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THE ‘‘NEAR MISS’’ AS A FOURTH PATHWAY TO ANXIETY

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Abstract. In a near miss experience, a person learns anxiety despite the fact that the feared outcome does not actually occur. Theories based on S-R links or direct encoding of emotional memories do not provide a good model of near miss learning because they fail to account for informational variables. An alternative cognitive model is outlined, based on expectancy of an inferred negative outcome. The model is applied to posttraumatic stress disorder, in which the critical feared outcome is often death, and panic disorder, in which a near miss inference may protect expectancies of harm from disconfirmation. Unlike direct emotional encoding models, the inferential/expectancy model provides multiple cognitive targets for treatment. Near miss learning may be usefully distinguished from other pathways to anxiety, and warrants further experimental investigation.

Keywords: Near miss, anxiety, expectancy, PTSD, panic.

Introduction

The cognitive basis for anxiety reactions is generally taken to be the expectancy of a personally relevant negative event occurring in the future. Such negative events can be divided into two main categories: physical events such as death, illness, and pain, and social events such as failure, rejection and negative evaluation (Lovibond & Rapee, 1993). Different anxiety disorders may be distinguished by the characteristic negative events that are feared: for example, physical calamities such as a heart attack or suffocation in the case of panic, and negative evaluation in the case of social phobia and performance anxiety. Even some specific phobias, traditionally regarded as non-cognitive, may be associated with exaggerated expectancies of harm (Menzies & Clarke, 1995; Thorpe & Salkovskis, 1995). But where do these expectancies come from?

Theories of great appraisal suggest that expectancies can be generated in ‘‘real time’’ whenever the processing of environmental information leads to an inference of danger (e.g., Lazarus & Folkman, 1984). However, many anxiety reactions are repeatedly elicited by specific stimuli, where the inference of threat appears to have been carried out in advance. In such cases, the anxiety-provoking stimuli may be viewed as directly eliciting an expectancy of some associated negative event, and hence anxiety. The traditional model of such a process is Pavlovian conditioning, in which it is assumed that the stimuli in question

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(conditioned stimuli, CSs) have previously been directly paired with the negative event (unconditioned stimulus, US).

However, for many anxiety reactions and anxiety disorders, it has proven difficult to find evidence of a pairing episode ever having occurred. For example, when the criteria for a conditioning episode are strictly defined to include a neutral CS and an independent aversive US, very few specific phobics report evidence consistent with a conditioning onset (Menzies & Clarke, 1994). For these and other reasons, Rachman (1977) suggested two further pathways to fear: observational (vicarious) learning, and instructional (symbolic) learning. Within an expectancy framework, these pathways may be regarded as alternative means by which an expectancy of harm can be generated (Davey, 1992). The purpose of the present paper is to distinguish a fourth learned pathway to fear that arises from an expectancy framework: the ''near miss'' experience.

In the context of anxiety reactions, a near miss may be defined as an episode in which an aversive event almost occurs, but fails to do so simply because of chance. It is proposed that a perceived near miss experience can be a powerful means of establishing an expectancy of that aversive event in similar situations in the future. As an example, consider a driver who narrowly misses running over a young child who runs out from behind a parked car. The driver realises that if he had passed the parked car a moment earlier, he would have struck and probably killed the young child. This example does not constitute a CS-US pairing episode, since no unconditioned stimulus (US) was experienced — the driver did not actually run over the child. It is not observational learning, since no harm came to any other person, and it is not instructional learning since no verbal/symbolic information was transmitted. Yet it is likely that the driver would show considerable anxiety and vigilance when driving in the future, particularly when passing parked cars and when near schools or playgrounds.

In evolutionary terms, the ability to learn from near miss experiences has obvious adaptive advantages. Unlike innate fear reactions, fear learned from a close encounter will always be relevant to the individual organism's particular environment. And unlike conditioning, a near miss episode can generate learning about harmful events that have not been directly experienced — in particular death, which by definition cannot serve as a US.

Near miss learning as S-R conditioning

Traditionally, near miss experiences have been subsumed within the conditioning pathway, by defining the event to be associated with the CS not as an aversive stimulus (US) but as a fear reaction (unconditioned response, UR). In the example above, it is likely that the driver would have experienced a powerful startle/fear reaction that would have lasted for some time. Hence, the stimuli present at the time (driving near parked cars) would be paired with the fear reaction, and such an S-R association could account for the anxiety experienced by the driver in similar situations in the future.

