

The Role of Defeat and Entrapment in Depression, Anxiety, and Suicide

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Defeat and entrapment are psychological constructs that have played a central role in evolutionary accounts of depression. These concepts have since been implicated in theoretical accounts of anxiety disorders and suicidality. The current article reports on a systematic review of the existing research investigating the links among defeat, entrapment, and psychopathology in the domains of depression, suicidality, posttraumatic stress disorder (PTSD), and other anxiety syndromes. Fifty-one original research articles were identified and critically reviewed. There was strong convergent evidence for a link with depressive symptoms, across a variety of clinical and nonclinical samples. Preliminary support for an association with suicidality was also observed, with effects not readily explainable in terms of comorbid depression. There was strong evidence for an association between defeat and PTSD, although this may have been partly accounted for by comorbid depression. The findings for other anxiety disorders were less consistent. There was, however, evidence that social anxiety in individuals with psychosis may be related to perceptions of entrapment. Overall, there was evidence that perceptions of defeat and entrapment were closely associated with various forms of human psychopathology. These effects were often in the moderate to large range and superseded the impact of other environmental and psychological stressors on psychopathology. We provide a unified theoretical model of how defeat and entrapment may contribute to these different psychopathological conditions. Clinical implications and avenues for future research are discussed.

Keywords: defeat, entrapment, anxiety, depression, suicide

Experimental and ethological research in animals has broadened humans' understanding of the evolutionary processes determining behavior and responses to threat (Dixon, 1998; Price & Sloman, 1987). Such evolutionary processes have parallels in human behavior and, consequently, can provide a useful basis in understanding the maladaptive and pathological side of human behavior (Gilbert, 2001a, 2001b; Price, Sloman, Gardner, Gilbert, & Rohde, 1994). Two concepts, which seem central to understanding some forms of psychopathology from an evolutionary perspective, are *defeat* and *entrapment*. These concepts have their origins in animal research, but have since been applied to four main types of human psychopathologies, namely depression (e.g., Gilbert & Allan, 1998; Price et al., 1994), suicidality (e.g., Williams, 1997), anxiety disorders (e.g., Birchwood et al., 2007), and posttraumatic stress disorder (PTSD; e.g., Dunmore, Clark, & Ehlers, 1997). Defeat and entrapment, therefore, appear to be common across a range of disorders. This has direct clinical significance because countering

perceptions of defeat and entrapment may consequently be an effective goal for therapeutic interventions (Price et al., 1994; Rohde, 2001). The current article provides the first systematic review of the existing literature on defeat and entrapment and their association with depressive disorders; anxiety disorders, including PTSD; and suicide. This article also covers the research into depressive and anxiety disorders where they are comorbid with psychosis.

Defeat

The concept of defeat has been developed within social rank theories of depression. Such theories view depression as resulting from the dysregulation of normally adaptive, evolutionary mechanisms (Gilbert, 2001a; Nettle, 2004). Depression is conceptualized, in part, as a defensive response to perceived low social rank (Gilbert, 2001a, 2001b, 2006b). Defeat has been singled out as an especially depressogenic instance of low social rank (Gilbert & Allan, 1998; Sloman, Gilbert, & Hasey, 2003). This observation has its origins in ethological research, where defeat has been defined as the outcome of direct social conflict or competition (Price et al., 1994). Such research has demonstrated the way in which these episodes of social defeat, and concomitant subordinate status, can lead to depression-like behaviors in some animals. Reports of ritualized agonistic behavior in hens, for example, have noted how the defeated hen displays an apparent loss of motivation and diminutive posture (Price & Sloman, 1987). Social defeat has been studied in rodents with a procedure whereby agonistic encounters are set up between an intruder and territory owner. This research has shown how repeated instances of social defeat leads to reductions in locomotion, decreased motivation

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(determined via a forced swimming test), and a lack of interest in rewarding stimuli (preference for sucrose solution over water; Becker et al., 2008; Keeney et al., 2006; Rygula et al., 2005). These behaviors appear to mimic depressive characteristics such as anhedonia. In addition, physiological effects, mirroring those occurring in depression, have been observed, including weight loss and altered sleep patterns in the subordinate individual (Becker et al., 2008; Fuchs & Flügge, 2002; Meerlo, Pragt, & Daan, 1997; Raab et al., 1986). Weight loss has also been noted as a consequence of social defeat among rats in naturalistic settings (Adams & Boice, 1983).

It is suggested that these submissive, depression-like behaviors are part of an evolved strategy designed to avoid injury through further conflict (Price & Sloman, 1987). The strategy facilitates a giving-up of whatever resources underlie the initial conflict (e.g., territory, food, mating privileges) and signals a no-threat status to others. Evidence of the value of such a strategy comes from game theory models, which demonstrate how relinquishing a resource can be the more adaptive strategy when the costs of winning become too high (e.g., Hammerstein & Parker, 1982).

A further indication of the role of social defeat in depression comes from a study of tree shrews (Von Holst, 1986). This study described a particularly adverse reaction to defeat occurring in a subset of subordinate animals, whereby they became highly demobilized and socially withdrawn, dying within a number of weeks of the conflict (Von Holst, 1986). These extreme aversive reactions to defeat have been replicated in experimental research in female macaque monkeys (Shively, Laber-Laird, & Anton, 1997; Shively et al., 2005). Social groups were manipulated via the removal of dominant animals so that new social hierarchies formed. Following these reformations, a number of the subordinate monkeys displayed depression-like behavior, characterized by a collapsed posture and lack of responsiveness to environmental stimuli (Shively et al., 1997, 2005). A high rate of mortality was also noted in these animals (Shively et al., 2005). Results from such comparative studies lead to the possibility that reduced social rank, and particularly defeat, may help to explain depression in humans.

Anxiety-like behaviors have also been observed as an outcome of social defeat in animals. Research in rodents has found reductions in exploratory behavior and elevated heart rate in subordinate animals following defeat (Fuchs & Flügge, 2002; Raab et al., 1986; Rygula et al., 2005). Similarly, studies of macaque monkeys have shown heightened levels of fearful vigilant scanning of the surroundings in subordinate monkeys (Shively, 1998; Shively et al., 1997). As before, such behaviors are postulated to have adaptive value in avoiding further injury from more dominant conspecifics.

Further research has identified a number of psychobiological systems that are affected by social rank and defeat and that may mediate the relationship between these stressors and depression-like behaviors. Single episodes of defeat have been linked to decreases in hippocampal serotonin levels in male mice (Keeney et al., 2006). A state-dependent relationship between social rank and blood serotonin levels has been observed in male vervet monkeys (Raleigh, McGuire, Brammer, & Yuwiler, 1984). In particular, when the presiding dominant male was removed from a social group, the male that replaced him as the dominant monkey showed an increase of approximately 60% in blood serotonin levels

(Raleigh et al., 1984). Similar changes were noted with spontaneous (not induced by the researcher) shifts in social rank. For some species, social rank even moderated responses to serotonin. In crayfish, for example, it has been found that although serotonin facilitates aggressive tail-flip behavior in dominant individuals, it inhibits the same behavior in subordinate individuals (Yeh, Fricke, & Edwards, 1996). Research has also revealed a relationship between social rank and the regulation of the hypothalamic–pituitary–adrenal (HPA) axis, which underpins psychobiological responses to stress (Cummings & Mega, 2003). Social defeat in rodents has been associated with hyperactivity of the HPA axis, as implied by elevated corticosteroid levels (including cortisol) and adrenocorticotrophic hormone levels among subordinate animals (Fuchs & Flügge, 2002; Jasnow, Drazen, Huhman, Nelson, & Demas, 2001; Keeney et al., 2006; Raab et al., 1986). In a meta-analysis of studies involving numerous nonhuman primate species, low social rank was associated with heightened cortisol levels in species in which subordinate status carried a high rate of stress (e.g., female macaque monkeys) and in which available social support was limited (e.g., male rhesus monkeys; Abbott et al., 2003). Social rank has also been associated with dopaminergic functioning in macaque monkeys and rats, with evidence of heightened synaptic dopamine levels apparent in the subordinate animals (Cabib & Puglisi-Allegra, 1996; K. A. Grant et al., 1998; Shively, 1998).

The results of these animal-based studies may have direct relevance to understanding psychopathology such as depression in humans. Many of the psychobiological systems that have been linked to social rank in these studies (i.e., serotonergic, dopaminergic, HPA) are also believed to underpin psychopathology in humans (Bonhomme, 1998; Cummings & Mega, 2003; Olff, Langelanda, & Gersons, 2005). Moreover, it is likely that the proclivities toward social hierarchies and the associated defense mechanisms apparent in so many other species, including closely related nonhuman primates, will have been inherited by humans to a certain extent (Nesse, 1998; Rohde, 2001). Consequently, it is possible that the concept of defeat may have considerable utility in understanding human depression, anxiety, and suicidality.

Within animal research, the concept of defeat can be readily defined in terms of ritualized agonistic encounters. However, the concept of defeat becomes more complex when applied to human thought and behavior. It needs to be recognized that in addition to external social hierarchies, humans are capable of developing internal, “psychological” hierarchical goals and aims (Rohde, 2001). That is, humans maintain an internal psychological sense of their position in the world, along with a recognition of their particular aims and values. These internal hierarchical aims may be considerably more complex and diverse than the basic biopsychosocial aims of nonhuman species. Humans aspire not only to social positions but to become adept at particular skills, such as writing or drawing, to create works of art or advance scientific knowledge (Nesse, 1998). Consequently, defeat in humans may not be limited purely to the immediate social context. Instead, a sense of defeat may result from failure or loss of any of these more diverse aims.

The range of circumstances that may provoke feelings of defeat in humans has therefore been broadened beyond direct interpersonal conflict to include a range of other circumstances. Gilbert (2000b) described three main classes of events with the potential to induce perceptions of defeat: (a) a failure to attain, or loss of

valued resources, including social and material resources (e.g., financial instability; Gilbert, 2006b; Sloman et al., 2003); (b) social put-downs or attacks from others; and (c) internal sources of attack, such as self-criticism, unfavorable social comparisons or unachievable ambitions. Importantly, it is noted that these defeating circumstances may constitute an individual's perceptions rather than an objective event (Gilbert, 2000b). An extreme example is the case of individuals diagnosed with schizophrenia reporting auditory verbal hallucinations. It has been shown that these individuals can come to feel subordinate and powerless in relation to their voices (Birchwood et al., 2004; Birchwood, Meaden, Trower, Gilbert, & Plaistow, 2000). Subsequently, these voices may be viewed as an external source of attack, even though they have no basis in reality. In summary, the types of stressors that may engender perceptions of defeat in humans do not need to be social in nature. Instead, any experience that signals a major failure of hierarchical aims, including the loss of a valued role, position, or resource, may lead to perceptions of defeat.

A further development from animal research when examining defeat in humans is that there is a focus on the phenomenological experience (i.e., the subjective state of feeling defeated) and the psychological processes that underpin these feelings (Gilbert, 2001a, 2006b; Gilbert & Allan, 1998). Within humans, defeat can be defined as a sense of failed struggle concerning the loss or disruption of some valued status or internal hierarchical aims (Gilbert, 2000b; Gilbert & Allan, 1998; Rohde, 2001). This emphasis on internalized goals and self-perceptions means defeat is distinct from largely external attributions, such as uncontrollability or humiliation (Ehlers, Maercker, & Boos, 2000). The idea that individuals feel that they have struggled against, or been beaten back by, the triggering circumstances is important. Defeat cannot be equated to the general experience of loss or failure, which do not necessarily entail this sense of failed struggle. For example, an individual's marriage may fail with an ensuing divorce. However, if the individual was dubious about the marriage in the first place, and resigned to the failure, then feelings of defeat would be unlikely.

Entrapment

The concept of entrapment has its basis within theoretical accounts concerning the impact of blocked or arrested defensive behaviors (Dixon, 1998; Gilbert, 2000b, 2001a). These accounts build on ethological studies attempting to identify defensive postures and behaviors in animals (e.g., E. C. Grant & Mackintosh, 1963; Ratner & Thompson, 1960). One defensive mechanism common to many species is flight or escape (Dixon, 1998; Dixon, Fisch, Huber, & Walser, 1989). It has been observed that particular depression-like responses occur in high-stress circumstances where escape is motivated but blocked or prevented, termed *arrested flight* (Dixon, 1998; Dixon et al., 1989). These behaviors include averted gaze, reduced environmental scanning, and frozen or immobile posture (Dixon, 1998). In the social defeat inductions employed in rodents, where immediate escape is not possible, freezing is a typical response in the subordinate individual following the conflict (e.g., Cabib & Puglisi-Allegra, 1996; Rygula et al., 2005). These arrested flight behaviors are believed to serve an adaptive role by minimizing arousal in the trapped individual

while simultaneously limiting signals to others that may potentially provoke further attack (Dixon et al., 1989).

Dixon and colleagues (Dixon, 1998; Dixon & Fisch, 1998) described an ethological paradigm for studying arrested flight in humans. Participants were interviewed while sitting in a chair fixed to the floor. It was argued that the fixed chair prevented escape from the interview situation when challenging or stressful questions were posed. In this scenario, a marked similarity has been noted between the defensive behaviors exhibited by animals and those displayed by the human participants (Dixon, 1998; Dixon & Fisch, 1998). These include gaze aversion, minimal scanning of the surroundings, and few facial expressions. This set of behaviors is particularly pronounced in participants diagnosed with depression compared with healthy controls (Dixon & Fisch, 1998). Although this scenario is limited inasmuch as it provides an artificial and localized instance of blocked escape, it does suggest that similar defensive mechanisms may operate in humans to those observed in animals. This has led to the suggestion that the blocking of defensive motivations to escape stressful or defeating situations, labeled entrapment, is central to the development of depressive symptoms (Gilbert, 2001a, 2001b). Gilbert and Allan (1998) argued that the motivation to escape, central to entrapment, distinguishes it from related concepts like hopelessness.

In humans a sense of entrapment may be associated with stressful life events or circumstances that are particularly chronic and ongoing (Brown, Harris, & Hepworth, 1995). However, as with defeat, entrapment also involves psychological processes, relating to an individual's subjective perception of his or her circumstances as being uncontrollable, unremitting, and inescapable (Gilbert & Gilbert, 2003; Williams, 1997). It has been suggested that entrapment can be divided into two subclasses (Gilbert & Allan, 1998). External entrapment relates to entrapment by external events or circumstances, whereas internal entrapment relates to entrapment in internal thoughts and feelings. Thus, there is a considerable diversity in experiences of entrapment, with perceptions of entrapment emerging in relation to a host of situations, including a lack of resources, a difficult job or relationship, health problems, and aversive emotions (Gilbert & Gilbert, 2003; Gilbert, Gilbert, & Irons, 2004; Williams, 1997). In light of these considerations, the current review will mostly center on perceptions of defeat and entrapment while highlighting the inherent interindividual variance in how a particular set of objective circumstances are viewed (Lazarus & Folkman, 1984). This review, therefore, focuses on the subjective perception of being defeated or trapped irrespective of whether the trigger is internal or external.¹

¹ We were interested in contrasting the research examining perceptions of defeat and entrapment emerging from either external or internal triggers. However, once studies had been separated into those dealing with different types of psychopathologies (e.g., depression, anxiety), it became apparent that studies investigating defeat or entrapment from a clearly external source either were in the minority (e.g., two studies in the case of suicidality; one in the case of anxiety excluding PTSD) or made up the entirety of reviewed studies for that particular disorder (e.g., in the case of PTSD). We consequently decided that further subdividing the review along the lines of internal and external triggers was not warranted.

