THE ROLE OF DEFEAT AND ENTRAPMENT IN SUICIDE

A thesis submitted to the University of Manchester for the degree of Doctor of Philosophy in the Faculty of Medical and Human Sciences

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ABSTRACT

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Theoretical models of suicide have hypothesised that perceptions of defeat and entrapment are part of the psychological mechanisms that underlie suicidal ideation and behaviour (Johnson, Gooding & Tarrier, 2008; Williams, 1997). Research also suggests that defeat and entrapment are particularly relevant in explaining suicidality amongst those diagnosed with psychotic disorders such as schizophrenia (Iqbal & Birchwood, 2006). Empirical evidence is required to support the posited role of these concepts in suicidal ideation and behaviour. Empirical evidence is also required to resolve ambiguities about the best way to conceptualise these concepts (Johnson et al., 2008).

A series of six studies were designed to investigate i) the factor structure of defeat and entrapment, ii) their relationship with suicidal ideation and behaviour in the general population and in those with psychosis, iii) whether defeat and entrapment interact with autobiographical memory in determining suicide risk. These studies were supported by the first systematic literature review of the link between defeat, entrapment and psychopathology. An eighth study established the ethical viability, in terms of risk of distress, associated with suicide research in samples diagnosed with psychotic disorders.

Both exploratory and confirmatory factor analysis indicated that a single psychological construct underlies both defeat and entrapment. Cross-sectional studies supported the hypothesis that this defeat/entrapment construct shared a proximal relationship with suicidality, mediating the suicidogenic effect of other psychiatric and cognitive variables. A longitudinal study demonstrated that defeat/entrapment could predict change in suicidal ideation over a 12 month period. Defeat/entrapment did not interact with autobiographical memory processes to predict suicide risk, although these latter processes were related to suicidal behaviour in individuals with psychotic disorders.

Results supported a socio-cognitive model of suicide, the Schematic Appraisals Model of Suicide (SAMS; Johnson et al., 2008), and more generally highlight the role of defeat and entrapment in suicidality. Clinical implications are discussed throughout.
DECLARATION

A portion of the data from Chapter 7, referred to in this thesis, were collected and used in support of a clinical psychology doctoral degree (ClinPsyD), by Dr. Daniel Pratt and in support of a degree of doctor of philosophy (PhD), by Judith Johnson at the University of Manchester. A portion of the data from Chapter 8 were collected and used in support of a degree of doctor of philosophy (PhD), by Judith Johnson at the University of Manchester. The work submitted within this thesis is substantially different from any work that has been submitted for any degree at this or any other institution.
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DEDICATION

To Amy
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LIST OF COMMON ABBREVIATIONS

APA = American Psychological Association

BDI = Beck Depression Inventory

BHS = Beck Hopelessness Scale

CBT = Cognitive Behavioural Therapy

CFA = Confirmatory Factor Analysis

COP = Cry of Pain

DSM-IV = Diagnostic and Statistical Manual of mental disorder version IV

EFA = Exploratory Factor Analysis

ICD-10 = International Classification of Diseases version 10

IDS = Involuntary Defeat Strategy

I-P = Interpersonal-Psychological theory

PBIQ = Personal Beliefs about Illness Questionnaire

PTSD = Post Traumatic Stress Disorder

SAMS = Schematic Appraisals Model of Suicide

SEM = Structural Equation Modelling
CHAPTER 1

1. Introduction

1.1. The Impact, Burden and Complexity of Suicide

1.1.1. The impact of suicide.

Suicide represents a global health concern of considerable magnitude. In 2002, in Europe alone, rates of mortality attributable to self-inflicted injury (ICD-10 codes: X60-84) numbered over 160,000 (World Health Organisation, 2004b). To provide some perspective, this figure was greater than the number of deaths attributable to road traffic accidents or homicide that year. Moreover, it has been suggested that such figures may be underestimated, as many unaccounted for deaths may actually be suicides (Šešok, Roškar, & Marušic, 2004). Suicide presents not only a considerable socioeconomic burden, considered in terms of productive years of life lost (Šešok et al., 2004; Yip, Liu, Law, & Law, 2005), but also a huge emotional and psychological burden for the bereaved friends, spouses and relatives of the individual (Begley & Quayle, 2007; De Groot, De Keijser, & Neeleman, 2006; Mitchell, Kim, Prigerson, & Mortimer-Stephens, 2004). It is suggested that each suicide leaves between 6 and 10 such survivors behind (De Groot et al., 2006).