The principal difficulty with subsuming near miss learning under S-R conditioning is the lack of support for S-R models (e.g., Mowrer, 1960) in the laboratory. The weaknesses of such models have been well documented both in the learning literature (e.g., Mackintosh, 1983) and in the clinical literature (e.g., Rachman, 1977). In brief, evidence of the importance of informational factors (e.g., predictive validity), of differences in form between the CR and the UR, of learning in the absence of overt responding (e.g., sensory precondi-

tioning, conditioned inhibition), and of the effectiveness of reinforcer devaluation, have led contemporary analyses of associative learning to focus on S-S rather than S-R associations. Research on human associative learning has further highlighted the critical role for complex cognitive processes such as expectancy and causal attribution (e.g., Davey, 1992; Dawson & Schell, 1985; see also Lovibond, 1993). These findings are very difficult to reconcile with models that assume a direct connection is formed between an emotional response and any available contiguous stimuli.

Although there is general agreement concerning the weaknesses of S-R models per se, it is worth noting that many clinicians and researchers implicitly endorse S-R principles in their thinking about associative learning. For example, textbook presentations continue to portray conditioning as an automatic process whereby emotional reactions are directly transferred from a US to a CS. Furthermore, theories that appeal to activation of ''emotional memories'' by ''reminder cues'' often imply that a direct connection has been formed in memory between situational cues (S) and the emotional reaction experienced at that time (R). More complex theories may combine such S-R pathways with other higher-level cognitive mechanisms. For example, the fear network model of Foa and Kozac (1986) allows for direct connections between stimulus and response elements, and Brewin's (1989) dual representation model incorporates the notion of ''situationally accessible memories'' that have a strong S-R flavour.

A more sophisticated treatment of S-R associations is based on the idea that emotional responses can be learned as part of a representational system, rather than as direct S-R connections. For example, Reiss (1980) proposed that anxiety can be elicited by the expectancy of anxiety (''UR'') as well as by the more common route of expectancy of a negative outcome (''US''). However, if it is assumed that anxiety expectancies are formed automatically, then this model makes essentially the same predictions as direct S-R connection models. Conversely, if it is assumed that anxiety expectancies are based on higher-order attributional processes, then this model makes a subset of the predictions of the inferential view described in the next section.

Thus, despite strong evidence for S-S representational processes in conditioning, S-R thinking is still popular among both conditioning theories and anxiety theorists. It is difficult to rule out S-R associations, since they can always be invoked when S-S associations do not appear to account for the data (e.g., Rizley & Rescorla, 1972). Although S-R associations are not favoured here as an account of near miss learning, it is worthwhile noting the predictions of such a model: that all stimuli present during the episode would be candidates for eliciting a fear reaction in the future, that fear established by a near miss should have no cognitive content, that it should not be altered by post-conditioning manipulations, and that it should generalize only to physically similar situations.

Near miss learning as inference of a negative event

As indicated earlier, an expectancy analysis of anxiety is consistent with conditioning, observation and information as pathways to anxiety since these are viewed as alternative means by which expectancies are learned. According to this analysis, near miss experiences could also generate anxiety by establishing an expectancy of a negative outcome. Since by definition no negative outcome actually occurs in a near miss episode, it must be inferred by the individual. This in itself is not a new idea, since cognitive theories of threat appraisal allow

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that a person can put together information from situational cues to come to the appraisal that a negative event may occur in that situation. The critical feature of a near miss, then, is that the expected event does not actually occur and that the person attributes the non-occurrence of the event to chance factors. Thus, on future occasions when the person is in the same or a similar situation, he or she will expect that negative event and show anxiety. If the person attributes the non-occurrence of the negative event to specific factors rather than to chance, then future anxiety will be reduced whenever those factors are again present. For example, a young driver may attribute his narrow avoidance of an accident to his driving skill, and thus fail to encode the potential danger.

If negative events can be inferred from near miss episodes, this learning should share many properties with learning in a conventional conditioning episode in which the negative event actually does occur. In particular, future anxiety will depend on the attribution made for the (potential) negative event. If situational information allows the danger to be isolated to certain features of the stimulus environment, then other irrelevant features will not acquire the capacity to elicit anxiety. Thus, the driver who narrowly misses running over a child may show anxiety in the future only when driving past parked cars, and ignore other features of the environment such as the colour of the sky or the time of day.