Distinguishing Between Defeat and Entrapment

The social rank definition of defeat and entrapment describes two distinct types of psychological judgments. Defeat primarily involves the processing of goal or status attainability. Conversely, entrapment appears to represent ongoing appraisals of a situation, whereby the situation is judged to be inescapable, with no likelihood of rescue through either personal volition or the agency of others. Moreover, theorists have suggested a temporal distinction between defeat and entrapment, which has its origins in the animal models described above (Sloman et al., 2003; Williams, 1997). Perceptions of defeat emerge first, resulting from the initial appraisal of the situation. Perceptions of entrapment then follow, dependent on the individual's judgment of his or her ability to escape or resolve the defeating situation.

Our research group has previously challenged this view of defeat and entrapment as two distinct constructs, arguing instead that both concepts are better conceptualized as a single construct (Johnson, Gooding, & TARRIER, 2008; Taylor, Wood, Gooding, Johnson, & TARRIER, 2009). We suggested that the central themes of defeat and entrapment are both captured by a single construct, which reflects perceptions of being powerless or lacking the capacity to effect change in order to move on from an aversive status or role (Johnson et al., 2008; Taylor et al., 2009). Although different underlying judgments or processes contribute to this state, we have argued that it is not possible to divide the phenomenology of this experience into clear-cut defeat and entrapment components. This argument has so far been supported by a single exploratory factor analysis of student's responses on self-report measures of defeat and entrapment, which found evidence of a single factor structure underlying both defeat and entrapment (Taylor et al., 2009). Further support is therefore still required to support the veracity of this claim.

The Involuntary Defeat Strategy (IDS) in Psychopathology

Recent formulations of the social rank theory suggest that the psychobiological underpinnings of the relationship between defeat, entrapment, and psychopathology involves activation of the IDS (Sloman, 2000), previously termed the involuntary subordinate strategy (Price et al., 1994). This has been defined as a genetically hard-wired psychobiological response to perceptions of defeat (Sloman, 2000; Sloman et al., 2003). The IDS is analogous to those defensive strategies found to occur in animals in response to social defeat, inherited by humans from a common evolutionary ancestry (Price et al., 1994; Sloman, 2000).

The function of the IDS is therefore assumed to be a fundamentally adaptive one, signaling a submissive no-threat status to others, facilitating withdrawal from unachievable ambitions, and inhibiting further activity so as to avoid excessive costs (Price et al., 1994; Sloman et al., 2003). This function is reflected in the affective, cognitive, and behavioral components of the human IDS. These include negative cognitions concerning personal adequacy and ability to succeed (Sloman, 2000), a toning-down of the positive (reward-orientated) affect system (Gilbert, 2006b; Gilbert, Allan, Brough, Melley, & Miles, 2002; Sloman et al., 2003), behavioral inhibition, and hypervigilance (Gilbert, 2000a; Shively, 1998; Shively et al., 1997; Sloman et al., 2003). Building on the

animal literature described previously, the IDS response is assumed to be underpinned by the effects of defeat upon the HPA axis and serotonergic systems (Gilbert, 2000b; Sloman et al., 2003). The plausibility of the IDS as an adaptation is supported by examples of other unpleasant yet functional adaptations in humans, including physical pain, vomiting, and fever (Nesse, 1998). All these adaptations improve the chances of survival for the individual, even while being aversive experiences in the short term. Vomiting during pregnancy, for example, is undesirable but is also believed to operate as an evolved response to teratogenic bacteria and toxins in foods, which may otherwise harm the fetus (Profet, 1992; Sherman & Flaxman, 2002).

If the IDS is conceptualized as a fundamentally adaptive response to perceived defeat, the question is raised as to how it can result in a maladaptive outcome such as depression or anxiety. It is suggested that depression emerges from the dysregulation or malfunction of the IDS response (Nesse, 2000; Nettle, 2004; Sloman et al., 2003). One scenario in which the IDS response is believed to become especially depressogenic is when a strong motivation to escape the defeated situation is blocked (i.e., entrapment). Under optimal circumstances, the IDS is assumed to become active for only a brief period, deactivating once the individual has managed to accept that particular defeat and move on to new goals or ambitions (Sloman, 2000). However, under circumstances of entrapment, the IDS response may become more intense and chronic, contributing to the development of psychopathology, such as an escalation of depressive symptoms (Gilbert, 2000b, 2001b; Sloman, 2000; Sloman et al., 2003). This possibility has parallels with animal research, which has shown that when defeating situations are chronic, initial adaptive stress responses give way to more excessive, potentially maladaptive stress responses (Keeney et al., 2006).

Figure 1 represents an attempt to integrate the various theoretical accounts of how defeat and entrapment influence different forms of psychopathology into a single model. At the center of this model is the IDS response, which is seen as a direct consequence of perceived defeat. The IDS may then contribute to perceptions of entrapment, contingent on an individual's judgment of the escapability of the initial defeating experience. These perceptions of entrapment further maintain the initial sense of defeat, forming a maladaptive or "depressogenic feedback loop" characterized by a chronically overactive IDS response. In the following sections of this review, we describe how the existing theories of depression, anxiety disorders, and suicidality can be integrated into this model.

A number of additional factors may also contribute to, and maintain, the dysregulation of the IDS. These include societal factors, such as the increased emphasis on competition apparent in developed capitalist societies, or the role of the mass media in encouraging unreasonably high aspirations and standards (Nesse, 2000). These factors could result in a greater sensitivity to perceptions of defeat and so contribute to more frequent IDS activation. Trauma and stress in childhood may also lead to maladaptive responses to perceptions of defeat in adulthood (Sloman et al., 2003). Such experiences are known, for example, to have lasting effects on the functioning of the HPA axis and so could alter the severity of subsequent IDS responses (Olf et al., 2005). Maladaptive coping styles, such as rumination, may maintain perceptions of defeat long after the initial triggering experience, potentially engendering a greater sense of entrapment and so result in more

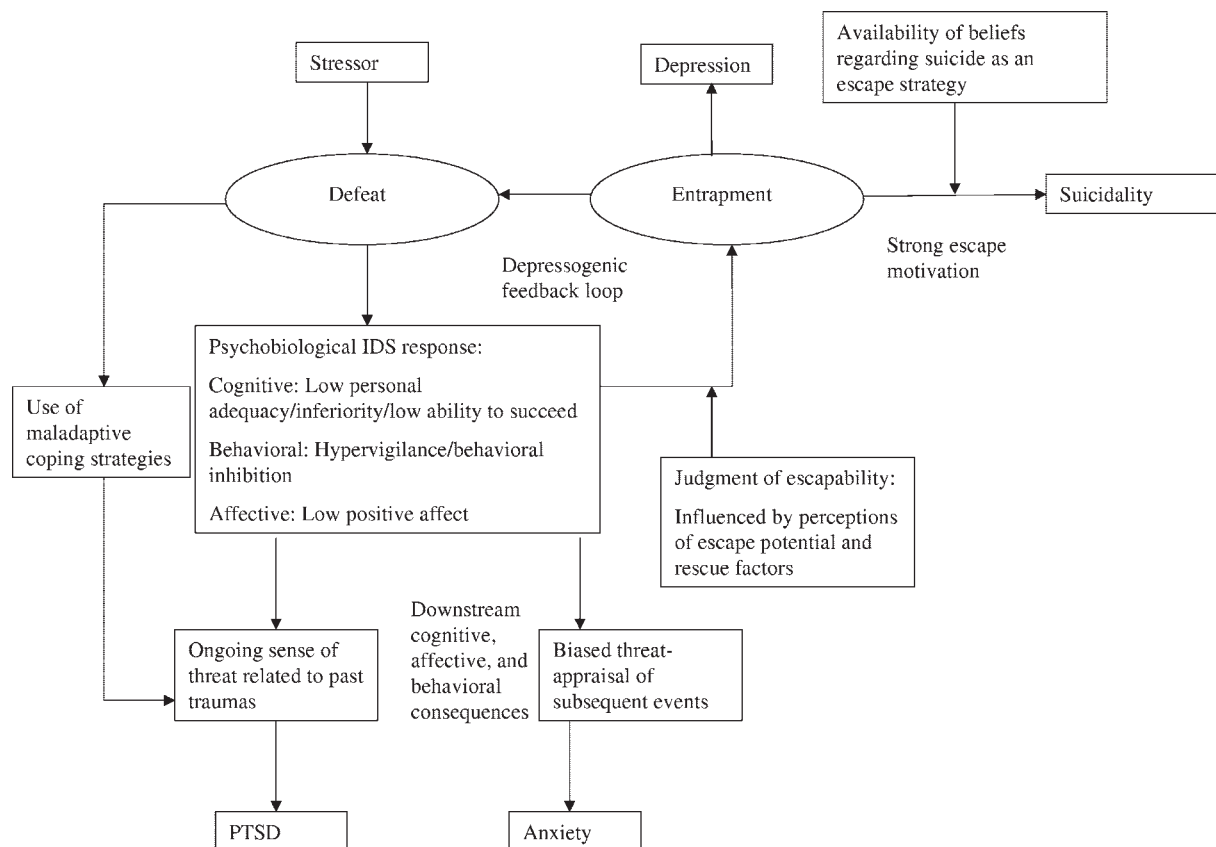


Figure 1. Diagrammatic overview of the putative relationships between defeat and entrapment and the effects they exert upon depression, suicidality, anxiety, and posttraumatic stress disorder (PTSD). In this model, initial stressors trigger perceptions of defeat and the concomitant activation of the involuntary defeat strategy (IDS), which has cognitive, behavioral, and affective components. The IDS may lead to perceptions of entrapment, contingent on an individual’s judgment of their ability to escape or resolve the situation. Perceived entrapment can then produce depressive symptoms. Entrapment may also further maintain initial perceptions of defeat, forming a depressogenic feedback loop. Lastly, perceived entrapment may result in suicidality, dependent on the availability of beliefs about the use of suicide as an escape strategy. IDS activation can also have downstream consequences, (a) biasing threat appraisals of future events to produce anxiety and (b) maintaining the sense of threat associated with past events to produce PTSD. Defeat may also lead to the use of maladaptive coping strategies that may further contribute to PTSD symptoms.

chronic IDS activation (Gilbert, 2001b; Sloman et al., 2003). Finally, availability of social support may be an important factor. Research in nonhuman primates has shown that social support is one of the main moderators of the link between social rank and stress response (Abbott et al., 2003). Some theorists have suggested that in humans social support provides a source of rescue, which may temper perceptions of entrapment (Williams, 1997).

Measurement of Defeat and Entrapment

Across the literature, a number of self-report instruments have been designed with the aim of determining an individual’s level of perceived defeat and entrapment. These can be divided into measures that assess generalized perceptions of defeat and entrapment and those that assess perceptions of defeat and entrapment associated with specific events and experiences, including psychosis,

chronic pain, and trauma. The psychometric properties of these measures, where reported, are displayed in Table 1.

The Defeat and Entrapment Scales, developed and validated by Gilbert and Allan (1998), provide a generalized, or situation-nonspecific, assessment of levels of defeat and entrapment. These scales are the most widely used assessments of the defeat and entrapment constructs in the literature. The Defeat Scale includes 16 items reflecting perceptions of failed struggle, powerlessness, and loss of rank or status (e.g., “I feel I have lost my standing in the world,” “I feel powerless”), which are rated for their prevalence over the past week. The Entrapment Scale includes 16 items reflecting perceptions of feeling trapped and wishing to escape (e.g., “I want to get away from myself”). The Entrapment Scale can also be divided into the two subscales of Internal Entrapment (e.g., “I feel trapped inside myself”) and External Entrapment (e.g., “I am in a situation I feel trapped in”). The scale develop-

Table 1
Psychometric Properties of Main Self-Report Measures of Defeat and Entrapment

Scale	Author	Population or experience of focus	Internal consistency	Test-retest reliability
Caregiver Burden Scale-Entrapment	Stommel et al. (1990)	Caregivers	.87	
Carer's Entrapment Scale	Martin et al. (2006)	Caregivers		
Defeat Scale	Gilbert & Allan (1998)		.93-.94	
Entrapment Scale	Gilbert & Allan (1998)		.86-.94	
Mental Defeat during Trauma Scale	Dunmore et al. (1999)	Trauma	.93	
Pain Self Perception Scale	Tang et al. (2007)	Physical pain	.98	.92 (2 days)
Personal Beliefs about Illness Questionnaire-Entrapment	Birchwood et al. (1993)	Psychosis	.64	.92 (2 weeks)

ment process implies a reasonable degree of face and content validity in the measures. Candidate items related to themes of defeat and entrapment were generated from patient transcripts. The scales were subsequently pretested with a small group of depressed patients to ensure intelligibility and face validity. These scales were also found to show moderate, but not excessive ($<.70$; Tabachnick & Fidell, 2001), correlations with other social rank-related variables (social comparison, submissive behavior, and hopelessness; $r = .34-.65$), supporting their concurrent validity (Gilbert & Allan, 1998).

Variation exists in the literature in regard to how the Defeat and Entrapment Scales have been employed. Initial principal component analyses were conducted separately for the Defeat, Internal Entrapment, and External Entrapment Scales (Gilbert & Allan, 1998). Although this analysis supported the unidimensionality of these scales when examined individually, it said little about the validity of the distinctions drawn between them (i.e., Internal vs. External Entrapment). Subsequently, whereas some researchers have treated Internal and External Entrapment as separate subscales (e.g., Gilbert, Cheung, Irons, & McEwan, 2005), others have used the complete Entrapment Scale as a single measure (e.g., Rasmussen et al., 2010; Sturman & Mongrain, 2008a). Although internal reliabilities were high in the latter studies ($\alpha = .92-.95$), this alone does not provide a good test of unidimensionality (Clark & Watson, 1995). The factor analysis conducted by Taylor et al. (2009) has been the first to include all items across both Defeat and Entrapment Scales, supporting a single factor structure.

Perceptions of entrapment associated with psychotic illness have been measured via the Personal Beliefs about Illness Questionnaire (PBIQ; Birchwood, Mason, MacMillan, & Healy, 1993). This questionnaire assesses illness-related appraisals in five domains, including entrapment. The remaining domains cover negative expectations, stigma, beliefs concerning social containment, and the attribution of behavior to the self or to psychosis. The Entrapment subscale consists of four items assessing perceptions of psychotic illness as something frightening, difficult to cope with, and that the individual has limited power to influence, control, or prevent further relapse from (e.g., "I am powerless to influence or control my illness"; Birchwood et al., 1993). Although initially labeled Controllability of Illness, this subscale was renamed in light of its similarity with the concept of entrapment being used in other areas of research (Rooke & Birchwood, 1998). One limitation of this measure is the small number of items. Consequently, this scale may inadequately capture the full extent of the theorized psychological construct it is assumed to measure,

and so lack content validity (Haynes, Richard, & Kubany, 1995). Furthermore, no formal factor analysis has been conducted to assess the suitability of the theorized subscale structure.

Perceptions of defeat during traumatic experiences have been assessed with the Mental Defeat during Trauma Scale (MDTS; originally Mental Defeat Scale; Dunmore, Clark, & Ehlers, 1999). Respondents are required to answer retrospectively concerning their thoughts and feelings at the time of the trauma and to rate the applicability of 11 items reflecting perceptions of defeat (e.g., "I felt completely defeated," "I felt at the mercy of other people or the situation"). As with the PBIQ, no formal factor analysis or related technique has been reported for this measure, so the unidimensionality of the scale remains to be established. The retrospective nature of this measure may introduce some degree of bias in responses. However, any measure assessing peritraumatic cognitions, including the narrative-based coding system described below, will suffer from this limitation.

The Pain Self Perception Scale (PSPS; Tang, Salkovskis, & Hanna, 2007) assesses perceptions of defeat associated with a recent episode of intense pain. It features 24 items, which were adapted from the Defeat Scale (Gilbert & Allan, 1998) and MDTS (Dunmore et al., 1999), that are rated for their applicability during the pain episode (e.g., "Because of the pain I felt powerless," "Because of the pain I felt defeated"). All items loaded highly onto a single factor in a sample of patients and volunteers with chronic pain conditions.