Rates of suicidal ideation and non-lethal attempts are considerably higher than those for completed suicides (Reinherz, Tanner, Berger, Beardslee, & Fitzmaurice, 2006; World Health Organisation, 2004a). The two-week prevalence of suicidal ideation in Europe has been found to fluctuate between 1.1% and 19.8% across countries, with a rate of 7.4% reported for rural Britain (Casey et al., 2008). Non-lethal suicidal behaviour represents a substantial problem in its own right. Suicidal ideation and attempts are robust risk factors for subsequent suicide attempts and completions (Corcoran, Keeley, O'Sullivan, & Perry, 2004; Nimeus, Alsen, & Traskman-Bendz, 2002; Reinherz et al., 2006; Sidley, Calam, Wells, Hughes, & Whitaker, 1999). Furthermore, suicidal ideation
and attempts are likely to be indicative of considerable psychological distress and pain (Reinherz et al., 2006; Shneidman, 1996; Tarrier & Gooding, 2007). Unsuccessful suicide attempts are also liable to have an adverse effect on the relatives and friends of the suicidal individual. It has been found, for example, that the relatives of suicidal inpatients experience a greater detrimental impact upon their social network, greater mental health problems and greater requirement of the mental health services compared to the relatives of non-suicidal inpatients (Kjellin & Östman, 2005).

1.1.2. The suicide continuum.

A number of authors assert that suicidality rests on a continuum, ranging from mild ideation, through planning to suicide attempts and completions (Brent, Perper, Goldstein, & Kolko, 1988; Casey et al., 2008; Claes et al., 2009). This assertion differs from the view that there are distinct suicidal sub-populations (e.g., completed suicides and non-successful attempters; Beautrais, 2001). Evidence for the continuum view of suicide comes from a number of sources. First, one of the most robust predictors of suicidal behaviour is a history of previous attempts (Corcoran et al., 2004; Sidley et al., 1999; Verdoux et al., 2001). For example, a series of studies across a demographically diverse array of samples has found correlations between past suicidality and current suicidality ranging from $r = .20$ to $r = .48$ after covarying for numerous other risk-factors (Joiner et al., 2005). Second, similar patterns of risk factors have been observed across individuals at different levels of suicidality (Brent et al., 1988). Third, a number of theoretical models of suicide have posited some form of persisting cognitive structure or schema underlying suicidality (Johnson, Gooding, & Tarrier, 2008a; Lau, Segal, & Williams, 2004; Rudd, 2006). These theories suggest that collections of suicidogenic thoughts and beliefs (e.g., suicide as a viable escape strategy) may develop over time, through repeated episodes of suicidal ideation or negative mood. Consistent with this claim is evidence that suicidality recursively re-emerges at times of stress (Shneidman, 1996; Walen, 2002). For example, it was found that in formerly depressed individuals, levels of suicidal ideation were highly
correlated across depressive episodes (Williams, Crane, Barnhofer, Van der Does, & Segal, 2006c). These theories ascribe a cognitive developmental trajectory to suicidality, which is in keeping with the view of a suicide continuum.

The continuum view has been questioned, for example in the case of impulsive suicides (e.g., Wyder & De Leo, 2007). Other theorists have criticised the concept of an impulsive suicide, however, arguing that the ability to engage in suicidal behaviour has to be acquired over time (Joiner, 2005). Instead it has been suggested that impulsivity as a personality trait may simply increase exposure to de-inhibiting situations and so increase overall suicide risk (Joiner, 2005; Witte et al., 2008). Evidence for this proposition comes from epidemiological data demonstrating that more impulsive individuals are actually more likely to report planning prior to a suicide attempt (Witte et al., 2008).