A variant of the inferential position is to suppose that the inferred outcome is generated at the time of the near miss event, and then serves as an imaginal US that is associated with those stimuli present (CSs) according to the same mechanisms as those that apply to real USs. For example, the driver who narrowly misses running over a child may vividly imagine actually hitting the child. Some limitations of this restricted inferential view are: 1) it assumes that the individual has the time and attentional resources to construct the imagined negative outcome at the time of the near miss; 2) it implies that the individual cannot distinguish between a real event and an imagined one; and 3) it concedes a sophisticated cognitive capacity in the generation of the inferred US, but then assumes that the individual fails to exercise this capacity with respect to additional inferences about the event and its causes. Thus, it would seem preferable at the present state of knowledge to leave open the possibility that post-event cognitive processing such as causal attribution may influence responding to a near miss event.

The inferential/expectancy model of near miss learning makes predictions that are quite different from S-R/direct emotional encoding models. First, as argued above, the stimuli that elicit anxiety in the future should be those to which the danger is attributed, which may not be the most salient or novel stimuli present during the episode. Second, the fear established by a near miss should have a clear cognitive content, namely the inferred negative event. Third, it should be possible to influence anxiety arising from a near miss episode by altering retrospectively the person's assessment of the cost of the inferred event (as in US devaluation experiments; Davey, 1989) or the person's assessment of the probability of that event occurring. Fourth, learning from a near miss situation should generalize to stimuli conceptually rather than physically similar to those present during the near miss episode.

Application to post trauma reactions

Posttraumatic stress disorder (PTSD) is often regarded as the prototypical case of an anxiety disorder with a conditioning onset, since by definition there is a documentable traumatic

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event present at onset. However, according to the present analysis, many cases of PTSD do not involve actual physical or social harm — an ‘‘unconditioned stimulus’’. Instead, they may be classified as extreme near miss experiences, in which the trauma arises from the massive *threat* of physical harm (DSM-IV; American Psychiatric Association, 1994). Examples would include hold-ups, combat exposure and natural disaster in which the victim is subjected to extreme threat but is not actually harmed and does not witness others being harmed. In an epidemiological study of PTSD, Davidson, Hughes, Blazer and George (1991) reported that the most frequent type of trauma reported by subjects was a ‘‘threat or close call (i.e. a narrow escape from danger)’’. Of course, some of these episodes may also involve observation of harm to others, or conditioning in the sense that the individual also experiences some actual harm (e.g., pain, injury or loss). However, many cases of PTSD may be classified as pure near miss episodes. Indeed, the pertinent negative outcome in PTSD is often one’s own death, which as argued earlier cannot serve as a US. The fact that a disorder of clinical severity can arise in the absence of pain or physical harm demonstrates the potency of near miss experiences as a pathway to anxiety.

Consistent with a near miss analysis, PTSD victims appear to reappraise the probability of a negative event occurring to them personally. They may have already known in an intellectual sense that certain negative events can occur, but their ‘‘illusion of invulnerability’’ (Weinstein, 1980) protected them against anxiety until it was disconfirmed by personal experience of harm (conditioning) or narrow avoidance of harm (near miss). Also consistent with the inferential analysis is the finding that a powerful predictor of PTSD symptoms is the victim’s subjective assessment of threat to their own life (e.g., Bryant & Harvey, 1995; Sales, Baum, & Shore, 1984). In addition, the person typically experiences conscious content corresponding to the inferred negative outcome: ‘‘I could have died’’. A direct emotional encoding or S-R analysis would predict a severe fear reaction, but one without a cognitive focus. Instead, thoughts concerning the episode and what might have happened seem to dominate the person’s conscious experience.

Both the S-R and inferential/expectancy models must appeal to very widespread generalization to account for chronic symptoms that persist in situations remote from the original episode. However, the inferential/expectancy analysis appears better able to accommodate the idiosyncratic themes that often characterize individual cases, and generalization to situations conceptually but not physically similar to the original episode (e.g., Scheppele & Bart, 1983). There is also evidence that the person’s attributions for the event they narrowly escaped from dictate the severity and situational specificity of symptoms (e.g., Joseph, Brewin, Yule, & Williams, 1993; Mikuliner & Solomon, 1988).

