work should investigate the extent to which expectancy influences the inference of emotion in everyday events.

The current study may provide insight into the existence of cognitive processing biases associated with psychopathology. Biases in emotional information processing (e.g., attentional and memory biases) have been observed in a wide variety of clinical populations (see e.g., Leyman et al. 2007; MacLeod et al. 1986; Mogg and Bradley 2005; Teachman et al. 2007; Yovel and Mineka 2005). Given that the current study observed biases in emotional knowledge activation in a sample of individuals at risk for the development of psychopathology, it is possible that other cognitive biases should be investigated in samples at risk for the development of psychopathology as well. Further, there is limited research that has investigated the emotional information biases that exist in samples of participants at risk for the development of psychopathology. However, of the extant literature, individuals at higher risk for the development of psychopathology (e.g., higher ratings of neuroticism and repressors) exhibit biases in emotional information processing of negative information (Chan et al. 2007; see review by Derakshan et al. 2007). The current study adds to the literature that supports the notion that biases in emotion processing exist in at risk populations, prior to the development of clinically significant psychopathology.

In terms of psychopathology development and maintenance, there is an interesting implication of the current findings. Specifically, the findings suggest that individuals high in experiential avoidance have an emotional information processing bias (i.e., sensitivity for knowledge activation) for negative daily events with limited emotional processing of positive daily events. Individuals reporting high levels of experiential avoidance are theoretically one population at risk for the development of psychopathology, which may be partially attributable to the activation of negative emotional knowledge, and lack of positive emotional knowledge, in relatively mundane events.

Although this experiment did not test the link between emotion knowledge activation and the phenomenological experience of emotion, this link is possible given the theoretical connection between emotional experiences and verbal recollections proposed by RFT (Hayes et al. 1996). According to RFT, emotions, memories, and evaluations of experiences are tightly associated with one another and interact to influence our reactions in most situations, including emotional situations. If such a connection exists between emotional knowledge and the experience of emotion, it is possible that individuals reporting high levels

of experiential avoidance may be more likely to experience unwanted negative emotion on a daily basis than those with low levels of experiential avoidance, and they may tend to experience less positive emotion. In turn, individuals high in experiential avoidance are also more likely to attempt to reduce the occurrence of these negative aversive experiences (Hayes et al. 1996). A potential cycle of negative experience followed by attempts to reduce such experiences is apparent. Within the context of the current findings, one potential explanation for the increased risk for psychopathology development can be viewed from a cognitive vulnerability perspective.

An emotional information processing bias for negative information could be conceptualized as a type of cognitive vulnerability due to the increased experience of negative emotionality in daily events. Cognitive vulnerability as a risk factor for the development of psychopathology is not a new discovery. In fact, cognitive vulnerability has long been conceptualized in terms of maladaptive knowledge structures and schemas which are likely developed out of early life experiences (Beck 1976) and are implicated in the development of depression (Beck 1976) and anxiety (Beck and Clark 1997). Experiential avoidance is theorized to underlie a number of psychopathologies and the current findings suggest increased knowledge activation is one cognitive mechanism attributing to the risk for the development of psychopathology. If individuals reporting higher levels of experiential avoidance possess a cognitive vulnerability in terms of an imbalance between negative and positive emotional knowledge activation during the processing of daily events, then it is likely that these individuals would regularly engage in experiential avoidance strategies to reduce the experience of negative emotionality.

A number of limitations should be noted. We did not assess for psychopathology and history of psychotherapy. Given that experiential avoidance is believed to underlie a variety of psychopathologies, it would have been prudent to assess for symptoms of psychopathology in the current study. Although it is possible to have a sample of individuals high in experiential avoidance without a clinical level of psychopathology, it cannot be assumed that the current study represents a sample free of psychological distress due to psychopathology. Similarly, an assessment of previous psychotherapy experience was not assessed, which could potentially influence cognitive processes as well. The results should be interpreted with this in mind. We also did not assess for affective states prior to or during the course of the experiment. However, given that the link between emotion inferences and the phenomenological experience of emotion is relatively unknown, it is unclear to what extent this affective information would contribute to the effects presented in this paper. Future work is required to systematically investigate the link between emotionality and emotion knowledge activation. In addition, the use of measures of negative affectivity as covariates in experiential avoidance research might be questionable and should be examined extensively in detail prior to becoming a standard. Specifically, negative emotionality would theoretically be expected among individuals reporting higher levels of experiential avoidance and controlling for this may be removing much of the variance associated with the construct.

Recent research has highlighted the importance of examining the relations between emotional/cognitive biases and diagnostic criteria of psychopathology (Teachman et al. 2007). Specifically understanding how a bias in emotional knowledge activation will translate into an attentional or memory bias. It would be important to understand how a bias in emotional knowledge activation is related to the interpretation differences of stimuli noted between high and low experiential avoidance groups in previous research. Therefore, the current study not only provides evidence for an emotional knowledge activation bias that may underlie experiential avoidance, but also identifies a variety of directions for future research investigating the emotional information processing in experiential avoidance.

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