The assumption of a suicide continuum provides an important justification for focussing on suicidality at different levels, including ideation and non-lethal attempts. Schema-based theories of suicide are useful for explaining the development of suicidality over time, but alone provide an incomplete picture of what causes suicidality. An understanding is also required of the psychological drivers that compel an individual to engage in suicidality to begin with, and which maintain or exacerbate their position on this continuum. It is these psychological drivers that are the primary focus of the current thesis.

1.1.3. Psychological mechanisms in suicide.

Developing an understanding of who will and who will not engage in suicidal behaviour is notoriously difficult (Goldney, 2005; Paris, 2006). The relatively low base rate of suicide coupled with the lack of specificity of many established risk factors makes the accurate prediction of prospective suicides difficult (Goldney, 2005; Hawton & Heeringen, 2009; Paris, 2006). Considering the limited predictive utility provided by general risk-factors (e.g., psychiatric diagnosis, substance abuse; Hawton & Heeringen, 2009), a more productive approach may be to attempt to elucidate the underlying psychological mechanisms that are particular to suicide. Knowledge of the key
psychological variables that provide the impetus behind suicidal ideation and behaviour will allow a better understanding of how particular life experiences and situations translate into suicide risk. Such an understanding could readily inform subsequent interventions for suicide. This approach is favourable considering the argument that suicide is not simply a random act or symptom of mental illness, but is the product of largely trans-diagnostic, rational, psychological processes (O’conner, Armitage, & Gray, 2006; Shneidman, 1996). The focus of the current thesis is on a particular set of psychological constructs that have been implicated in suicidal ideation and behaviour, namely defeat and entrapment.

1.2. Suicide in Psychosis

1.2.1. Suicide rates in psychosis.

Due to the rarity of serious suicidal ideation and behaviour in the general population, investigation of the psychological factors that precipitate such outcomes can be problematic. The inherently skewed distribution of suicidal behaviours can hinder the ability to identify relevant predictive variables. There are a number of possible solutions to this problem. One is to focus on more frequent, less severe levels of suicidality (e.g., mild ideation). Following the assumption of a suicide continuum, and the finding that lower levels of suicidality predict higher levels, there is a clear clinical relevance to focussing on these behaviours. Another option is for research to focus on particular populations, where the probability of suicidal behaviours is higher.

Reviews of psychological autopsy studies reveal that suicide is preceded by co-morbid psychopathology in around 90% of cases (Cavanagh, Carson, Sharpe, & Lawrie, 2003; Jamison & Hawton, 2005). Focussing on individuals with pre-existing mental disorders may therefore be an effective research strategy. Individuals experiencing psychosis, including those diagnosed with schizophrenia, represent a group where suicide is especially prevalent (Bolton, Gooding, Kapur, Barrowclough, & Tarrier, 2007). A commonly cited review by Caldwell & Gottesman (1990) reports lifetime suicide rates in
this group of 10%, based on proportionate mortality (the percentage of deaths that were
due to suicide). A more recent meta-analysis has estimated rates based on the more
conservative index of case fatality (the percentage of the original sample who died by
suicide), calculating a lifetime risk of suicide at around 4.9% (Palmer, Pankratz, &
Bostwick, 2005). As with suicidality in the general population, rates of ideation and
attempts are even more prevalent. Suicidal ideation was reported as occurring in the
previous 15 days by 20.4% of participants in one study (Kontaxakis et al., 2004). Rates or
previous suicide attempts range between 18% and 55% (Siris, 2001). Suicide attempts may
be especially likely during the first onset of the illness. Prospective research identifies a
rate of 11.3% over the two-years following first admission for psychosis (Verdoux et al.,
2001), whilst retrospective attempt rates have been reported at 15.1% (Addington,
Williams, Young, & Addington, 2004).