Finally, a proportion of PTSD cases show a delayed onset. At least some of these cases appear to be triggered by post-event information, supporting the notion that inferred threat is critical to near miss learning. For example, Kilpatrick (1968; cited in Foa, Steketee, & Rothbaum, 1989) reported the case of a woman who was raped but did not develop severe symptoms until being informed some months later that her assailant had killed his next victim. Although there was clearly direct harm experienced in this instance in the form of rape, it appears that the narrow escape from death was the critical inference that triggered PTSD retrospectively. Delayed onset and the importance of post-event information are both inconsistent with S-R and direct emotional encoding models.

Application to panic disorder

Another clinical condition to which a near miss analysis may be applied is panic disorder. It is well established that panic suffers often believe at the time of an attack that they may die, collapse, or go crazy. The cognitive analysis of panic (e.g., Clark, 1986; Rapee, 1993), which has been highly successful in accounting for laboratory data and generating more effective treatments, places considerable weight on these anticipated catastrophic events. Yet, after hundreds of panic episodes in which the feared events do not actually materialize, it would be expected that these expectancies should decline. The finding that they do not appear to do so suggests either than the cognitive model is wrong, or that some factor is acting to protect the belief that the negative events are still possible, even though they have never actually occurred.

One type of protective factor that has been documented in the laboratory is ''protection from extinction''. In this procedure, the presence of a safety signal during extinction trials reduces the fear displayed to a CS for shock, but when the safety signal is removed, the CS again elicits fear — that is, the safety signal has protected the CS from extinction (Wagner & Rescorla, 1972). In cognitive terms, subjects attribute the non-occurrence of the anticipated negative event (US) to the presence of the safety signal, and thus do not evaluate the fear CS (Lovibond, Davis, & O'Flaherty, 2000). The role of the safety signal may also be played by an effective avoidance response: fear is suppressed while the avoidance response is available, but returns if access to the response is blocked (Seligman & Binik, 1977). Evidence for the operation of such a process in panic disorder has recently been provided by Salkovskis, Clark and Gelder (1996). These authors demonstrated that panic patients engage in within-situation safety-seeking behaviours logically consistent with their feared outcome (e.g., heart attack, fainting). Furthermore, Wells et al. (1995) have shown that safety seeking behaviours can act to prevent disconformation of feared catastrophes during exposure in social phobics.

The near miss analysis may clarify the mechanism by which fears are protected from disconfirmation. The difficulty with the above mechanism is that a highly effective safety behaviour would not only prevent disconfirmation of feared outcomes, but it would also completely suppress anxiety, which of course does not occur. From the present perspective, perhaps what is occurring is that the safety behaviours are in fact quite weak, and thus fail to markedly reduce anxiety, but nonetheless patients repeatedly attribute the absence of their feared outcomes to these behaviours. That is, the panicker may code each panic as a near miss, in which they nearly suffered a heart attack or other calamity, and were lucky to survive (cf. Salkovskis et al., 1996, p. 457). It is still necessary to explain why panickers continue to believe they have been lucky over such a large number of prior episodes, but this analysis is certainly consistent with panickers' doubts along the lines that ''maybe next time my number might come up'' or ''who knows what will happen next time?''.

Other applications

It is possible that near miss episodes may be identified in the aetiology of other anxiety disorders and in normal anxiety reactions. For example, it would seem plausible that some cases of obsessive compulsive disorder (e.g., checking) may have been initiated or exacerbated by a perceived near miss episode (e.g., leaving the gas on). It would therefore be

useful to distinguish near misses from other events associated with onset of anxiety in studies of aetiology (cf. Menzies & Clarke, 1994). It also seems likely that similar cognitive processes might operate in other domains, such as in appetitive disorders. For example, a near miss in gambling (e.g., betting on a long odds horse that came second) might increase the subjective probability of winning so as to promote further gambling (see Griffiths, 1990).

Aetiology or maintenance?

A critical question is whether near miss experiences can generate new anxiety reactions (as described above for PTSD), or whether they simply augment or maintain existing reactions (as described above for panic). For example, it could be argued that even in the case of PTSD, the individual may have made use of previous knowledge concerning the potential danger inherent in the situation (e.g., driving a motor vehicle). However, this argument can also be applied to the traditionally recognized pathways to anxiety, in particular observation and instruction that involve the interpretation of new information in the light of existing knowledge. Even experiences with actual harm will not generate new associations unless the subject attributes the harm to particular antecedent stimuli, a process that is heavily modulated by prior knowledge (Alloy & Tabachnik, 1984). Laboratory research has consistently shown that subjects who fail to make such explicit associations fail to show conditioned responses (Dawson & Schell, 1985; Lovibond, 1993). Thus, the role of pre-existing knowledge does not appear to rule out near miss learning as a pathway to new anxiety reactions.