Two self-report measures assess perceptions of entrapment related to the role of being a caregiver. The first of these is the Sense of Entrapment subscale of the Caregiver Burden Scale (Stommel, Given, & Given, 1990). Respondents rate their agreement with nine items reflecting perceptions of being unhappy with their role as caregiver but being trapped and unable to escape (e.g., "I felt overwhelmed by the problems I have caring for . . ."; "I feel trapped by my caregiving role"). The factor structure underlying the Entrapment subscale was supported by factor analyses among three independent samples of caregivers (Stommel et al., 1990). The second scale, the Carer's Entrapment Scale (Martin, Gilbert, McEwan, & Irons, 2006), features 10 items adapted from the original Entrapment Scale developed by Gilbert and Allen (1998). All items loaded onto a single factor. Additional psychometric information was not, however, provided.

In addition to self-report measures, two further instruments have been developed that rely on external ratings of defeat or entrapment based on interview or other transcribed data. The Life Events and Difficulties Schedule (LEDS) is a semistructured interview

that assesses the presence and severity of aversive life experiences retrospectively (Craig, 1996). An adapted scoring system for this measure has been developed that purports to measure entrapping life events (Brown et al., 1995). A key aspect of this instrument is that it employs a "contextualized" measure of life events, whereby subjective reports concerning the personal impact or emotional reactions to a particular event are ignored so as to avoid respondent bias (Craig, 1996). Instead, the impact and threat posed by a particular life event are determined through discussion by an independent group of researchers considering only the concrete features of the event itself within the individual's biographical context.

In the adapted version of the LEDS, severe events are additionally classified into subtypes. One of these subtypes is entrapment events, defined as long-term (6 months) ongoing difficulties that are unlikely to improve (e.g., "being told a paralyzed and bedridden husband would not improve"; Brown et al., 1995). Interrater reliability concerning the identification of entrapping events has been reported as high ($\kappa = .92$; Kendler, Hettema, Butera, Gardner, & Prescott, 2003). Loss events are also included in the LEDS classification system, which cover a range of circumstances including the loss of material possessions or health as well as the loss of cherished goals or ideals (Brown et al., 1995). Although perceptions of defeat partly fall into this category, in that they describe a loss of status or desired resources, an important aspect of defeat is a sense of failed struggle. This latter component of defeat is not required in the LEDS definition of loss. For example, although parents may experience a sense of loss when their children leave home, they may also recognize that this outcome is desirable and a part of life, and do not feel that they have struggled against or been beaten down by this turn of events. Consequently, they do not experience defeat. Loss events should not, therefore, be equated with defeating events.

One potential flaw in this classification system is its hierarchical nature, whereby events are only classified as entrapping if they fail to meet the criteria for humiliation. Consequently, the distinction between entrapping and humiliating experiences is blurred, with a subset of humiliation events potentially also involving entrapment (e.g., having a violent partner who beats the individual). It should also be noted that these findings are susceptible to numerous sources of bias, including possible recall inaccuracies or different response styles for depressed and nondepressed participants (Kessler, 1997).

A central issue for this review is the extent to which entrapping events actually induce the subjective perception of entrapment, rather than hopelessness or other aversive subjective states (Gilbert & Allan, 1998). The same set of concrete circumstances can have a substantially different impact depending on how an individual appraises these experiences (Lazarus & Folkman, 1984; Lazarus, Opton, Nomikos, & Rankin, 1965). Moreover, sociocognitive accounts of entrapment emphasize the role of underlying appraisals in determining these perceptions (Johnson et al., 2008; Williams, 1997). The aim of life event measures such as the LEDS is to contextualize information on life experiences with details of the participant's biographical history and so partially capture individual differences in the subjective impact of events. However, to fully capture such interindividual variance from basic biographical information alone seems improbable. Studies using the adapted

LEDS do not describe any evidence that supports the ability of the contextualized measure to do this.

Perceptions of defeat during traumatic experiences have been measured with a narrative-based coding system designed to assess cognitions surrounding trauma, including those of defeat, that are implicit in individuals' descriptions of the event (Dunmore et al., 1997). This approach has been applied to transcripts derived from semistructured interviews or therapy sessions (Dunmore et al., 1997; Ehlers et al., 1998). Statements rated as evidence of defeat include those indicating a perceived loss of humanity (e.g., "They took away my human dignity and I was suddenly nothing"), powerlessness, and giving up (e.g., "I broke down like a pitiful picture of misery, phlegmatic, not caring about anything"; Ehlers et al., 2000). Although earlier versions of this approach measured defeat dichotomously as present or absent (Dunmore et al., 1997), later versions introduced a 5-point mental defeat rating scale (Ehlers et al., 2000). Interrater reliability for this measure was reportedly high ($\kappa = .87$; Ehlers et al., 2000).

In summary, a range of measures has been developed for the purpose of measuring defeat and entrapment. This plurality in assessments is perhaps not surprising considering the diversity of circumstances in which perceptions of defeat and entrapment are believed to manifest. The Defeat and Entrapment Scales (Gilbert & Allan, 1998) are the most widely employed measures of these constructs and appear to demonstrate reasonable reliability and validity, although further psychometric evaluation, particularly in regard to the underlying factor structure of the Entrapment Scale, would be beneficial. The Entrapment subscale of the Caregiver Burden Scale also demonstrated good psychometric properties. The PSPS and Carer's Entrapment Scale show some indication of validity, being adapted from the original Defeat and Entrapment Scales and showing theoretically consistent factor structures, as well as high internal consistency. Nonetheless, as these scales have been employed in few studies, additional examination of their psychometric properties is required. Similarly, the PBIQ and MDTS, although both based upon a strong theoretical rationale and used across a number of studies, require further psychometric validation. The two measures providing externally rated indices of defeat and entrapment avoid many of the potential biases associated with self-reported responses. However, these measures may suffer from other limitations including their ability to accurately capture subjective psychological states and the problems of accuracy in retrospective accounts.

Systematic Review

Aims

The aim of the current review was to investigate the evidence supporting the role of perceptions of defeat and entrapment in the development of depression, suicidality, PTSD, and other anxiety syndromes. We have chosen to discuss PTSD and general anxiety symptoms in different sections. This is because, although PTSD is commonly recognized as an anxiety disorder (American Psychiatric Association, 2000), it is distinct in that it relates to past experiences rather than impending threats (Ehlers & Clark, 2000). Moreover, the research exploring the link between defeat and PTSD has developed independently of the work examining defeat, entrapment, and general anxiety symptoms, supporting the deci-

sion to review them separately. Considering the variety of clinical problems for which defeat or entrapment have been assigned a causal role, an interesting question is to what extent the concepts of defeat and entrapment are commensurate across these different disorders. In other words, does defeat or entrapment, described in the context of psychopathology A, reflect the same fundamental processes and features as defeat or entrapment described in the context of psychopathology B? Three broad possibilities can be suggested.

First, it may be that defeat and entrapment have a common causal role in a variety of disorders. Variation in particular clinical outcomes may be accounted for by different mediating and moderating mechanisms or variations in the content of that particular situation (e.g., acute trauma vs. ongoing struggle). Second, it is possible that defeat and entrapment are corollaries of a particular disorder, such as depression, and that their apparent association with other disorders, therefore, simply reflects depressive comorbidity (Bolton, Gooding, Kapur, Barrowclough, & TARRIER, 2007). The high comorbidity of depression with numerous other disorders is well documented, making this a plausible possibility (e.g., Gorman, 1997). Third, there is the possibility that certain environmental or psychological stressors, which are correlated with perceptions of defeat or entrapment, explain their relationship with different disorders. For example, hopelessness is a well-supported psychological risk factor for suicide (e.g., Kuo, Gallo, & Eaton, 2004) and may better account for any relationship that perceptions of defeat and entrapment demonstrate with suicidality. Consequently, when examining the links that defeat and entrapment have with different psychopathologies, we also consider the extent to which these relationships may be better explained by comorbid psychopathology or other related risk factors.

The current article is the first to systematically review the existing literature on defeat, entrapment, and their link with depressive disorders, anxiety disorders, and suicide. Specifically, we aimed to determine to what extent defeat and entrapment are associated with increased depression, suicidality, anxiety, and PTSD symptomology and to determine to what extent defeat and entrapment have a common effect across different psychological disorders or experiences that is not accountable by comorbid psychopathology or other risk factors.

Search Strategy

A three-step search strategy was employed. In the first step, core psychological and medical online databases were reviewed for relevant studies. The databases reviewed were PsycINFO (1806–April 2010), Medline (1950–April 2010), and Web of Science (1945–April 2010). Keyword searches were employed with the terms *defeat*, *entrapment*, and *trapped* in combination with keywords indexing anxiety, PTSD, depression, and suicide (*depress*\$, *anxi*\$, *suicid*\$, *stress*, *symptoms*, *distress*). Abstracts of all articles were read by the first author to determine whether the studies met the inclusion criteria. In instances where there was some doubt, the full text of the article was also read. In the second step, the full text of all remaining articles was read to establish whether they met the inclusion criteria. Reference lists were reviewed for any studies missed in the initial search. In the third step, additional database searches were conducted for articles citing those that had developed measures of defeat or entrapment.

Inclusion criteria for quantitative studies were that they (a) were original peer-reviewed research articles, (b) used human participants, (c) were written in English, (d) included some measure of defeat or entrapment or both, and (e) included some measure of symptoms or experiences related to either anxiety, PTSD, depression, or suicide. Qualitative research was also included, as a number of studies of this nature were identified that described themes of defeat and entrapment. Inclusion criteria for qualitative studies were the same as above, with the exception of Criteria d and e, which became (d) identified themes phenomenologically equivalent to defeat or entrapment and (e) established these themes in the context of symptoms or experiences related to anxiety, PTSD, depression, or suicide. This process identified 51 articles, which were readily divisible into categories reflecting different psychological disorders or experiences. The review has, therefore, been structured along these lines. The literature on defeat and entrapment were reviewed first for unipolar depressive symptoms, then suicidality, then anxiety disorders (excluding PTSD), and then PTSD.

The details of all included quantitative studies are summarized in Table 2. Effect sizes are reported for relationships described in the “Key Findings” column. To facilitate comparability, where possible these effect sizes are reported as a common metric, r , and describe bivariate or zero-order relationships (as opposed to relationships that have been adjusted for the effect of additional variables). In many cases these were not reported in the articles and have therefore been calculated from other reported statistics (cases marked with superscript). It should be noted that due to the different assumptions associated with different measures of effect size (Borenstein, Hedges, Higgins, & Rothstein, 2009), these calculated values should be viewed as approximations at best. For a smaller number of studies, information was not available to calculate r values for relevant effects, and another index of effect size is therefore provided. Similarly, in a minority of cases effect sizes could not be obtained for zero-order relationships and instead reflect partial or multivariate effects. Qualitative studies are summarized in Table 3.

Defeat and Entrapment in Unipolar Depression

Theories of depression. Unipolar depression has been the clinical domain where the concepts of defeat and entrapment have so far received the most attention. The social rank model views the relationship between defeat and depression as occurring through the activation of the IDS (Sloman, 2000). The IDS is initially triggered by perceptions of defeat. Depression is proposed to occur in situations where the individual feels unable to escape from this defeated state, possibly due to external situational factors (e.g., being in an abusive relationship, serving a long-term prison sentence, or experiencing a chronic physical illness) or psychological factors (e.g., unremitting negative and intrusive thoughts and uncontrollable flashbacks to a trauma; Gilbert & Allan, 1998). These circumstances are likely to engender perceptions of entrapment, which would be expected to be closely associated with depression. Entrapment is believed to be depressogenic because it contributes to the dysregulation of the IDS response, maintaining and exacerbating the initial sense of defeat and producing a chronic or excessive IDS response (Gilbert, 2000b, 2001b; Sloman, 2000; Sloman et al., 2003). Within this interlocked state, normally adap-

Table 2
Summary of Quantitative Studies Included in the Review Separated by Type of Psychopathology

Author	Design	Sample	Defeat or entrapment measure	Outcome measure	Key finding	Effect size
Tang et al. (2010)	Cross-sectional	Chronic pain patients ($n = 133$)	Depressive symptoms PSPS	Anxiety and depression (HADS)	Defeat → depression (also found when covarying pain intensity)	$r = .66$
Troop & Baker (2008)	Cross-sectional	Female office workers ($n = 74$)	Defeat and Entrapment Scales	Depression (BDI-II)	Defeat → depression	$r = .81$
Sturman & Mongrain (2008b)	Cross-sectional	Students engaged in sports ($n = 115$)	Defeat and Internal Entrapment Scales	Dysphoria (VAS)	Entrapment → depression Defeat → dysphoria	$r = .64-.76$ $r = .52$
Sturman & Mongrain (2008a)	Prospective (16 months' follow-up)	Formerly depressed students ($n = 146$)	Entrapment Scale	Depressive episodes (SCID)	Internal entrapment → dysphoria IDS (entrapment, social comparison) associated with recurrence of depression (covarying baseline and past depression)	$r = .42$
Tang et al. (2007)	Cross-sectional	Chronic ($n = 124$) and acute pain participants ($n = 68$), pain-free controls ($n = 110$)	PSPS	Depression (HADS)	Baseline entrapment higher in those with recurring depression Entrapment → past depressive episodes Defeat higher in chronic pain patients than all other groups	$r = .21^a$ $r = .28$
Karatzias et al. (2007)	Cross-sectional	Schizophrenia spectrum disorder (relapse prone; $n = 138$)	PBIQ	Comorbid anxiety or affective disorder (SCID)	Defeat → depression Entrapment → comorbid disorder	$r = .65$ $r = .32^a$
White et al. (2007)	Cross-sectional	Schizophrenia spectrum disorder ($n = 100$)	PBIQ	Depression (CDSS)	Entrapment → depression	$r = .60$
Martin et al. (2006)	Cross-sectional	Caregivers of dementia patients ($n = 70$)	CES	Depression (CES-D)	Entrapment → depression	$r = .60$
Birchwood et al. (2005, Study 3)	Cross-sectional	Schizophrenia spectrum disorder (first episode, acute; $n = 26$)	PBIQ	Depression (CDSS)	Entrapment → depression (covarying psychotic symptoms)	$r_p = .59$
Sturman & Mongrain (2005)	Cross-sectional	Formerly depressed students ($n = 146$)	Entrapment Scale	Depression (CES-D), past depressive episodes (SCID)	IDS (entrapment, social comparison) mediates effect of self-criticism on past depressive episodes Internal entrapment → depression	$r = .71$
Gilbert et al. (2005)	Cross-sectional	Students ($n = 166$)	Entrapment Scale	Depression (CES-D)	Entrapment → depression	$r = .65-.68$
Gilbert et al. (2004)	Cross-sectional	Depressed patients ($n = 50$)	Interview concerning experience of entrapment	Depression (BDI)	Reasons for not escaping → depression	$r = .54$

(table continues)

Table 2 (continued)