1.2.2. Defining psychosis and schizophrenia spectrum disorders.

Psychosis encompasses a variety of experiences traditionally characterised by a loss
of contact with, or a distorted perception of, reality. These experiences are typically
divided into positive and negative symptoms clusters. Positive symptoms encompass
addenda to ‘normal’ human experience, including hallucinations, delusions, thought
disorder and paranoia (APA, 1994; Dinglemans, Linszen, Lenior, & Smeets, 1995).
Negative symptoms encompass losses to functioning, including social withdrawal, blunted
affect and avolition (APA, 1994; Dinglemans et al., 1995). A number of discreet psychotic
disorders are described by contemporary diagnostic systems (e.g., DSM-IV; ICD-10)
including schizophrenia, schizoaffective disorder and schizophreniform disorder. In the
current thesis, for convenience these will often be covered by the umbrella term
‘schizophrenia spectrum disorders’. There has been considerable debate about the validity
and value of these diagnostic entities (e.g., Bentall, 2003). Increasingly evidence has
shown that many psychotic experiences exist on a continuum with normal human
experience, including paranoia (Freeman et al., 2005), hallucinations and delusions
(Campbell & Morrison, 2007; Johns et al., 2004), rather than manifesting in a discreet disordered subgroup. Psychotic symptoms are also known to occur in other disorders such as Bipolar disorder (Goodwin & Jamison, 1990).

1.2.3. Sources of suicide risk in psychosis.

Irrespective of the validity of these diagnostic entities, the case remains that individuals receiving a diagnosis of a psychotic disorder are at a heightened risk of suicide. Consequently, individuals diagnosed with psychotic disorders represent an important subgroup to investigate in understanding and preventing suicidal behaviour. An important issue is whether the factors that lead to suicide in this group are the same as those operating in the wider population (Bolton et al., 2007). A number of factors specific to psychosis have been associated with heightened suicide risk in this group. These include paranoia, greater illness severity, being in the first year of the illness and being recently discharged from hospital (Fenton, McGlasghan, Victor, & Blyler, 1997; Montross, Zisook, & Kasckow, 2005; Rossau & Mortensen, 1997; Siris, 2001). There is also mixed evidence to suggest that command hallucinations (i.e., auditory verbal hallucinations instructing the individual to engage in certain behaviours) may lead to suicidal behaviour in some instances (Barrowcliff & Haddock, 2006).

A consideration of these variables alone does not, however, provide a complete and comprehensive account of suicidality in this population. Several theorists have emphasised that suicide may be best understood as an individual’s reaction to their psychosis, rather than a direct feature of the disorder itself (Bolton et al., 2007; Iqbal & Birchwood, 2006). From this perspective, the impact of many psychosis specific risk factors, including symptoms and associated events (e.g., hospitalisation) may depend on the manner in which the individual understands and interprets these events. As such, common psychological factors, not tied to a particular disorder, may be relevant in understanding how the experience of psychosis translates into suicide risk. The current thesis explores whether or not perceptions of defeat and entrapment may be useful concepts in explaining suicide in
individuals diagnosed with psychotic disorders, in addition to suicidality in individuals without such diagnoses.

1.3. Introduction to Defeat and Entrapment in Suicide

1.3.1. Background: Suicide as an escape.

One would expect that some central impetus or goal must underlie suicidality. Whilst particular motives or drivers are likely to vary from individual to individual, there may be common themes in the psychology underlying suicidality. Shneidman (1996) argued that the common purpose of suicide is to seek a solution, whilst the common action is one of escape, namely from intense psychological pain. Other theorists have also emphasised the importance of escape as the key driving force behind suicidal behaviour (Baumeister, 1990; Hayes, Wilson, Gifford, Follette, & Strosahl, 1996; Williams, 1997). Self-reported motives for past suicide attempts support these assertions, with a desire for escape, or relief from an aversive state of mind, being the most frequently cited reason (Bancroft, Skrimshire, & Simkin, 1976). A corollary of this motivation is that for some individuals, the concept of suicide itself may be viewed in a positive manner, providing an immutable escape route when circumstances become unbearable. Personal accounts corroborate this suggestion (Shneidman, 1996; Walen, 2002). Moreover, an exploration of the mental imagery surrounding suicide has identified a number of escape-related images, which were often comforting for individuals, as well as distressing (Holmes, Crane, Fennell, & Williams, 2007). Understanding the psychological conditions that underlie this desire to escape is therefore important in understanding suicide.