Clinical implications

It has been argued that present evidence favours the view that near miss experiences promote anxiety by generating an expectancy of an inferred negative event. If such a mechanism were involved, it would have significant implications for treatment. The conventional direct emotional encoding view treats the anxiety reaction as unconscious and reflexive, amenable only to extinction procedures (exposure). According to the inferential/expectancy view, by contrast, the anxiety reaction derives from higher level conceptual processes that would be amenable to a wider range of therapeutic approaches. In particular, any intervention that has been shown to be effective in reducing maladaptive expectancies would be appropriate. Importantly, such interventions should include *both* experience-based (behavioural) procedures such as exposure, and symbolic (cognitive) procedures delivered verbally (cf. Lovibond, 1993).

Furthermore, interventions could be tailored to directly target the inferential processes assumed to give rise to the expectancy. In near miss learning, the relevant cognitive processes would be the extent of the initial threat appraisal (probability and cost of the inferred outcome), the attributions made for the inferred negative event (cf. Abramson, Seligman, & Teasdale, 1978), and the attributions made for the non-occurrence of that event on that particular occasion. All of these processes would be predicted to contribute to the extent and generalization of future anxiety.

Previous research indicates that cognitive bias in anxious subjects is maximized under conditions of ambiguity, both in linguistic tasks (e.g., Richards & French, 1992; MacLeod & Cohen, 1993) and in conditioning tasks (Chan & Lovibond, 1996). The near miss situation

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would appear to be particularly ambiguous, since the feared event is not actually experienced. Therefore it would be predicted that anxious subjects should be particularly susceptible to making near miss inferences. Clearly there are large individual differences in response to near misses, since some people develop fear reactions while others do not. The present analysis suggests that pre-existing cognitive biases (e.g., attentional bias or negative attributional style) may be important factors in determining the nature of the response to a near miss episode.

In conclusion, near miss learning constitutes a plausible fourth pathway to anxiety, which has obvious adaptive significance as a means of learning about potential harm without having to experience it. Further research is warranted to clarify the prevalence and empirical characteristics of this form of learning, and to investigate the mechanisms that underlie it. Present evidence favours the view that symbolic, inferential processes are involved. If confirmed, near miss learning would be understandable within a broader expectancy framework that has already proven successful in the analysis and treatment of a broad range of anxiety disorders.

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References

Abramson, L. Y., Seligman, M. E. P., & Teasdale, J. D. (1978). Learned helplessness in humans: Critique and reformulation. *Journal of Abnormal Psychology, 87,* 49–74.

Alloy, L. B., & Tabachnik, N. (1984). Assessment of covariation by humans and animals: The joint influence of prior expectations and current situational information. *Psychological Review, 91,* 112–149.

American Psychiatric Association (1994). *Diagnostic and statistical manual of mental disorders* (4th ed.). Washington, DC: Author.

Brewin, C. R. (1989). Cognitive change processes in psychotherapy. *Psychological Review, 96,* 379–394.

Bryant, R. A., & Harvey, A. G. (1995). Posttraumatic stress in volunteer firefighters: Predictors of distress. *Journal of Nervous and Mental Disease, 183,* 267–271.

Chan, C. K. Y., & Lovibond, P. F. (1996). Expectancy bias in trait anxiety. *Journal of Abnormal Psychology, 103,* 637–647.

Clark, D. M. (1986). A cognitive approach to panic. *Behaviour Research and Therapy, 24,* 461–470.

Davey, G. C. L. (1989). UCS revaluation and conditioning models of acquired fears. *Behaviour Research and Therapy, 27,* 521–528.

Davey, G. C. L. (1992). Classical conditioning and the acquisition of human fears and phobias: A review and synthesis of the literature. *Advances in Behavior Research and Therapy, 14,* 29–66.

Davidson, J. R. T., Hughes, D., Blazer, D., & George, L. K. (1991). Post-traumatic stress disorder in the community: An epidemiological study. *Psychological Medicine, 21,* 713–721.

Dawson, M. E., & Schell, A. M. (1985). Information processing and human autonomic classical conditioning. In P. K. Ackles, J. R. Jennings & M. Coles (Eds.), *Advances in psychophysiology, Vol. 1,* Greenwich, Connecticut: JAI Press.