Author	Design	Sample	Defeat or entrapment measure	Outcome measure	Key finding	Effect size
Leblanc et al. (2004)	Cross-sectional	Adult Alzheimer caregivers ($n = 188$)	Unvalidated measure of entrapment	Unvalidated measure of depressive symptoms	Entrapment associated with depressive symptoms after controlling for sociodemographics and caregiver stress variables	$\beta = .31$
Kendler et al. (2003)	Retrospective life event	Adult twins ($n = 7,322$)	LEDS (past year)	Onset of MD or GAS	Entrapment events \rightarrow comorbid MD and GAS, 1 month after life event	Hazard ratio = 1.33
Yoon (2003)	Cross-sectional	Korean caregivers of family members ($n = 311$)	CBS-E	Depression (SDS)	Entrapment \rightarrow depression	$r = .40$
Gilbert et al. (2002)	Cross-sectional	Students ($n = 193$), psychiatric inpatients ($n = 81$)	Defeat and External Entrapment Scales	Depression, anhedonia (MASQ)	Defeat \rightarrow depressive symptoms External entrapment \rightarrow depressive symptoms	$r = .71-.80$ $r = .59-.70$
Goldstein & Willner (2002)	Cross-sectional	Students ($n = 32$)	Defeat and External Entrapment Scales	Depression (BDI)	Defeat \rightarrow depression Entrapment \rightarrow depression	$r = .70$ $r = .74$
Allan & Gilbert (2002)	Cross-sectional	Students ($n = 197$)	External Entrapment Scale	Depression (CES-D)	External entrapment \rightarrow depression	$r = .58$
Gilbert et al. (2001)	Cross-sectional	Schizophrenia spectrum disorder (voice hearers; $n = 66$), depressed patients ($n = 50$)	Entrapment by Voices and Entrapment by Thoughts Scales	Depression (BDI)	Entrapment \rightarrow depression Wishing to escape \rightarrow depression	$r = .52-.56$ $r = .35-.45$
Willner & Goldstein (2001)	Cross-sectional	Mothers of children with special needs ($n = 76$)	Defeat and External Entrapment Scales	Depression (BDI), anhedonia (FCPCS-R)	When entrapment included in regression with other independent variables, it failed to predict depression Defeat \rightarrow depression Entrapment \rightarrow depression Defeat and entrapment mediated relationship of parental stress on depression; no associations with anhedonia found	$r = .74$ $r = .71-.77$
Hagen (2002)	Cross-sectional	Recent mothers ($n = 129$)	Unwanted or unplanned pregnancy; perceived social constraints on abortion	Depression (EPDS)	Unwanted or unplanned pregnancies: social constraint on abortion \rightarrow depression Wanted or planned pregnancies: no effect	$r = .41$ $r = -.04$

Table 2 (continued)

Author	Design	Sample	Defeat or entrapment measure	Outcome measure	Key finding	Effect size
Iqbal et al. (2000)	Prospective (4, 8, 12 months following acute episode)	Schizophrenia spectrum disorder (<i>n</i> = 70)	PBIQ	Development of PPD (cutoff on BDI)	Entrapment was higher in those who went on to develop PPD than those who did not at pre-PPD time point	<i>r</i> = .23 ^a
Rooke & Birchwood (1998)	Prospective (30 months' follow-up)	Schizophrenia spectrum disorder (<i>n</i> = 49)	PBIQ	Depression (BDI)	Entrapment at baseline predicted depression at follow-up (covarying symptoms, illness variables, treatment variables)	<i>B</i> = 0.39
Gilbert & Allan (1998)	Cross-sectional	Students (<i>n</i> = 302), depressed patients (<i>n</i> = 90)	Defeat and Entrapment Scales	Depression (CES-D, BDI)	Students: Defeat → depression Entrapment → depression Patients: Defeat → depression Entrapment → depression	<i>r</i> = .73 <i>r</i> = .64–.65 <i>r</i> = .77 <i>r</i> = .54–.62
Wyatt & Gilbert (1998) Broadhead & Abas (1998)	Cross-sectional Retrospective life event	Students (<i>n</i> = 113) Zimbabwean women (<i>n</i> = 172)	Defeat Scale LEDS (past year), adapted for Zimbabwean women	Depression (CES-D) Onset of depression (PSE)	Defeat → depression Humiliation, entrapment, or bereavement events linked to greater risk of depression than loss or danger events alone	<i>r</i> = .72 <i>r</i> = .36 ^b
Brown et al. (1995)	Retrospective life event	Female community sample (<i>n</i> = 404)	LEDS (past 2 years)	Onset of depression (PSE)	Entrapment or humiliation events linked to greater risk of depression than loss or danger events alone	<i>r</i> = .43 ^b
Clare & Singh (1994)	Cross-sectional	Patients with psychotic disorders (<i>n</i> = 11)	PBIQ	Depression (BDI)	Entrapment → depression	<i>r</i> = .84 ^c
Birchwood et al. (1993)	Cross-sectional	Mixed psychosis sample: schizophrenia spectrum disorder (<i>n</i> = 49), bipolar disorder (<i>n</i> = 35)	PBIQ	Depression (dichotomized; BDI)	Entrapment largest discriminator of depressed and nondepressed groups	<i>r</i> = .52 ^a
Stommel et al. (1990)	Cross-sectional	Caregivers (<i>n</i> = 307)	CBS-E	Depression (CES-D)	Entrapment → depression	<i>r</i> = .63
Taylor, Gooding, et al. (2010)	Cross-sectional	Schizophrenia spectrum disorder (<i>n</i> = 78)	Suicidality Defeat and Entrapment Scales	Suicidal ideation (BSS)	Defeat and entrapment, treated as a single latent variable, is associated with suicidal ideation	<i>r</i> = .52 <i>r</i> = .56
Taylor, Wood, et al. (2010)	Cross-sectional	Students with past or current suicidal ideation (<i>n</i> = 93)	Defeat and Entrapment Scales	Suicidality (SBQ-R)	Defeat and entrapment, treated as a single latent variable, is associated with suicidal ideation Defeat → suicidality Entrapment → suicidality	<i>r</i> = .49 <i>r</i> = .45 (table continues)

Table 2 (continued)

Author	Design	Sample	Defeat or entrapment measure	Outcome measure	Key finding	Effect size
Rasmussen et al. (2010)	Cross-sectional	Parasuicidal individuals ($n = 103$), hospital controls ($n = 37$)	Defeat and Entrapment Scales	Suicidal ideation (SPS)	Entrapment mediates defeat on ideation in parasuicidal individuals Defeat \rightarrow suicidal ideation Entrapment \rightarrow suicidal ideation	$r = .57$ $r = .71$
Park et al. (2010)	Cross-sectional	Korean schoolchildren ($n = 11,393$)	Entrapment Scale (Korean translation)	Suicidal ideation (SSI)	Entrapment main proximal predictor of ideation within path model Entrapment \rightarrow suicidal ideation	$r = .59$
Kidd (2006)	Cross-sectional	Homeless youths ($n = 208$)	"Trapped experiences" latent variable	Suicidal ideation (unvalidated)	Feeling trapped main proximal predictor of suicidality in path model	$\beta = .79$
O'Connor (2003)	Cross-sectional	Parasuicidal individuals ($n = 30$), hospital controls ($n = 30$)	Defeat Scale (unvalidated), social support (MOS), Escape Potential Scale (unvalidated)	Parasuicidal status	Defeat and social support by escape potential predict attempt status (covarying depression, anxiety, and hopelessness) Defeat greater in parasuicidal group	$r = .45^a$
Anxiety symptoms (excluding PTSD)						
Tang et al. (2010)	Cross-sectional	Chronic pain patients ($n = 133$)	PSPS	Anxiety (HADS)	Defeat \rightarrow anxiety (also found when covarying pain intensity)	$r = .60$
Tang et al. (2007)	Cross-sectional	Chronic pain ($n = 124$) and acute pain participants ($n = 68$), pain-free controls ($n = 110$)	PSPS	Anxiety (HADS)	Defeat \rightarrow anxiety	$r = .62$
Karatzias et al. (2007)	Cross-sectional	Schizophrenia spectrum disorder (relapse prone; $n = 138$)	PBIQ	Comorbid anxiety or affective disorder (SCID)	Entrapment \rightarrow comorbid disorder	$r = .32^a$
Birchwood et al. (2007)	Cross-sectional	First-episode schizophrenia spectrum disorder ($n = 103$)	PBIQ	Social anxiety (cutoff on the SIAS)	Entrapment greater in social anxiety group	$r = .42^a$
Sturman & Mongrain (2005)	Cross-sectional	Formerly depressed students ($n = 146$)	Entrapment Scale	Anxiety episodes (SCID)	No relationship between entrapment and past or current anxiety episodes	
Gumley et al. (2004)	Cross-sectional	Schizophrenia spectrum (relapse prone, comorbid social anxiety; $n = 19$), matched controls ($n = 19$)	PBIQ	Comorbid social anxiety disorder, social avoidance (BSI)	Entrapment higher in socially anxious group (also found when covarying depression)	$r = .50^a$
Kendler et al. (2003)	Retrospective life event	Adult twins ($n = 7,322$)	LEDS (past year)	Onset of MD or GAS	Entrapment events \rightarrow comorbid MD and GAS, 1 month after life event	Hazard ratio = 1.33

Table 2 (continued)

Author	Design	Sample	Defeat or entrapment measure	Outcome measure	Key finding	Effect size
Gilbert et al. (2002)	Cross-sectional	Students ($n = 193$), psychiatric inpatients ($n = 81$)	Defeat and External Entrapment Scales	Anxiety, depression, anhedonia, anxious arousal (MASQ)	Defeat → anxiety symptoms External entrapment → anxiety symptoms Defeat but not entrapment (external) linked to anhedonia and anxious arousal in SEM (combined samples)	$r = .42-.56$ $r = .39-.59$
Jobson & O'Kearney (2009)	Cross-sectional	Community sample with self-identified traumatic experience ($n = 106$)	PTSD Mental defeat rated from narrative	PTSD (PSS)	Independent culture: defeat higher in those with PTSD Interdependent culture: no difference	$r = .56^a$ $r = .10^a$
Kleim et al. (2007)	Prospective (6 months' follow-up)	Assault survivors ($n = 205$)	MDTS	PTSD (SCID)	Defeat one of three best predictors of PTSD (covarying baseline acute stress disorder) Defeat higher in individuals who went on to develop PTSD	$r = .49^a$
Dunmore et al. (2001)	Prospective (9 months' follow-up)	Assault survivors ($n = 57$)	MDTS	PTSD severity (PSS-SR)	Defeat associated with PTSD severity (also when covarying initial PTSD symptoms)	$r = .64$
Ehlers et al. (2000)	Cross-sectional	Former political prisoners ($n = 81$)	Mental defeat rated from narrative	PTSD (ADIS-R, DIPS), PTSD severity (DIPS, IES-R)	Defeat → PTSD severity Defeat → number of PTSD symptoms Defeat associated with PTSD severity (covarying subjective and objective severity of imprisonment)	$r = .42$ $r = .43$
Dunmore et al. (1999)	Cross-sectional	Assault survivors ($n = 92$)	MDTS	PTSD (PSS-SR)	Defeat higher in PTSD group; defeat higher in maintained PTSD versus recovered PTSD group, but effect nonsignificant when history or severity variables covaried	$r = .48^a$

(table continues)

Table 2 (continued)

Author	Design	Sample	Defeat or entrapment measure	Outcome measure	Key finding	Effect size
Ehlers et al. (1998)	Cross-sectional	Female victims of sexual assault undergoing exposure therapy (<i>n</i> = 20)	Mental defeat rated from narrative (retrospective)	PTSD symptoms (PSS)	Defeat → improvement in PTSD	<i>r</i> = -.66
Dunmore et al. (1997)	Cross-sectional	Assault survivors with past PTSD (<i>n</i> = 20)	Mental defeat rated from narrative	PTSD (PSS-SR)	Defeat higher in persistent PTSD group	<i>r</i> = .42 ^d

Note. PSPS = Pain Self Perception Scale (Tang et al., 2007); HADS = Hospital Anxiety and Depression Scale (Zigmond & Snaith, 1983); BDI-II = Beck Depression Inventory-II (A. T. Beck et al., 1996); VAS = Visual Analogue Scale; SCID = Structured Clinical Interview for DSM-IV disorders (First et al., 1996); IDS = Involuntary Defeat Strategy; PBIQ = Personal Beliefs about Illness Questionnaire (Birchwood et al., 1993); CDSS = Calgary Depression Scale for Schizophrenia (Addington et al., 1990); CES = Carer's Entrapment Scale (Martin et al., 2006); CES-D = Center for Epidemiologic Studies Depression Scale (Radloff, 1977); BDI = Beck Depression Inventory (A. T. Beck et al., 1961); LEDS = Life Events and Difficulties Schedule (Brown et al., 1978); MD = major depression; GAS = generalized anxiety syndrome; CBS-E = Caregiver Burden Scale-Entrapment (Stommel et al., 1990); SDS = Self-Rating Depression Scale (Zung, 1965); MASQ = Mood and Anxiety Symptoms Questionnaire (Watson & Clark, 1991); SEM = structural equation model; FCPCS-R = Fawcett-Clark Pleasure Capacity Scale-Reduced (D'haenen, 1993); EPDS = Edinburgh Postnatal Depression Scale (Cox et al., 1987); PPD = postpsychotic depression; PSE = Present State Examination (Wing et al., 1974); BSS = Beck Suicidal Ideation Scale (A. T. Beck & Steer, 1991); SBQ-R = Suicidal Behaviors Questionnaire-Revised (Osman et al., 2001); SPS = Suicide Probability Scale (Cull & Gill, 1988); SSI = Scale for Suicidal Ideation (A. T. Beck et al., 1979); MOS = Medical Outcomes Study measure of social support (Sherbourne & Stewart, 1991); PTSD = posttraumatic stress disorder; SIAS = Social Interaction Anxiety Scale (Mattick & Clarke, 1998); BSI = Brief Symptom Interview (Derogatis & Melisaratos, 1983); PSS = PTSD Symptom Scale (Foa et al., 1993); MDTS = Mental Defeat during Trauma Scale (Dunmore et al., 1999); PSS-SR = PTSD Symptom Scale-Self-Report (Foa et al., 1993); ADIS-R = Anxiety Disorders Interview Schedule-Revised (DINardo & Barlow, 1988); DIPS = Diagnostic Interview for Psychological Disorders (Margraf et al., 1991); IES-R = Impact of Event Scale-Revised (Weiss & Marmar, 1996).

^a Calculated from means and standard deviations. ^b Calculated from odds ratios. ^c Calculated from Kendall's tau. ^d Calculated from one-tailed *p* value.

Table 3
Summary of Qualitative Studies Included in the Review

Author	Sample	Symptoms	Key finding
Tang et al. (2009)	Chronic pain patients: half with high health anxiety (<i>n</i> = 5), half with low health anxiety (<i>n</i> = 5)	Patients taken from larger sample based on five top and bottom scores for health anxiety (SHAI)	Perceptions of defeat related to pain episodes distinguished between the high- and low-health-anxiety groups, being more pronounced in the former.
Ayers (2007)	Women with traumatic childbirth: half with childbirth-related PTSD symptoms (<i>n</i> = 25), half without (<i>n</i> = 25)	PTSD symptoms above cutoff in PTSD group (PSS-SR, IES); few or no PTSD symptoms in control group	Perceptions of defeat related to the birth distinguished between the PTSD and non-PTSD groups, being more pronounced in the former.
Chen et al. (2006)	Taiwanese mothers with postpartum depression (<i>n</i> = 23)	Scoring over cutoff for depression on the BDI	Entrapment emerged as key theme associated with social norms and role expectations. A defeat-like theme also emerged, related to "shattering" of previous identity.
Kidd (2004)	Homeless youths (<i>n</i> = 80)	Moderate to severe levels of depressive symptoms on the BDI	Entrapment and the perceived inability to escape emerged as a key theme in discussion of suicidality.
Gilbert & Gilbert (2003)	Focus groups: acute depressed inpatients (<i>n</i> = 5), bipolar self-help group (<i>n</i> = 6), depression self-help group (<i>n</i> = 6), psychiatric nurses (not relevant for review; <i>n</i> = 5)		Discussions focused on entrapment. Feelings of entrapment commonly endorsed. Associated with a variety of triggers including interpersonal relationships, depressive symptoms, inability to cope, low self-esteem, and low status.
Tzeng (2001)	Taiwanese suicide attempters (<i>n</i> = 10)		Being trapped and unable to escape from circumstances emerged as central theme related to suicide attempt.