An early, highly influential model of suicide, which placed the desire to escape at the centre of the suicidal drive, was the suicide as escape from the self theory (Baumeister, 1990). This model describes a series of causal steps ending in suicidal ideation or behaviour. The initial trigger is assumed to be a life event which leads an individual to become aware of themselves failing to meet an important standard or expectation (e.g., job
loss results in the individual failing to be able to support their family). This situation results in a state of aversive self-awareness and associated negative affect. In order to escape from this aversive state the individual shifts to a lower level of awareness, characterised by less integrative processing and attribution of meaning. This state has been termed cognitive deconstruction. A central component of this state is a limited projection of thought into the future, a concept that overlaps with the idea of hopelessness (see section 1.4.1.). Within this state the normal inhibitions concerning suicide are removed. An individual may then come to ideate about suicide as a means of obtaining complete oblivion from the aversive awareness and affect they have been attempting to block out.

Baumeister’s model has the advantage of explaining how common psychological processes may account for the translation of particular life events into suicidal ideation and behaviour. However, it lacks clarity in delineating the psychological pressures driving suicidal ideation. Cognitive deconstruction and aversive self-awareness seem to describe relatively generic states, and it is not clear at what point they give rise to suicidality over other maladaptive coping responses (e.g., substance abuse). It could be argued that a profound perception of being trapped, and having no further options is a necessary antecedent of engaging in suicide as an escape route (Williams, Barnhofer, Crane, & Duggan, 2006a). The concepts of defeat and entrapment seem to accurately capture this phenomenological state. The first account to implicate these concepts in suicidality was the Cry of Pain model (Williams, 1997)

1.3.2. The Cry of Pain model.

Many of the ideas put forward in the suicide as escape from self model have since been expanded on, within the Cry of Pain (COP) model of suicide (Williams, 1997; Williams, Crane, Barnhofer, & Duggan, 2005). This model maintains the importance of the meaning and interpretations individuals place on life experiences in explaining suicidality. The COP model, however, has attempted to integrate these ideas with other areas of social, cognitive and evolutionary psychological theory (O'Connor, 2003; Williams, 1997). In
particular the COP model draws on evolutionary theories of psychopathology, namely the social rank account of depression (Gilbert, 2006b; Sloman, Gilbert, & Hasey, 2003), and enlists the concepts of defeat and entrapment, in explaining suicidality. Thus, the COP model specifies that it is when life experiences are interpreted as signalling defeat, defined as a sense of “failed struggle” or loss of social position and resources, that they are particularly suicidogenic. The COP model suggests that when the individual is unable to identify an escape from or resolution to this defeating situation, a sense of entrapment may proliferate. It is this perception of entrapment that is believed to provide the central impetus for suicide. A statement from one patient regarding their suicide attempt eloquently describes these core feelings of entrapment and defeat (p 102; Shneidman, 1996):

“I could not find myself surrendering to all which I had feared. The armies of my fears had me encircled. I saw not nor had a plan of escape this time. My army of life and it’s resources. It’s legions of money. Captains of schemes and will to survive and succeed. Had been crushed, defeated”

The deleterious impact of these cognitions may be assisted by the concomitant activation of a psychobiological “helplessness script”, which supports the suicidal drive (Williams, 1997). The COP model is displayed diagrammatically in Figure 1.

The COP model identifies three additional psychosocial variables that interact with perceptions of defeat and entrapment, to determine suicide risk (Williams, 1997; Williams et al., 2005). First, entrapment appears to be partly determined by escape potential, one’s perceived ability to extradite oneself from a difficult situation. This concept can be operationalised in terms of problem-solving ability (Williams et al., 2005) but may also involve forms of self-efficacy (Bandura, 1977), where these include self-appraisals of the ability to perform adaptive, escape-related behaviours. Individuals high in these appraisals
are liable to be more confident in their abilities to resolve, cope with or remove themselves from stressful situations, and consequently will be less prone to perceptions of entrapment. Second, an individual’s access to rescue factors, defined as external sources of escape, including social support (O’Connor, 2003), will impact on perceptions of entrapment and subsequent suicidal intent. Third, for a desire for suicide to emerge, an individual has to perceive no likelihood of reprieve in the future. Hopelessness is therefore specified as a third component of the model.