Joseph, S. A., Brewin, C. R., Yule, W., & Williams, R. (1993). Causal attributions and post-traumatic stress in adolescents. *Journal of Child Psychology and Psychiatry, 34,* 247–253.

Foa, E. B., & Kozac, M. J. (1986). Emotional processing of fear: Exposure to corrective information. *Psychological Bulletin, 99,* 20–35.
Foa, E. B., Steketee, G., & Rothbaum, B. O. (1989). Behavioral/cognitive conceptualizations of post-traumatic stress disorder. *Behavior Therapy, 20,* 155–176.
Griffiths, M. D. (1990). The cognitive psychology of gambling. *Journal of Gambling Studies, 6,* 31–42.
Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal and coping.* New York: Springer.
Lovibond, P. F. (1993). Conditioning and cognitive-behaviour therapy. *Behaviour Change, 10,* 119–130.
Lovibond, P. F., Davis, N. R., & O'Flaherty, A. S. (2000). Protection from extinction in human fear conditioning. *Behaviour Research and Therapy, 38,* 967–983.
Lovibond, P. F., & Rapee, R. M. (1993). The representation of feared outcomes. *Behaviour Research and Therapy, 31,* 595–608.
Mackintosh, N. J. (1983). *Conditioning and associative learning.* Oxford: Clarendon Press.
MacLeod, C., & Cohen, I. (1993). Anxiety and the interpretation of ambiguity: A text comprehension study. *Journal of Abnormal Psychology, 102,* 238–247.
Menzies, R. G., & Clarke, J. C. (1994). Retrospective studies of the origins of phobias: A review. *Anxiety, Stress, and Coping, 7,* 305–318.
Menzies, R. G., & Clarke, J. C. (1995). Danger expectancies and insight in acrophobia. *Behaviour Research and Therapy, 33,* 215–221.
Mikulincer, M., & Solomon, Z. (1988). Attributional style and combat-related posttraumatic stress disorder. *Journal of Abnormal Psychology, 97,* 308–313.
Mowrer, O. H. (1960). *Learning theory and behavior.* New York: Wiley.
Rachman, S. (1977). The conditioning theory of fear-acquisition: A critical examination. *Behaviour Research and Therapy, 15,* 375–387.
Rapee, R. M. (1993). Psychological factors in panic disorder. *Advances in Behaviour Research and Therapy, 15,* 85–102.
Richards, A., & French, C. C. (1992). An anxiety-related bias in semantic activation when processing threat/neutral homographs. *Quarterly Journal of Experimental Psychology, 45A,* 503–525.
Reiss, S. (1980). Pavlovian conditioning and human fear: An expectancy model. *Behavior Therapy, 11,* 380–396.
Rizley, R. C., & Rescorla, R. A. (1972). Associations in second-order conditioning and sensory preconditioning. *Journal of Comparative and Physiological Psychology, 81,* 1–11.
Sales, E., Baum, M., & Shore, B. (1984). Victim readjustment following assault. *Journal of Social Issues, 40,* 117–136.
Salkovskis, P. M., Clark, D. M., & Gelder, M. G. (1996). Cognition-behaviour links in the persistence of panic. *Behaviour Research and Therapy, 34,* 453–458.
Scheppele, K. L., & Bart, P. B. (1983). Through women's eyes: Defining danger in the wake of sexual assault. *Journal of Social Issues, 39,* 63–81.
Seligman, M. E. P., & Binik, Y. (1977). The safety-signal hypothesis. In H. Davis & H. Hurwitz (Eds.), *Operant-Pavlovian interactions.* Hillsdale, NJ: Erlbaum.
Thorpe, S. J., & Salkovskis, P. M. (1995). Phobic beliefs: Do cognitive factors play a role in specific phobias? *Behaviour Research and Therapy, 33,* 805–816.
Wagner, A. R., & Rescorla, R. A. (1972). Inhibition in Pavlovian conditioning: Application of a theory. In R. A. Boakes & M. S. Halliday (Eds.), *Inhibition and learning* (pp. 301–366). London: Academic Press.
Weinstein, N.D. (1980). Unrealistic optimism about future events. *Journal of Personality and Social Psychology, 39,* 806–820.
Wells, A., Clark, D. M., Salkovskis, P., Ludgate, J., Hackmann, A., & Gelder, M. (1995). Social phobia: The role of in-situation safety behaviours in maintaining anxiety and negative beliefs. *Behavior Therapy, 26,* 153–161.