Note. SHAI = Short Health Anxiety Inventory (Salkovskis et al., 2002); PTSD = posttraumatic stress disorder; PSS-SR = PTSD Symptom Scale; Self-Report (Foa et al., 1993); IES = Impact of Event Scale (Horowitz et al., 1979); BDI = Beck Depression Inventory (A. T. Beck et al., 1961).

tive features of the IDS, including low positive affect, negative self-referent cognitions, and behavioral inhibition, spiral out of control to produce the characteristic symptoms of depression.

Thus a pathway into depression is described, triggered by perceptions of defeat and mediated through perceptions of entrapment, grounded in underlying psychobiological processes. This pathway is outlined in Figure 1. Depressive symptoms are viewed as a proximal consequence of entrapment, which forms part of a depressogenic feedback loop by maintaining the perceptions of defeat that in turn escalate the IDS response. The individual is motivated to escape this state of affairs, but low judgments of escapability instead produce entrapment and further depression. It is important to note that this model centers primarily on the conceptualization of entrapment as a subjective state of awareness (i.e., feeling trapped), rather than the objective circumstances that enforce the entrapment² The latter conceptualization is more appropriate to animal research, where subjective perceptions of entrapment are not readily available to study and within which entrapment appears to take more of a moderational role.

The IDS account of depression fits with Wakefield's definition of mental disorders as "harmful mental dysfunctions," reflecting the failure of a particular adaptation to function in the manner for which it was biologically designed, resulting in what are generally viewed to be harmful effects (Wakefield, 1992, 2006). This theory can be distinguished from the view that depression itself is an adaptation, as has been implied by others (for a discussion, see Nettle, 2004). The former position may be preferable, as it has been argued that it is implausible to view most forms of depression as adaptations in themselves, because they confer few advantages or improvements in evolutionary fitness (Nettle, 2004). A contrasting argument, that depression operates as a hard-wired problem-solving strategy, has recently been proposed by Andrews and Thomson (2009). Other evolutionary theories have suggested that specific forms of entrapment-related depression serve adaptive purposes. For instance, the bargaining model of depression asserts that postpartum depression is more likely to occur in cases in which pregnancy is unwanted but perceived constraints exist on possible escape behaviors, such as abortion (Hagen, 2002). In these cases, depression is believed to occur as a bargaining tool on the part of the mother, reducing the expenditure of resources on the infant, and so encouraging greater investments from the father. Although the function of the depressive response differs from that ascribed by the social rank theory, both accounts view a sense of entrapment as central to the onset of depression. The bargaining model does not consider the role that perceptions of defeat may have in postpartum depression.

The role of perceptions of entrapment in depression has received particular attention in individuals with psychosis. Comorbid depression is a common secondary problem associated with experiencing a psychotic episode that has been partly attributed to perceptions of entrapment (Rooke & Birchwood, 1998). This approach conceptualizes psychosis itself as a chronic, negative life experience (Birchwood et al., 1993; Iqbal & Birchwood, 2006; Rooke & Birchwood, 1998). This conceptualization of psychosis is understandable, as psychosis embodies a range of problems beyond the initial symptoms, including social exclusion, stigmatization, a loss of work opportunities, and the possibility of involuntary hospitalization (Birchwood et al., 1993; Jackson, Knott, Skeate, & Birchwood, 2004; Marwaha & Johnson, 2004; Rooke &

Birchwood, 1998; Thornicroft, Brohan, Rose, Sartorius, & Leese, 2009).

The seemingly chronic and potentially overwhelming nature of psychosis means that it could be readily perceived as an entrapping experience. Consequently, it has been suggested that perceptions of entrapment represent a central theme in potentially maladaptive reactions to psychosis (Birchwood et al., 1993; Rooke & Birchwood, 1998). This idea builds directly on the social rank model of depression. However, within the domain of psychosis, focus has been on the individual's cognitive appraisal of his or her illness as entrapping (Birchwood et al., 1993; Iqbal, Birchwood, Chadwick, & Trower, 2000; Rooke & Birchwood, 1998). This approach makes explicit the role of evaluative-interpretative cognitive processes in determining whether a particular set of life experiences result in perceptions of entrapment.

Despite the importance that perceptions of defeat are assumed to have in explaining depression, these have received no research attention in the context of psychosis. There does not appear to be any theoretical basis for excluding perceptions of defeat. Inasmuch as psychosis has the capacity to signal a substantial loss of status and damage to an individual's aspirations, it would be expected to result in perceptions of defeat for many individuals.

Review of empirical studies of depression. Thirty-two of the identified articles focused on the links between defeat or entrapment and unipolar depressive disorders or symptoms. Three studies employed the LEDS interview measure and classification system of entrapping life experiences. Two of these studies have shown that events categorized as entrapping, when considered in combination with other event types (humiliation or bereavement), were associated with a greater risk of depression in women than loss or danger-related events (e.g., financial and material loss following a burglary) alone (Broadhead & Abas, 1998; Brown et al., 1995). The most recent study to employ this methodology was also the first to use a mixed-gender sample and to investigate the impact of humiliation and entrapping events separately (Kendler et al., 2003). The results for this study concerning entrapment were equivocal, with no significant association emerging between entrapping events and the onset of depression within the first 3 months of the event. Entrapping events were associated with the dual onset of both depression and generalized anxiety syndrome, but only for the 1st month following the event.

A fourth study focused on the idea of entrapment by unwanted pregnancies (i.e., where social constraints on abortion prevent escape; Hagen, 2002). It was found that for mothers with unwanted or unplanned pregnancies, perceived social constraints on abortion were positively correlated with the level of postpartum depressive symptoms, whereas this effect was not significant for mothers of planned or wanted pregnancies. Although this study implies an

² It could be argued that entrapment moderates rather than mediates the hypothesized link between defeat and depression. The reasoning here is that defeat only results in depression within entrapping circumstances, with the strength of this relationship reduced in nonentrapping circumstances. However, this argument confuses the subjective perception of being trapped and wishing to escape with the circumstances that engender this state. A person may be unable to escape from a particular situation (e.g., unable to move away from supported housing) but will not actively experience a sense of being trapped and desiring escape until the situation becomes aversive or defeating.

association between entrapment and postpartum depression, it is not clear whether perceived social constraints on abortion in the context of unwanted pregnancy necessarily translate into a subjective sense of entrapment. This study, therefore, provides only a proxy measure of entrapment.

Interviews with depressed patients revealed that the large majority reported a desire to escape (88%; Gilbert et al., 2004). Moreover, the number of perceived obstacles preventing escape, which may be indicative of a more severe sense of entrapment, were positively correlated with depressive symptoms. However, of the entrapped participants, 27.4% believed a sense of entrapment emerged after the onset of their depression, suggesting that for these individuals perceived entrapment may not have played an etiological role, although it may have still served to maintain symptoms.

Twenty-five studies meeting the inclusion criteria employed self-report measures of defeat or entrapment. Cross-sectional studies in nonclinical student and community samples have found moderate to large positive correlations ($r = .42-.81$) with self-reported depressive symptoms (Allan & Gilbert, 2002; Gilbert & Allan, 1998; Gilbert et al., 2002, 2005; Goldstein & Willner, 2002; Sturman & Mongrain, 2008b; Troop & Baker, 2008; Wyatt & Gilbert, 1998). Cross-sectional research in clinical populations has achieved convergent findings. In students meeting diagnostic criteria for previous depressive episodes, levels of entrapment were positively correlated with current depression (Sturman & Mongrain, 2005) and the number of past depressive episodes experienced (Sturman & Mongrain, 2008a). Similarly, in currently depressed patients and a heterogeneous psychiatric inpatient sample, perceptions of defeat and entrapment showed moderate to strong correlations ($r = .54-.80$) with self-reported depressive symptoms (Gilbert & Allan, 1998; Gilbert et al., 2002). Although defeat and entrapment were correlated with other cognitive risk factors for depression, including hopelessness and rumination, their relationship with depressive symptoms appeared to operate over and above these cognitive factors (Gilbert & Allan, 1998; Gilbert et al., 2005).

Six studies have investigated cross-sectional relationships between appraised entrapment and depression in individuals diagnosed with psychotic disorders, such as schizophrenia. The earliest of these took place in a mixed sample of individuals diagnosed with schizophrenia spectrum disorders or bipolar disorder who were divided into depressed and nondepressed groups (Birchwood et al., 1993). In a discriminant function analysis, perceptions of entrapment were the strongest discriminator of these two groups, when considered alongside other appraisal types and sociocognitive factors. Perceptions of entrapment have also been shown to correlate with depressive symptoms in individuals diagnosed with schizophrenia spectrum disorders, even when controlling for psychotic symptoms (Birchwood, Iqbal, & Uptegrove, 2005; Clare & Singh, 1994; White, McCleery, Gumley, & Mulholland, 2007). The statistical control of psychotic symptoms facilitates the conclusion that it is the individuals' appraisal of their circumstances as entrapping that is depressogenic, rather than some direct feature of their psychosis. It has also been shown that the presence of comorbid anxiety or affective disorders in individuals diagnosed with a schizophrenia spectrum disorder is positively associated with perceptions of entrapment, controlling for psychotic symptoms (Karatzias, Gumley, Power, & O'Grady, 2007). As this study

did not examine comorbidity separately for depressive and anxiety disorders, it is not possible to determine the extent to which entrapment is separately associated with each type of disorder. Individuals with affective disorders made up only 26% of the total sample with comorbid disorders, further limiting the ability to draw conclusions regarding depression in this group.

A further study featuring a combined sample of voice hearers diagnosed with a schizophrenia spectrum disorder and depressed patients examined individuals' appraisals of their auditory verbal hallucinations (voices) or self-critical thoughts (Gilbert et al., 2001). Appraising voices or thoughts as entrapping and provoking a desire to escape failed to predict depression in a multiple regression analysis. Instead, the power attributed to voices or thoughts appeared to be the main determinant of depression. This may still imply a role for defeat, as perceiving a voice or thought as powerful may imply a certain degree of subordination and relative loss of status. This study employed a purpose-built, unvalidated measure of appraisal, which limits the interpretation of these findings.

A subset of cross-sectional studies has focused on the caregivers or parents of those with chronic medical conditions or special care requirements. It might be expected that this group would be disposed to elevated perceptions of defeat and entrapment because they are caught in an ongoing, potentially overwhelming situation, with minimal likelihood of improvement or opportunity to escape (Martin et al., 2006; Willner & Goldstein, 2001). Perceived defeat and entrapment were associated with greater depressive symptoms in this population (Martin et al., 2006; Stommel et al., 1990; Willner & Goldstein, 2001; Yoon, 2003). Further analysis suggested that perceptions of defeat and entrapment may mediate the relationship between parental stress and depression (Willner & Goldstein, 2001). There was also evidence that the relationship between entrapment and depressive symptoms is independent of the carer's feelings of shame (Martin et al., 2006). A further study employed unvalidated self-report measures of entrapment and depressive symptoms, observing an association in adult Alzheimer caregivers after controlling for sociodemographics and caregiver stress variables (Leblanc, Driscoll, & Pearlin, 2004).

Two studies investigated perceptions of defeat in individuals experiencing acute and chronic pain using the PSPS (Tang, Goodchild, Hester, & Salkovskis, 2010; Tang et al., 2007). Perceptions of defeat were significantly higher in chronic pain patients than acute pain patients or controls (Tang et al., 2007) and were moderately correlated with levels of depression in chronic pain patients ($r = .65-.66$; Tang et al., 2010, 2007). Moreover, defeat emerged as the main predictor of depressive symptoms in a stepwise regression when considered alongside catastrophizing, pain intensity, health anxiety, rumination, and worry (Tang et al., 2010).

A number of studies have attempted to study the IDS directly by modeling the IDS as a latent variable with perceptions of entrapment and social comparison as indicators (Sturman & Mongrain, 2005, 2008a). Links between the IDS and recurrent past depression in students have been demonstrated in two studies (Sturman & Mongrain, 2005, 2008a). A third study has taken this approach further by measuring the IDS within the context of an actual failure following a sporting contest, using the subsequent change in perceptions of internal entrapment, social comparison, and dysphoria as indicators of the latent IDS variable (Sturman & Mongrain,

2008b). This method is likely to better capture the context-specific and reactive nature of the IDS (Gilbert, 2006a; Sloman et al., 2003) by linking it to a particular event. It was found that postfailure perceptions of defeat were associated with the activation of this IDS variable. There is, however, a danger that the IDS variable in these studies may be misspecified. Entrapment is usually conceptualized as an external factor, which relates to the maintenance of the IDS (see Figure 1), rather than being an intrinsic aspect of it (Gilbert & Allan, 1998; Sloman, 2000; Sloman et al., 2003). The use of perceived entrapment as an indicator of the latent IDS variable, therefore, seems inconsistent with their respective definitions and brings into question what this latent variable actually represents. This is not to say that the latent variable identified in these studies is irrelevant, but may benefit from a reconsideration of its theoretical grounding.

The studies reviewed so far, with the exception of those retrospectively examining life events, employed cross-sectional designs. It is impossible to draw inferences about the direction of causality between defeat, entrapment, and depressive symptoms from such studies due to the absence of information concerning temporal precedence. Therefore, although defeat and entrapment are assumed to be risk factors for depression, it is also possible that depressed states trigger perceptions of being defeated and trapped. Indeed, the one experimental study included in this review found that a brief negative mood induction increased scores on the Defeat and Entrapment Scales, relative to a positive mood induction (Goldstein & Willner, 2002). These findings suggest that mood can causally influence perceptions of defeat and entrapment. The life event studies using the LEDS interview provide some retrospective indication of temporal precedence (e.g., Kendler et al., 2003). However, the outcome in these studies is the onset of a diagnosable depressive episode, and so they do not account for the presence of preexisting subclinical depressive symptoms, which might otherwise affect the strength of the relationships observed.

A single prospective study has examined the recurrence of major depressive disorder over a 16-month period in a sample of formerly depressed students. Baseline scores on a latent IDS variable, derived from assessments of perceived entrapment and negative social comparison, predicted the recurrence of depression at follow-up after adjusting for baseline and past depression (Sturman & Mongrain, 2008a). Two prospective studies have investigated appraisals of entrapment and depression in psychotic individuals. The first of these followed up the schizophrenia spectrum group from the cross-sectional study by Birchwood et al. (1993) 30 months later (Rooke & Birchwood, 1998). It was found that entrapment at baseline predicted depressive symptoms at follow-up, even when covarying for psychotic symptoms, illness-related variables (e.g., duration of illness, age of onset), and treatment-related variables (e.g., medication). This study found that appraisals of entrapment were predicted by the overall number of compulsory admissions to hospital and the number of admissions only within the last 12 months. It is suggested that such experiences can be used as evidence for an individual's appraisals of entrapment, which leads these appraisals to become more entrenched (Iqbal et al., 2000). The second prospective study explored the concept of postpsychotic depression (PPD), a subtype of depression emerging after the main psychotic episode has subsided (Iqbal et al., 2000). This study tracked individuals following recovery from an initial psychotic episode. It was shown that more

extreme appraisals of entrapment at baseline increased the risk of subsequently developing PPD.