Figure 1: A diagrammatic depiction of the Cry of Pain model (adapted from Williams, 1997)

A final aspect of the COP model worth noting is that focus is predominantly on the individual’s subjective judgements or appraisals of defeat and entrapment (Williams et al., 2005). Consequently, although the concrete features of environmental stressors are important, it is the first-person perception of this stressor which takes primacy in the model. This feature is important as it represents a shift in focus from previous research into defeat and entrapment that has focussed more on particular classes of life events (e.g., Brown, Harris, & Hepworth, 1995). This approach is also consistent with general trends in clinical cognitive psychology, which emphasise the role of individual beliefs and appraisals in psychological distress and pathology (Beck, 1967; Lazarus, 1991; Lazarus & Folkman, 1984).
1.3.3. Empirical support for the Cry of Pain model.

Empirical support for the COP model varies across the different components of the model. The relevance of escape potential to suicide is supported by studies demonstrating associations between self-appraisals of social problem-solving skill and levels of suicidality in samples of students (Chang, 2002), suicidal individuals (Clum & Febbraro, 2002; Dixon, Heppner, & Anderson, 1991; Rudd, Rajab, & Dahm, 1994) and incarcerated adolescents (Esposito & Clum, 2002; for a review, see Clum & Febbaro, 2002). Analogous results are apparent in studies using applied measures of social problem-solving skill (Clum & Febbraro, 2002; Pollock & Williams, 2004; Priester & Clum, 1993). Similarly, greater generalized self-efficacy has been prospectively related to lower suicidality after demographic variables, previous attempt history and previous attempt lethality were adjusted for (Dieserud, Roysamb, Braverman, Dalgard, & Ekeberg, 2003). A more specific measure, self-efficacy in dealing positively with abusive relationships, has also distinguished attempters and non-attempters in samples of African-American women experiencing domestic violence (Meadows, Kaslow, Thompson, & Jurkovic, 2005; Thompson, Short, Kaslow, & Wyckoff, 2002).

Evidence also exists for the role of rescue factors (i.e., social support) in suicidality. Numerous studies have shown that the level of available or perceived social support buffers against suicidality in the face of varying degrees of life stress in both clinical and non-clinical populations (Borowsky, Ireland, & Resnick, 2001; Clum & Febbraro, 1994; Esposito & Clum, 2002; Meadows et al., 2005). Hopelessness is also widely supported as a risk factor for suicide (Hawton & Heeringen, 2009) and is discussed in more detail later (see section1.4.1.). Although there is extensive support for the role of these particular variables in suicide, this does not provide exclusive support for the COP model. Social support, social problem-solving and hopelessness have been implicated as components in a number of theoretical models of suicide. The diathesis-stress model of suicide, for example, describes a causal path whereby life-stress interacts with problem-solving deficits.
to provoke hopelessness and suicidality (Clum & Febbraro, 1994; Clum, Patsiokas, & Luscomb, 1979). Less equivocal evidence is required that supports the putative links between these variables and perceptions of defeat and entrapment.

Research directly investigating defeat and entrapment in relation to suicidality has been sparse (excluding work featured in this thesis), consisting of only three cross-sectional case-control studies in parasuicidal samples (O'Connor, 2003; Park et al., 2010; Rasmussen et al., 2010). These studies are not discussed further here, as they are described in detail in the next chapter (Chapter 3). This chapter reports on a systematic review into the existing literature exploring the link between defeat, entrapment and psychopathology. This review was motivated by the consideration that defeat and entrapment have been implicated as theoretically important variables in a wide range of psychopathologies, including major depression, social anxiety and Post Traumatic Stress Disorder (PTSD). These disorders all occur co-morbidly with one another, and with suicidality. As such, a systematic review is beneficial in untangling the particular relationship defeat and entrapment hold with suicide in comparison to other clinical symptoms and experiences. This review is also helpful in clarifying how best to conceptualise and operationalise the defeat and entrapment variables.