It is unclear whether development of PPD should be considered a discrete, dichotomous outcome, as it was in the study by Iqbal et al. (2000), rather than a continuous one. Where the dichotomization of the outcome variable reflects a genuine qualitative distinction between two groups, as could be argued for comorbid disorders determined through diagnostic interview (e.g., Karatzias et al., 2007), dichotomization is acceptable.³ However, given that the research exploring PPD has focused on depressed mood rather than on a specific set of diagnostic criteria (Birchwood, Iqbal, Chadwick, & Trower, 2000), and individuals can therefore experience PPD to a greater or lesser extent, there seems little advantage to operationalizing PPD as a dichotomous rather than a continuous variable. The value of dichotomizing is therefore unclear, and it may even distort findings by inflating Type I and Type II error rates (MacCallum, Zhang, Preacher, & Rucker, 2002).

Across the reviewed studies that employed both measures of defeat and entrapment, there was little evidence of a meaningful difference between the Defeat and Entrapment Scales in terms of their relationship with depressive symptoms. Defeat often, but not exclusively, showed slightly stronger correlations with depressive symptoms (average $r = .74$) than entrapment (average $r = .65$; Gilbert & Allan, 1998; Gilbert et al., 2002; Goldstein & Willner, 2002; Sturman & Mongrain, 2008b; Troop & Baker, 2008; Willner & Goldstein, 2001). It is not known, however, whether these differences were statistically significant. A single study was identified that directly tested the differential impact of both defeat and external entrapment, alongside other social rank variables (i.e., shame and social comparison), on anhedonia (Gilbert et al., 2002). In this study, it was found that although the inclusion of perceived defeat significantly improved the model, external entrapment did not. Consequently, entrapment may be less pertinent to depression once perceptions of defeat have been taken into account. It could also be the case that internal rather than external entrapment is linked to depression, but this was not investigated.

Two studies were identified that employed a qualitative methodology to explore themes of entrapment in individuals experiencing depression. The first of these used a grounded theory approach to explore the experiences of Taiwanese mothers with postpartum depression (Chen, Wang, Chung, Tseng, & Chou, 2006). Entrapment emerged as a key theme, often involving a sense of being trapped by social norms and expectations in a new role. A preceding theme involved the perceived loss or "shattering" of the mother's former identity, which, although not labeled as such, appears similar to defeat. The second study used an interview schedule to ask focus groups of depressed patients to specifically discuss entrapment (Gilbert & Gilbert, 2003). Common sources of entrapment included interpersonal relationships, particularly familial relationships, and low self-esteem or ability to cope. Several accounts also viewed depression itself as entrapping. This issue raises the possibility that entrapment may sometimes be a consequence, rather than a cause, of depression. This result further emphasizes the importance of prospective research in establishing

³ The validity and reliability of contemporary diagnostic criteria (e.g., the *Diagnostic and Statistical Manual of Mental Disorders*) is a controversial issue (e.g., Bentall, 2003), beyond the scope of the current review.

the temporal qualities of the relationship between entrapment and depression.

Summary of research into depression. In summary, there is extensive evidence of a link between perceptions of defeat or entrapment and depression. The external validity of this evidence base is strengthened by its consistency across both retrospective life event studies and self-report measures, and across a range of clinical and nonclinical samples. Relationships between defeat, entrapment, and depressive symptoms were frequently in the moderate to high range (defeat: average $r = .72$; entrapment: average $r = .56$),⁴ suggesting a substantial relationship. These relationships also held when controlling for potential confounding variables, including psychotic symptoms, caregiver stress, and cognitive variables such as hopelessness and rumination. Qualitative investigations into the experiences of individuals with depression were consistent with the quantitative research, with themes of entrapment being widely endorsed by participants. The use of prospective designs was limited to studies examining entrapment rather than defeat. Consequently, although a case can be made that perceptions of entrapment temporally precede and lead to changes in depressive symptoms, the temporal nature of the link between perceived defeat and depressive symptoms requires elucidation. Moreover, the majority of prospective studies took place in the context of individuals with psychosis and may not generalize to other populations.

Defeat and Entrapment in Suicidality

Theories of suicidality. The idea that perceptions of defeat are intrinsic to suicidal behavior has been present in discussions on the subject for some time (e.g., Kallmann & Anastasio, 1947). Likewise, several theoretical accounts of suicidal behavior have emphasized the desire to escape as a central impetus (e.g., Baumeister, 1990; Johnson et al., 2008; Shneidman, 1996). Reported motives for parasuicide support the importance of a desire to escape (Bancroft, Skrimshire, & Simkin, 1976). Themes of escape are also apparent in mental imagery surrounding ideas of suicide (Holmes, Crane, Fennell, & Williams, 2007). Thus, it is likely that perceptions of entrapment are central to suicidality. One theoretical model building on these ideas is the cry of pain (COP) model (Williams, 1997). Within this model, the perception of entrapment by intolerable internal and external stressors is the putative driving force behind suicidal wishes and acts. According to the COP model, suicidal behavior is a reaction against and an attempt to escape from this aversive entrapped state (the eponymous cry of pain). These perceptions of entrapment emerge following defeating experiences (Williams, 1997; Williams, Crane, Barnhofer, & Duggan, 2005). The model states that these circumstances activate a psychobiological “helplessness script,” an analogous concept to the IDS in social rank theory, which is evolutionarily designed to facilitate giving up and submission in individuals (Williams, 1997; Williams et al., 2005). As with the social rank theory of depression, it is suggested that the maintenance of this script underlies suicidal behavior (Williams, 1997). As an evolutionary mechanism, this helplessness script has developed to aid survival, and suicide is therefore best understood as a maladaptive reaction to this script that can occur in some individuals, such as those who lack effective strategies for eliciting help.

In terms of the proposed roles of defeat, entrapment, and underlying psychobiological responses, the social rank theory of depression and the COP model are arguably similar enough for the two models to be collapsed into a single theoretical account. This raises the question, however, of why the sequences of events described in these models would lead some individuals to develop suicidality and others to develop depression. One possibility is that preexisting suicidogenic cognitive structures may increase the likelihood of suicidality in some individuals. These may include preexisting mental models for suicidal behavior, beliefs about suicide, or suicidogenic schema (Johnson et al., 2008; Lau, Segal, & Williams, 2004; Pratt, Gooding, Johnson, Taylor, & TARRIER, 2010; Rudd, 2006; Williams et al., 2005). It is possible that such beliefs arise from exposure to suicide attempts by other individuals, particularly those committed by close associates. This would account for the increased risk of suicide associated with a history of suicide in close relatives (Qin, Agerbo, & Mortensen, 2002). It is suggested that such preexisting cognitions may be activated by perceptions of defeat and entrapment, and will bias an individual toward particular patterns of suicidal behavior and ideation in response to these perceptions.

In attempting to account for individual differences in suicidality, the COP model highlights a number of key processes that underlie the extent of entrapment an individual experiences (Williams, 1997; Williams et al., 2005). First, people are assumed to vary in their sensitivity to cues of defeat in their environment. This variation may reach the point that events that seem innocuous to some could be interpreted as defeating by others (Williams et al., 2005). Second, people are assumed to vary in *escape potential*, which is the judgment of their ability to escape from aversive situations through their own agency. This concept has been operationalized in terms of social problem-solving ability and thus fits with the evidence of problem-solving deficits in suicidal individuals (Clum & Febraro, 2002; Johnson et al., 2010). Third, people are assumed to vary in perceptions of *rescue factors*, external sources of escape, often operationalized as social support (O'Connor, 2003; Rasmussen et al., 2010). Fourth, it is suggested that in order to be suicidogenic, entrapment must be projected into the future in the form of hopelessness (Williams, 1997; Williams et al., 2005).

By identifying these components, the COP model goes further, perhaps, than the social rank model of depression in specifying the substratal psychological components of defeat and entrapment. However, the COP model has been criticized for its lack of clarity in regard to the interrelationships between these components (Johnson et al., 2008). For example, it is not clear whether hopelessness is simply an aspect of the entrapment construct, an antecedent, or a consequence (Johnson et al., 2008). Similarly, it would be logical to suppose that awareness of rescue factors influences perceptions of entrapment, because if individuals can anticipate rescue, they are unlikely to feel as trapped, yet other studies have conceptualized rescue as a variable distinct from entrapment (e.g., Rasmussen et al., 2010). The schematic appraisal model of suicide (Johnson et al., 2008) is a modified version of the COP model that focuses on the problem of suicide in individuals with psychosis. The schematic appraisal model of suicide views the judgments

⁴ Averaged r values are based on significant bivariate relationships where available.

concerning rescue factors and escape potential as underlying cognitive appraisals that contribute to the formation of perceptions of defeat and entrapment.

Figure 1 provides a diagrammatic depiction of the putative relationships between defeat, entrapment, and suicidality. In light of the similarity between the social rank model of depression and the COP model, the pathway from initial defeat to suicidality follows the same route as for depression, mediated through IDS activation and perceptions of entrapment. The possible role of mental models or beliefs in determining whether the strong escape motivation, associated with perceived entrapment, results in suicidal thinking and behaviors is highlighted in this figure. Within this framework, we view escape potential and rescue factors as two judgments liable to influence the judgment of escapability and, thus, the perception of entrapment.

Review of empirical studies of suicidality. Six cross-sectional studies were identified that assessed the link between defeat, entrapment, and suicidality. Two studies investigated parasuicidal individuals (i.e., typically defined as engaging in self-harm without definite intent to kill oneself). The first study employed unvalidated measures of defeat and escape potential, alongside a measure of social support representing rescue factors (O'Connor, 2003). These variables were entered into a logistic regression alongside levels of anxiety, depression, and hopelessness, predicting parasuicidality as an outcome. Only defeat ($OR = 0.81$), social support ($OR = 1.55$), and the interaction term between social support and escape potential ($OR = 0.94$) were significant predictors, successfully classifying 90% of participants as either parasuicidal or matched controls. Plots of this interaction effect showed that lower social support increased the risk of parasuicidality, and this relationship was stronger for individuals with lower perceived escape potential. As low social support and low escape potential are assumed to be key elements of perceptions of entrapment, this significant interaction term implies an association between entrapment and suicidal behavior. The validity of these findings is questionable, however, due to the use of unvalidated measures of defeat and escape potential. The measure of defeat, for example, was based on only four items, which appeared to capture little of the content represented in the 16-item Defeat Scale developed by Gilbert and Allan (1998). The second study subsequently improved on the first by employing the more widely validated Defeat and Entrapment Scales (Rasmussen et al., 2010). This study provided a formal test of the pathway implied by the COP model, whereby perceptions of entrapment mediate the relationship between defeat and suicidal ideation. The results supported this pathway in parasuicidal individuals, while controlling for depression, anxiety, history of self-harm, and suicidal intent.

Two further cross-sectional studies have taken an alternative approach by including the Defeat and Entrapment Scales as indicators of a single latent variable, estimated within a structural equation modeling framework (Taylor, Gooding, et al., 2010; Taylor, Wood, Gooding, & Tarrier, 2010), following recent recommendations that these variables are better conceptualized as a single factor (Johnson et al., 2008; Taylor et al., 2009). This single latent variable was found to mediate the relationship between positive psychotic symptoms, in particular paranoia, and suicidality in individuals with schizophrenia spectrum disorders (Taylor, Gooding, et al., 2010). This result indicates that positive symptoms may be suicidogenic where they contribute to a greater sense of

being defeated and trapped. This effect remained while controlling for depressive symptoms and hopelessness.

In a second study, the latent defeat–entrapment variable mediated the relationship between suicidality and negative self-appraisals in the domains of social support and problem solving in a sample of students experiencing current or past suicidal ideation (Taylor, Wood, et al., 2010). Specifically, more negative appraisals of the availability of social support and ability to resolve social problems led to greater levels of defeat and entrapment, which in turn predicted increased suicidality. These results held while adjusting for levels of hopelessness. Across the studies employing measures of both variables, there is little indication of any meaningful difference in the strength of correlations that defeat (average $r = .53$) and entrapment (average $r = .57$) have with suicidality, although no direct comparisons were made between the sizes of these associations (Rasmussen et al., 2010; Taylor, Gooding, et al., 2010; Taylor, Wood, et al., 2010).

Two cross-sectional studies have investigated the link between entrapment and suicidal ideation in adolescence, looking at a large sample ($n = 11,393$) of Korean schoolchildren (Park et al., 2010) and homeless youths (Kidd, 2006). In both cases structural equation models were estimated whereby perceived entrapment was a proximal predictor of suicidal ideation. Entrapment emerged as the single strongest predictor in both studies, while adjusting for the effects of other psychological (trait anger, anger rumination, self-esteem) and environmental (substance abuse, past neglect and abuse) risk factors. These studies estimated mediation effects but failed to provide appropriate tests for the significance of these indirect effects for individual mediators, making such indirect effects difficult to interpret. A further limitation is that in one study the index of entrapment was a latent “trapped experiences” variable. This was derived from a very brief (two-item) scale of hopelessness, a composite of three entrapment-related items (“I feel trapped,” “I feel like I don’t have any real choices,” “I feel like I don’t have anywhere else to turn”), and two items relating to helplessness. An inherent problem with this variable is, therefore, that it may inappropriately conflate the concepts of helplessness, hopelessness, and entrapment, making interpretations of these results difficult.

Two qualitative studies exploring the phenomenology surrounding suicidal thoughts and behaviors reported central themes of entrapment. The first examined these experiences in a sample of Taiwanese suicide attempters (Tzeng, 2001). A sense of being trapped in a circle and desiring but being unable to escape from life circumstances was central to participants’ accounts. In the second study, the feeling of being trapped combined with a perceived inability to escape or move on emerged as a key theme in a sample of homeless youths’ experiences with suicidality (Kidd, 2004). This subjective sense of entrapment was interpreted as a mediator of the relationship of aversive life experiences (such as substance addiction and social prejudice) with suicidality. This contention has been supported by the quantitative studies described above.

Summary of research into suicide. In summary, there is convergent evidence, across a number of clinical and nonclinical samples, that perceptions of defeat and entrapment are associated with an increased risk of suicidality (defeat: average $r = .51$; entrapment: average $r = .58$). Qualitative research further supports the central role of entrapment in suicidality. Research in this area is less extensive than for depression, with only eight studies

identified, and so conclusions remain preliminary. Moreover, the absence of prospective research means that the directionality of effects is unclear. Nevertheless, the studies that have been conducted have been relatively robust in methodology, controlling for a range of psychopathological confounds, including hopelessness, anxiety, and depression. In addition, the predominant use of complex multivariate and mediational analyses provides evidence that defeat and entrapment have a proximal role in the mechanisms underlying suicide, mediating the effects that other environmental (loneliness, abuse, and neglect) and psychological factors (positive psychotic symptoms, negative self-appraisals, low self-esteem) exert on levels of suicidality.

Defeat and Entrapment in Anxiety Disorders

Theories of anxiety. Defeat and entrapment have been studied more in relation to depression than in relation to anxiety. It has been suggested that within social rank accounts, anxiety has different triggers to depression, being driven more by perceptions of future threat than past defeats (Sturman & Mongrain, 2005). However, it is possible that perceptions of defeat and entrapment, and their associated psychobiological consequences, could bias an individual's perceptions of future stressors in such a way as to increase the likelihood of experiencing anxiety. The social rank model suggests that IDS activation involves various cognitive, affective, and behavioral changes that may act to alter an individual's perception of threat (Sloman, 2000).

The possibility that both depressive and anxiety-like symptoms may result from the IDS response to defeat is in line with suggestions that anxiety and depression share common evolutionary origins (Nesse, 2000). This assertion is supported by the relatively high comorbidity of depression and anxiety disorders and the overlap in symptomatological and neurological characteristics between these disorders (Gorman, 1997; Nesse, 2000). Bullying represents a prime example of a social stressor liable to trigger perceptions of defeat and entrapment, due to its impact on self-perceived status and its often enduring nature. Research has shown that past bullying is associated with greater anxiety symptoms (e.g., nervousness, feeling on edge) and risk of developing social phobia (Gladstone, Parker, & Malhi, 2006; Kaltiala-Heino, Rimpelä, Rantanen, & Rimpelä, 2000; McCabe, Antony, Summerfeldt, Liss, & Swinson, 2003). This link has been explained in terms of the impact of bullying on perceptions of the social self, bringing some credibility to the idea that social rank mechanisms may contribute to anxiety (McCabe et al., 2003).