1.3.4. Defeat and Entrapment in Psychosis.

Of particular relevance to this thesis, cognitive appraisals with themes of entrapment, humiliation and powerlessness have been noted amongst individuals with psychotic illnesses (Birchwood, Mason, MacMillan, & Healy, 1993; Rooke & Birchwood, 1998). Research suggests that these appraisals may contribute to a greater risk of developing depressive symptoms and social anxiety following a psychotic episode in those diagnosed with schizophrenia spectrum disorders (Birchwood et al., 2006; Iqbal, Birchwood, Chadwick, & Trower, 2000). As such, the presence and extent of perceptions of defeat and entrapment within individuals with psychotic disorders may help explain the heightened rates of suicidal ideation and behaviour in this group. This assertion reflects the
shift in focus away from the direct impact of the symptomatological and neurological characteristics of the disorder, to a focus on how individuals perceive and interpret these characteristics and their broader consequences. This idea is captured in the statement that, “it may not be the frequency of ‘bizarre’ symptoms that predict suicidality in schizophrenia, but how the person feels about having such symptoms”, (p. 64; Williams, 1997).

Perceptions of defeat and entrapment are perhaps not unexpected in this group considering the sequelae of negative events and experiences often accompanying the onset of psychosis. Psychotic episodes, and related interactions with mental health services, including experiences such as involuntary hospitalisation, can be a source of trauma for many individuals diagnosed with schizophrenia (Jackson, Knott, Skeate, & Birchwood, 2004; Morrison, Frame, & Larkin, 2003). Psychosis can also be associated with a perceived loss of social status, thwarted aspirations and a delimiting of work opportunities (Bolton et al., 2007; Marwaha & Johnson, 2004). Psychotic symptoms also impact negatively on quality of life (Bradshaw & Brekke, 1999). Individuals with psychotic disorders may therefore represent an important subgroup to investigate in understanding the link between defeat, entrapment and suicidality.

Of course, studying suicidality carries certain methodological and ethical concerns regarding the participants involved, which may be amplified in clinical at-risk groups. Individuals diagnosed with schizophrenia have been recognised as a potentially vulnerable group, who may be prone to experiencing distress and discomfort following participation in suicide research (Wilson & Stanley, 2006). This is an important side-issue for any researcher studying suicide, but one which has received sporadic investigation (for a review, see Jorm, Kelly, & Morgan, 2007). These concerns have been tackled directly in the current thesis (Chapter 10) via a qualitative investigation of the experience of research participation for individuals diagnosed with schizophrenia spectrum disorders.
1.4. Psychological Variables Related to Defeat and Entrapment.

A number of psychological variables have been implicated in suicidal ideation and behaviour, which also seem to overlap conceptually with the concepts of defeat and entrapment. Such overlap can be problematic as it may indicate limited discriminant validity in these concepts. It is possible that these different psychological variables may simply be describing the same underlying construct. If these different concepts cannot be distinguished, for example through a distinct phenomenology or discrepant relationships with other variables, then the more parsimonious conceptualisation, that these variables are simply facets of the same unitary construct, should be favoured. Three variables in particular appear to overlap with defeat and entrapment, namely hopelessness, burdensomeness and belongingness. The aim of the current section is to review the theory and evidence for the role of these variables in suicide.

1.4.1. Hopelessness.

1.4.1.1. Theories of hopelessness in suicide.

Hopelessness has been defined as the expectation that positive or desired outcomes will not occur, or that aversive outcomes will occur in the future (Cornette, Abramson, & Bardone, 2000). The role of this variable in suicide has been asserted by numerous theoretical models. As discussed, Baumeister’s escape theory of suicide (1990) posits hopelessness as one feature of the deconstructed cognitive state, whilst the COP model identifies hopelessness as one component necessary for suicide (Williams, 1997). Other theories view hopelessness as the proximal sufficient cause of suicidality, representing the final step in the series of events leading to suicidal ideation and behaviour. The hopelessness theory of suicide, for example, describes a pathway whereby perceived hopelessness provokes hopelessness depression, one symptom of which is suicidality (Cornette et al., 2000). Similarly the diathesis-stress model describes hopelessness as
emerging from an inability to cope with life stress and resulting in suicidality (Clum & Febbraro, 1994; Clum et al., 1979).