We suggest that two general pathways may account for the impact of perceived defeat and entrapment in the development of anxiety symptoms and disorders. The first of these is a cognitive route. Cognitive models of anxiety disorders, including social phobia and generalized anxiety disorder, emphasize the role of threat-related appraisals in triggering and maintaining anxiety (Wells, 2006). Perceptions of defeat and entrapment may negatively bias these appraisals due to the activation of negative cognitions concerning self-worth and adequacy, as part of the IDS response (Sloman, 2000). Although normally adaptive, in that they discourage risky behaviors, these negative cognitions may become especially entrenched in cases in which the IDS activation is excessively chronic or severe, increasing the likelihood that future events will be appraised in an anxiety-producing manner. In the

case of social phobia, for example, a sense of defeat may indicate lower self-worth or adequacy in relation to others (Sloman, 2000), increasing the likelihood of seeing social events in terms of potential threats, judgments, and personal attacks. In support of this assertion, Birchwood et al. (2007) argued that these cognitions of reduced social standing and inferior social identity may underlie the problem of comorbid social anxiety in individuals diagnosed with psychotic disorders.

The second route, through which feelings of defeat and entrapment may lead to anxiety, is through the affective and behavioral aspects of the IDS. These include characteristic features of anxiety such as arousal, hypervigilance for threat, and behavioral inhibition (Gilbert, 2000a; Shively, 1998; Shively et al., 1997; Sloman et al., 2003). Hypervigilance, for example, can increase sensitivity to threat-related cues and so maintain anxiety disorders (Wells, 2006). Such behavioral consequences are likely to have initially been adaptive, in that they reduce the likelihood of further harm from conspecifics by keeping the individual primed to the risk of attack (Nesse, 1998). However, such immediate dangers are less prevalent in modern society, and anxiety, particularly where it is excessive or chronic, is usually more damaging to the individual than it is adaptive (Nesse, 1998).

Consequently, we suggest that downstream cognitive, affective, and behavioral consequences of IDS activation may contribute to anxiety symptoms. This is therefore different from depression, which we view as an immediate response to entrapment that does not rely on the way in which subsequent events are interpreted. These effects of defeat and entrapment on anxiety are outlined in Figure 1. The IDS biases appraisals of threat, through the cognitive and behavioral mechanisms described above. These biased appraisals in turn contribute to anxiety symptoms such as fear, nervousness, and avoidance.

Review of empirical studies of anxiety. Nine studies meeting the inclusion criteria investigated the links between defeat or entrapment and anxiety disorders or symptoms. Two studies, described previously, observed effects when using outcomes that combined anxiety and depressive symptomatology (Karatzias et al., 2007; Kendler et al., 2003). The life events study conducted by Kendler et al. (2003) found that mixed episodes of depression and anxiety were more likely in the month following an entrapping life event, but pure generalized anxiety episodes were not. Similarly, Karatzias et al.'s (2007) study of comorbid disorders in individuals with psychosis did not report separate analyses for the risk of affective and anxiety disorders.

Six cross-sectional studies were identified that investigated the relationship that perceptions of defeat and entrapment have with anxiety symptoms. One study found that perceptions of defeat and external entrapment were positively correlated with anxious affect and distress in both a heterogeneous psychiatric inpatient sample and a nonclinical student sample (Gilbert et al., 2002). However, further analysis in the inpatient group showed that when depressive symptoms were controlled for, the relationship between defeat and anxiety disappeared. This result suggests that the initial relationship may have been an artifact of the overlap between depressive and anxiety symptoms. In a sample of formerly depressed students, internal entrapment had no association with the presence of current or past anxiety disorders (Sturman & Mongrain, 2005). Research in chronic pain patients demonstrated a significant relationship between perceptions of pain-related defeat and the sever-

ity of anxiety symptoms (Tang et al., 2010, 2007). These effects remained while controlling for pain intensity (Tang et al., 2010). Cross-sectional research using the PBIQ has demonstrated that patients with schizophrenia spectrum disorders, who were also classified as being socially anxious, had more extreme perceptions of entrapment than those without comorbid social anxiety, even when covarying for depressive and psychotic symptoms (Birchwood et al., 2007; Gumley, O'Grady, Power, & Schwannauer, 2004).

Depressive symptoms have been inconsistently controlled for across the above studies. This may be problematic, as the inherent overlap in depressive and anxiety symptoms means that relationships attributed to anxiety may in fact be an artifactual consequence of overlapping depressive symptoms (Beuke, Fischer, & McDowall, 2003). However, it is important to recognize that statistical control does not provide a panacea for resolving these issues. Considering that depression and anxiety are believed to share common symptoms, underlying psychological mechanisms, and neural components (Beuke et al., 2003; Gorman, 1997; Miller & Chapman, 2001; Nesse, 2000), separating out their individual effects is a complex task. Some methodologists have argued against the use of statistical control in this instance, as it may distort the nature of the outcome variable so that it no longer represents a true measure of anxiety but some residualized component of anxiety with the depressive aspects subtracted (Miller & Chapman, 2001). That said, other methodologists have supported the use of statistical control as a means of extricating the relationships of depression and anxiety with postulated causal variables, contingent on an awareness of the difficulties surrounding this approach (Beuke et al., 2003). Consequently, we continue to make note of the use of statistical control of potential confounds such as depression, and interpret these findings as indicating that the relationship of interest is not fully accounted for by the confounding variable.

A single qualitative study compared chronic pain patients presenting with high levels of health-related anxiety to patients with low levels of such anxiety (Tang et al., 2009). A thematic analysis was applied to semistructured interview data. One theme that emerged in response to questions surrounding self-identity, which distinguished the two groups, was perceptions of defeat related to chronic pain. Perceptions of failed struggle, a loss of autonomy or inability to move forward, were apparent in the high-health-anxiety group but not the low-health-anxiety group.

Summary of research into anxiety. The evidence for a link between perceptions of defeat, entrapment, and anxiety disorders is sparse. A small number of cross-sectional studies have been conducted across a variety of clinical and nonclinical samples, with mixed results. Although moderately sized bivariate relationships were apparent (defeat: average $r = .54$; entrapment: average $r = .48$), further analyses, including partial correlations controlling for depressive symptoms (Gilbert et al., 2002) and multiple regression analyses (Sturman & Mongrain, 2005), failed to identify significant effects. The two studies that have examined the link between entrapment-related appraisals of psychosis and social anxiety support an association that does not seem attributable to comorbid depression. There is also convergent qualitative and quantitative evidence that perceptions of defeat related to chronic pain are linked to anxiety. Overall, though, there is currently not adequate evidence to draw firm conclusions.

Defeat and Entrapment in PTSD

Theories of PTSD. The concept of mental defeat has been developed to explain the occurrence and maintenance of PTSD in the wake of traumatic events. PTSD is commonly categorized as an anxiety disorder but is distinct in that the focus is on an event that has already happened, rather than an impending threat (Ehlers & Clark, 2000). A cognitive model of PTSD has been formulated that emphasizes how the processing of the traumatic experience and its sequelae can engender a sense of ongoing threat, which is central to the persistence of PTSD symptoms (Ehlers & Clark, 2000). Mental defeat is described as one form of cognitive processing, concerning an individual's reactions to the trauma itself, that can have particularly adverse consequences. Defeat here is defined as a self-appraised loss of psychological autonomy, a complete giving-up of an individual's status as a human being (Ehlers & Clark, 2000; Ehlers et al., 2000). From an ethological perspective, this could be seen as equivalent to a catastrophic loss of status, a drop in rank to the bottom of the social hierarchy (Gilbert, 2006b). Therefore, defeat as defined in the context of PTSD, although discussed largely in terms of cognitive processes, appears to be fundamentally equivalent to the concept of defeat described in the contexts of depression and suicide (Gilbert, 2006b; Sloman et al., 2003). In all cases, at the center of this concept is the perception of failed struggle and powerlessness associated with the loss of highly valued status or key biopsychosocial goals. The individuals feel they have struggled against, but ultimately failed to maintain, these core aspects of themselves in the face of the traumatic event.

As with other anxiety disorders, we argue that it is the downstream cognitive and behavioral consequences of perceived defeat that leads to PTSD. First, trauma researchers suggest that perceptions of defeat may engender negative cognitions concerning an individual's self-worth and autonomy, as well as an individual's capacity to cope with future problems and traumas (Dunmore et al., 1999; Dunmore, Clark, & Ehlers, 2001; Ehlers et al., 2000). These cognitions are similar to those described as part of the IDS response to defeat (Sloman, 2000; Sloman et al., 2003), supporting the idea that a common mechanism is operating in both cases. As a consequence of these negative self-appraisals, the individual, rather than view the trauma as a discrete and time-limited event, experiences an ongoing sense of threat (Ehlers & Clark, 2000; Ehlers et al., 2000). It is this ongoing sense of threat that generates PTSD symptoms such as intrusions and anxious arousal. This relationship between defeat and PTSD is highlighted in Figure 1. The relationship is mediated by cognitions that we posit are part of the IDS and that contribute to the sense of ongoing threat that underlies PTSD symptoms. The hypothesized effect of defeat on PTSD differs from that of other anxiety disorders in that it is the individuals' understanding of the trauma event, and the meaning and interpretations they have drawn from it, that contribute to PTSD, rather than biases in the way subsequent events are appraised, as is the case for other anxiety disorders.

Second, an individual may employ various coping behaviors in response to perceptions of defeat, including avoidance of thinking or talking about the trauma and attempts to suppress intrusions (Ehlers & Clark, 2000; Ehlers et al., 2000). It has been argued that such avoidant coping behaviors are often counterproductive, promoting rumination and further intrusions that maintain PTSD

symptoms (Ehlers & Clark, 2000; Ehlers et al., 2000; Gold & Wegner, 1995). This second route from perceptions of defeat to PTSD, mediated through the use of maladaptive coping strategies, is also displayed in Figure 1.

In contrast to defeat, the concept of entrapment at first glance seems less relevant to the field of PTSD. This is because the traumas that trigger PTSD are in the past and so might not be expected to lead an individual to feel trapped in the present. However, a common feature of PTSD is the tendency to reexperience the traumatic event, through subsequent intrusive images, thoughts, and flashbacks (Ehlers & Clark, 2000; Lee, 2006). In particular, it has been noted how trauma-related memories are often experienced as if they were happening in the here and now (Ehlers et al., 2000; Lee, 2006). An individual may, therefore, continue to reexperience features of the trauma and the associated emotions and cognitions, including the initial perception of defeat, in a contemporaneous fashion (Ehlers et al., 2000). Consequently, it is conceivable that an individual would feel trapped by these recurring perceptions of defeat. A sense of entrapment associated with the tendency to reexperience traumatic events along with their related emotions and cognitions may be an important determinant of PTSD.

There is evidence that being physically trapped, for example, in a train wreckage or rubble following an earthquake, is associated with increased PTSD symptoms (Başoğlu, Şalcioğlu, & Livanou, 2002; Çorapçıoğlu, Tural, Yargıç, & Kocabaşoğlu, 2004; Selly et al., 1997). However, it is not clear how these time-limited instances of being physically trapped relate to a more enduring psychological sense of entrapment. Furthermore, it is unclear whether it is the element of entrapment in these experiences that leads to PTSD or the greater threat to life associated with an experience like being trapped in rubble.

Review of empirical studies into PTSD. Eight studies were identified. Four of these used the narrative manual-based coding system (see Measurement of Defeat and Entrapment section; Dunmore et al., 1997) to determine the extent of mental defeat implicit in the individual's descriptions of trauma. Raters were blind to the participants' PTSD status in all but one of these studies (Dunmore et al., 1997). Studies using these narrative-based assessments have found higher levels of defeat in individuals with PTSD compared with those experiencing trauma without PTSD (Dunmore et al., 1997; Ehlers et al., 2000; Jobson & O'Kearney, 2009). However, one of these studies found that this difference held only for individuals from independent, typically Western cultures and not for those from interdependent cultures (Jobson & O'Kearney, 2009). As such, defeat in the context of PTSD may be less relevant to interdependent cultures (e.g., African, Asian, and South American) where emphasis is on the individual's dependence on his or her social environment rather than on personal agency and striving for success, as in independent cultures (e.g., Western European, North American; Jobson & O'Kearney, 2009). Narrative-rated defeat has also been associated with the severity of PTSD symptoms in former East German political prisoners and women undergoing exposure therapy following sexual assault (Ehlers et al., 1998, 2000), even when the subjective and objective severity of the trauma was controlled for (Ehlers et al., 2000). In the study of women undergoing exposure therapy, it was found that the trauma was more defeating when the assault lasted longer and when the attacker was previously known to the victim (Ehlers et al., 1998).

One cross-sectional study employed the MDTs. Scores on this measure were higher for sexual and physical assault survivors who went on to develop PTSD compared with those who did not develop PTSD, even when controlling for the subjective and objective severity of the experience and previous history of trauma (Dunmore et al., 1999). Two prospective studies on mental defeat in PTSD employed the MDTs measure. In the first study it was found that self-reported defeat at baseline predicted PTSD severity at 9 months following an assault, when controlling for initial severity of PTSD symptoms (Dunmore et al., 2001). Although there was no relationship between baseline defeat and PTSD symptoms at 6 months when baseline symptoms were controlled for, the effect size was very similar to that observed for the 9 months' follow-up ($r = .28$ vs. $.30$). In light of the small sample size ($n = 57$), it is possible that there was just not enough power in the analyses to render this slightly smaller effect significant. In the second study a variety of biological, cognitive, demographic, and other risk factors were tested for their ability to predict the occurrence of a PTSD diagnosis at 6 months following trauma, when controlling for baseline acute stress disorder symptoms (Kleim, Ehlers, & Glucksman, 2007). Appraisals of defeat concerning the trauma experience emerged as one of three main predictors of PTSD, alongside rumination and past problems with depression or anxiety.

One potential caveat of the PTSD research, once again, concerns the control of depressive symptoms during analyses. Considering the well-documented relationship between defeat and depression in other areas of the literature, it is important to establish that any positive link between defeat and PTSD symptoms is not simply an artifact of worsened mood or depressive symptoms. Only one study directly controlled for depressive symptoms (Jobson & O'Kearney, 2009). Other studies have, instead, implied that depression is not relevant by reporting a nonsignificant association of depression with defeat (Ehlers et al., 2000) or PTSD (Ehlers et al., 1998). One prospective study included the occurrence of depression and anxiety prior to the trauma event as predictors in the analyses, controlling for their association with PTSD (Kleim et al., 2007). This rules out one alternative explanation of the relationship found between defeat and PTSD: that pretrauma vulnerability to depression increases the likelihood of both appraising the trauma experience in terms of defeat and developing PTSD symptoms. It is also possible that depression emerging after the trauma experience may play an instrumental role in the development of PTSD. For example, the link between self-appraised defeat and PTSD could be mediated by defeat-induced depression. In the remaining studies there was no control for depression (Dunmore et al., 1997, 1999, 2001). Consequently, it remains to be confirmed whether these results were an artifact of comorbid depression.

Further mention needs to be made of the study by Ehlers et al. (2000) that failed to find a significant association between defeat and depression. This finding seems to contradict the view of defeat as depressogenic and could imply that defeat in the context of PTSD represents a functionally distinct process. Alternatively, it may be that as the study involved former political prisoners who had been released a number of decades ago, the link between perceived defeat and depression had consequently attenuated. The nonsignificant association was in the predicted direction and may have been significant within a larger sample ($r = .18$). As this

finding is reported by only one study, it is difficult to reach firm conclusions.

A single qualitative study compared two groups of women following a traumatic childbirth, one of which had subsequently developed posttraumatic symptoms and the other had not (Ayers, 2007). The two groups were matched on levels of birth-related stress. These women were interviewed concerning their emotions and cognitions surrounding the birth. An exploratory coding system was employed to analyze the interview data, with a particular focus on the differences between these two groups. One of the main themes to distinguish the two groups was perceptions of defeat related to the birth, which were apparent in the posttraumatic symptoms group but not the nonsymptomatic comparison group.

Summary of research into PTSD. The reviewed studies demonstrated strong convergent evidence across both prospective and cross-sectional/retrospective designs, and across both self-report and narrative-based measures, that processing traumatic experiences as psychologically defeating increases a person's risk of developing PTSD symptoms (average $r = .51$). A challenge to the validity of these results is the inconsistent control of depressive symptoms, although it should be acknowledged that the interrelated nature of depression and anxiety makes it complex to assess the efficacy of any such attempts at control. Currently, there is evidence to cautiously suggest that the link between defeat and PTSD is not an artifact of depression.

General Summary

Are Defeat and Entrapment Related to Anxiety, Depression, and Suicidality?

The current review identified 51 articles investigating the association between perceptions of defeat or entrapment and symptoms or experiences of depression, suicidality, and anxiety. These studies demonstrated convergent evidence across a range of designs, disorders, samples, and measures that defeat and entrapment are associated with these forms of psychopathology. Few studies were identified that failed to support these links, or found that these links were superseded by other variables. Effect sizes were typically in the moderate to large range (average $r = .57$).

Specifically, there was strong cross-sectional evidence that perceptions of defeat and entrapment were associated with depressive symptoms. Defeat has been shown to be cross-sectionally and prospectively predictive of the development of PTSD following trauma. Similarly, perceptions of entrapment have been found both cross-sectionally and prospectively to predict the development of depression and social anxiety in individuals with psychosis. The evidence for an association between defeat, entrapment, and anxiety symptoms (excluding PTSD) outside the areas of psychosis is less convincing. Likewise, although evidence concerning the link between defeat, entrapment, and suicidality is consistent across a variety of samples, it is still limited by a smaller number of studies that used solely cross-sectional designs. The lack of prospective research is problematic, as there is evidence that, at least in some cases, depressive symptoms may precede, and even induce, perceptions of defeat and entrapment (Gilbert & Gilbert, 2003; Gilbert et al., 2004; Goldstein & Willner, 2002). It is also possible that a complex reciprocal relationship may exist between defeat, entrap-

ment, and different clinical symptoms over time. Convergent findings from qualitative studies lend further strength to the evidence by indicating that the relationship between defeat, entrapment, and these forms of psychopathology is not bounded by the mode of inquiry employed.

Both defeat and entrapment seemed to show associations of a similar magnitude with most of the psychopathological conditions examined. We have previously argued that defeat and entrapment overlap substantially and may be better represented as a unitary psychological construct (Taylor et al., 2009). The observed pattern of correlations would be expected if this was the case. However, a number of alternative possibilities could lead defeat and entrapment to show similarly sized correlations with various psychopathologies. For example, the entrapment measures may inadvertently include an element of defeat, which is the driving force behind these associations. Alternatively, defeat and entrapment may represent distinct but closely associated psychological processes. This latter argument is put forward by a number of theories, which state there is a close temporal association between defeat and entrapment, with the former construct contributing to the development of the latter (Sloman et al., 2003; Williams, 1997). Initial perceptions of defeat are assumed to lead to a sense of entrapment under certain aversive conditions, where the capacity to escape or be rescued is limited. Consequently, it is difficult to draw conclusions about the distinction between defeat and entrapment based on their external associations with psychopathological conditions.

Do Defeat and Entrapment Act Similarly Across Psychological Disorders and Experiences?

Upon establishing that defeat and entrapment are related to these various forms of psychopathology, a second question concerns the commensurability of these relationships across different symptoms and experiences. Three possibilities were outlined. The first was that defeat and entrapment have a common causal role in the etiology of these various disorders and symptoms. The second possibility was that defeat and entrapment may be related to depressive symptomology in particular and that the comorbidity between depression, anxiety, and suicidality may explain the observed relationships with these other clinical disorders. The third option was that other constructs or variables related to defeat and entrapment may better account for their effects upon particular disorders, for example, hopelessness in the case of suicidality, or the level of subjective stress experienced in the case of PTSD.

There was no indication across the reviewed studies that the relationships that defeat and entrapment demonstrated with clinical outcomes could be better accounted for by other environmental or psychological factors. In the context of suicidality, for example, defeat and entrapment appeared to have an impact above and beyond that explained by hopelessness (O'Connor, 2003; Rasmussen et al., 2010). There was also an indication that defeat and entrapment may mediate the well-established association between problem-solving appraisals, social support, and suicidality (Taylor, Wood, et al., 2010). Similarly, in the study of PTSD and trauma, the aversive consequences of perceived defeat were observed while controlling for the objective and subjective characteristics of the trauma (e.g., Dunmore et al., 1999; Ehlers et al., 2000). Appraisals of entrapment by individuals with schizophrenia spec-

trum disorders frequently had a stronger relationship with comorbid depression than other cognitive appraisals associated with loss, humiliation, or negative expectations (e.g., Birchwood et al., 1993).

The research into suicidality has predominantly controlled for depressive symptoms, supporting the likelihood that the association between defeat, entrapment, and suicidality is not fully accounted for by comorbid depression. The research into anxiety disorders has been more inconsistent. In the case of PTSD, for example, although there is some indication that comorbid depressive symptoms do not account for the role that perceptions of defeat have in the development of PTSD, there is currently insufficient evidence upon which to draw firm conclusions. The emergence of depressive symptoms following trauma may, for example, mediate the relationship between appraised defeat and PTSD.

One challenge to the ability to draw general conclusions about defeat and entrapment across different psychopathologies has been the tendency for researchers to rely on particular measures when studying particular populations. Research in individuals with psychosis has predominantly been conducted using the PBIQ, for example, whereas research into PTSD has used either the MDTs or the narrative-coding system for defeat. The content of these measures shows a marked degree of overlap and is consistent with the underlying phenomenology of defeat and entrapment, suggesting that similar constructs are being investigated in each case.

Some variations in definitions do exist, however. Most notably, defeat in the context of PTSD has been described in terms of a loss of self-identity or identity as a human being, whereas definitions within the social rank model focus more on a loss of social status. There are parallels between these positions, as conceptions of self-identity position an individual relative to his or her social background. It has been suggested, for example, that a perceived loss of human identity is comparable to a major drop in social status (Gilbert, 2006b). Empirical evidence also exists for the equivalence of defeat across the domains of depression and PTSD. The PSPS measure (Tang et al., 2007) was developed from items used in the context of both depression (Defeat and Entrapment Scales; Gilbert & Allan, 1998) and PTSD (MDTs; Dunmore et al., 1999). Despite their different origins, the items loaded onto a single factor in an exploratory factor analysis (Tang et al., 2007). These results suggest that a common phenomenology, manifested in these items, underpins both scales. Nonetheless, variations in the definition of defeat could limit comparisons of the literature. In particular, accounts of defeat in PTSD (e.g., Dunmore et al., 1999), due to their focus on more fundamental aspects of self-identity and status, may describe perceptions of defeat at the more severe end of the spectrum, compared with other cases (e.g., Gilbert & Allan, 1998).

A closely related issue is that of whether defeat and entrapment can be said to represent the same psychological construct when associated with different triggering circumstances. For example, entrapment by psychotic illness may not be equivalent to entrapment in a caregiving role. The current review has approached defeat and entrapment as psychological constructs that can be separated from their environmental circumstances. The commonalities in the definitions and assessments of these constructs used across different populations and circumstances support this claim. Defeat is understood as a perceived sense of failed struggle, associated with the loss of valued status, identity, or resources,

whether it is viewed in relation to a specific traumatic experience or in relation to more general negative life events. Likewise, entrapment is characterized by a thwarted desire to escape, irrespective of whether this desire relates to the unwanted diagnosis of a psychotic disorder or the unwanted role as a caregiver. Furthermore, the qualitative research demonstrates that common phenomenological features can be identified across different patient populations and different triggers (e.g., chronic pain vs. traumatic childbirth). Nonetheless, triggering circumstances may moderate certain features of the experience of entrapped defeat, such as its severity or longevity. Indeed, one study showed that culture could moderate the relationship between defeat and PTSD (Jobson & O'Kearney, 2009).

How Does the Evidence Fit With the Theoretical Model of Defeat and Entrapment?

We attempted to integrate the existing theories concerning the links between defeat, entrapment, and psychopathology into a single model, outlined in Figure 1. The evidence currently available provides partial support for the central premise of this model, namely that perceptions of defeat and entrapment represent key psychological mechanisms underlying a range of psychopathologies, including depression, suicidality, general anxiety, and PTSD. This case can be made most strongly for depression, with evidence being weakest for the importance of defeat and entrapment in anxiety disorders excluding PTSD and possibly social anxiety in those with psychosis. However, many of the specified mediating and moderating mechanisms outlined in this model currently remain theoretical. For example, we did not identify any evidence supporting the moderating role of preexisting beliefs or models about suicide in determining whether perceptions of entrapment result in suicidality, or the mediating role of defeat-driven biases in appraisals of threat in determining anxiety. Consequently, we believe this model may provide a useful heuristic in hypothesizing how perceptions of defeat and entrapment translate into different psychopathological conditions, but the veracity of many of the more specific elements of this model requires confirmation.

Clinical Implications

In light of the strong associations that perceptions of defeat and entrapment had with depression, suicidality, and anxiety disorders, including PTSD, these constructs may be an important target for therapeutic interventions. Specifically, interventions could be developed around the psychological processes that may underlie perceptions of defeat and entrapment (e.g., Johnson et al., 2008; TARRIER & Gooding, 2007). This would require the incorporation of such factors into the clinical assessment or case formulations on which intervention would be based (TARRIER, 2006; TARRIER & Calam, 2002). These formulations could center on the conceptualization of a client's problems as an understandable response to core perceptions of defeat and entrapment.

Cognitive-behavioral techniques could then be used to help modify appraisals and cognitively restructure the situation so as to reduce the individual's sensitivity to signals of defeat (Johnson et al., 2008; Swallow, 2000). These methods would include the use of Socratic dialogue and guided discovery to challenge the veracity of the client's beliefs concerning the loss of status or identity (J. S.

Beck, 1995). Where defeating events are located in the past, guided reimagining of the experience could be used to shift cognitions surrounding these events (e.g., Lee, 2006). For example, if an assault was seen at the time to be particularly defeating, then a therapist could help a client to redescribe the event, drawing on his or her present knowledge that there was no irreparable loss to status or identity. It may also be beneficial to work with clients to build an image of a more positive and dominant identity by emphasizing the ways the clients have shown resilience in the face of these experiences, and by highlighting other successes they have made (Tarrier, 2010). In other situations, encouraging a shift or reorganization of dominant goals and values could be therapeutic, particularly where such goals are untenable (Bird, Mansell, & Tai, 2009; Rohde, 2001; Sloman et al., 2003). These untenable goals are liable to leave the individual vulnerable to discrepancies with his or her environment and, consequently, to feelings of defeat. For example, an individual with unrealistic standards concerning personal success at work may benefit from a shift in emphasis to other personal roles such as his or her role within the family.

Therapies could also focus on the entrapment-related secondary appraisals of escapability or likelihood of improvement. Work designed to tackle entrapment-related cognitions would center largely on promoting alternative, positive reappraisals of an individual's social and personal resources to cope with and manage aversive situations (Folkman et al., 1991) so as to improve perceptions of escape potential and rescue factors (Williams, 1997). For example, if an individual feels entrapped by his or her psychotic symptoms, a therapist could highlight the ways in which the individual has control and power over these experiences (Chadwick, Sambrooke, Rasch, & Davies, 2000). In addition to work on cognitions and perceptions, some individuals may benefit from more pragmatic exercises and skill acquisition procedures designed to develop social integration and problem-solving abilities (e.g., Folkman et al., 1991). Such exercises could undermine the judgments of not being able to move forward that underlie defeat and entrapment by enhancing an individual's practical skills to react and cope with crises.

Therapeutic techniques, such as the broad-minded and affective coping procedure, which are designed to widen access to cognitive and behavioral repertoires, may be useful in preventing appraisals from becoming overly narrow and focused on themes of defeat and inescapability (Tarrier, 2010). This technique involves the guided reimagining of past positive experiences, with the purpose of developing accessible links with the positive affect surrounding these events. It is believed that this positive affect has the capacity to broaden cognitive scope, which can be beneficial in a therapy context when more creative or flexible thinking is sought.

Future Research

The use of prospective designs is necessary to establish temporal precedence and draw inferences concerning the direction of causal effects. Although a number of prospective studies were identified across various disorders, there remain a number of gaps where no such research has taken place. These include the relationships between defeat and depression, and between defeat, entrapment, and suicidality. The prospective studies that have been conducted so far have predominantly followed up clinical groups during the normal course of the illness (e.g., Rooke & Birchwood,

1998). It would, however, be interesting to investigate how changes in perceptions of defeat and entrapment are associated with recovery from a particular disorder or set of symptoms (see Ehlers et al., 1998). Specifically, it would be clinically and theoretically useful to know whether effective interventions function partly through a reduction in feelings of being defeated and trapped.

None of the studies in this review employed an experimental manipulation of defeat or entrapment to exacerbate clinical symptomatology. This is not surprising, as there would be clear ethical issues in employing any manipulation, particularly in a clinical population, that could induce a worsening of symptoms. One solution would be to induce very minimal short-term states of defeat or entrapment and then assess low-intensity analogues of psychopathological symptoms, such as temporary low mood or intrusive thoughts. However, there may be concerns about the ecological validity of such a design. A second option would be to employ a randomized, controlled trial design, recruiting participants already experiencing perceptions of defeat or entrapment and assessing the efficacy of interventions aimed at minimizing these perceptions.

The evidence from the current review supports the effects of defeat and entrapment on psychopathology over and above a number of related constructs, including hopelessness and shame (Gilbert & Allan, 1998; Gilbert et al., 2005; Martin et al., 2006; O'Connor, 2003; Rasmussen et al., 2010). However, other theoretical constructs also share conceptual similarities with defeat and entrapment, including helplessness and humiliation. Empirical evidence is therefore required to distinguish defeat and entrapment from these related constructs. Similarly, further research is needed to establish whether defeat and entrapment are two distinct constructs or are in fact better viewed as a single psychological construct (Taylor et al., 2009). The extent to which these variables represent separate constructs could be demonstrated with factor-analytic techniques to demonstrate distinct sets of underlying latent variables. Finally, future research could use the theoretical framework outlined in Figure 1 to further establish the cognitive, environmental, biological, and social factors that either mediate or moderate the impact of perceived defeat and entrapment upon human psychopathology.

Conclusions

The current review has demonstrated how the concepts of defeat and entrapment have developed from comparative animal research to be implicated in theoretical accounts of human depression, suicidality, and anxiety, including PTSD. A review of the existing literature revealed a strong evidence base for the relationship between defeat, entrapment, and these clinical disorders. Convergent evidence was identified across a range of methodologies, assessments, and populations to support these relationships. There was little direct indication that these effects could be better accounted for by related environmental factors, psychological constructs, or comorbid psychopathology, although further investigation of these possibilities would be beneficial. The supported role of defeat and entrapment within clinical symptomatology makes them an important target for therapeutic interventions.

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