1.4.1.2. Empirical support for the role of hopelessness in suicide.

Empirically, hopelessness is perhaps one of the most strongly supported psychological risk factors for suicide. Studies demonstrate an association between self-reported hopelessness, as assessed by the Beck Hopelessness Scale (BHS; Beck, Weissman, Lester, & Trexler, 1974), and suicidal ideation in parasuicidal individuals (Elliott & Frude, 2001; O’conner et al., 2006) and psychiatric outpatients (Dean & Range, 1999). In one longitudinal study of over 3,000 participants followed up over thirteen years, baseline hopelessness was associated with all levels of suicidality after adjustment for sociodemographic variables (Kuo, Gallo, & Eaton, 2004). This association was particularly strong for completed suicide, which was nearly nine times more likely when hopelessness was present at baseline. Comparable results have been observed for completed suicide in psychiatric outpatients (Beck, Brown, Berchick, Stewart, & Steer, 1990). As a short-term predictor (<1 month) of suicide repetition in a high-risk sample, hopelessness outperformed other cognitive and sociodemographic variables, including previous attempt history (Sidley et al., 1999). Support for the proximal sufficient cause hypothesis comes from studies showing that hopelessness mediates the effects of other cognitive factors on suicidality (Abramson et al., 2002; Dixon et al., 1991; Smith, Alloy, & Abramson, 2006).

Hopelessness has also been identified as a substantial risk factor for suicide in individuals diagnosed with schizophrenia in a recent meta-analysis (Hawton, Sutton, Haw, Sinclair, & Deeks, 2005). In particular, hopelessness has been shown to mediate the impact of social and symptomatic factors on suicidality in an early-onset sample (Tarrier, Barrowclough, Andrews, & Gregg, 2004). It may therefore represent a relatively trans-diagnostic risk factor for suicide, not restricted to particular clinical or non-clinical populations. It has been suggested that hopelessness may feature as part of a demoralisation syndrome in schizophrenia, which results from a negative awareness of the
impact psychotic illness has upon an individual’s goals and aspirations (Drake & Cotton, 1986; Restifo, Hakavy-Friedman, & Shrout, 2009). There is a noticeable overlap between this syndrome and the aversive self-awareness described in the escape theory of suicide.

1.4.1.3. Overlap between hopelessness and entrapment.

It has been noted that hopelessness also shares conceptual overlap with entrapment (Johnson et al., 2008a). In as much as hope for the future is likely to provide a source of escape or reprieve to someone struggling with life stressors, so cognitions of hopelessness would be expected to feature as part of entrapment in general. That is, hopelessness should temporally cement or compound perceptions of entrapment. This overlap is especially problematic for the COP model, as both hopelessness and entrapment feature as separate components of the model, implying an assumption of independence. The COP model has consequently been criticised for incorporating redundant, non-mutually exclusive elements (Johnson et al., 2008). These problems are visible in the following quote, where the ideas of hopelessness and entrapment are used almost inter-changeably (p.64; Williams, 1997):

“I suggest the presence of mental illness does add significantly to the explanation of suicide in many cases, but when it does, does so to the extent that the symptoms of the condition engender hopelessness. To state the hypothesis more strongly: psychiatric illnesses carry an increased risk for suicide only to the extent that the person feels they cannot escape their symptoms”

The inter-relationship between hopelessness and entrapment could function in a number of ways: hopelessness could be a cognitive antecedent to perceptions of entrapment, hopelessness could be a consequence of these perceptions, or both variables could represent different aspects of the same underlying factor (Johnson et al., 2008a). An argument is put forward in Chapter 3, that hopelessness and entrapment are conceptually distinct. However, there is currently little empirical basis for supporting one view over
another, making the interpretation of these variables in a research context problematic. Consequently, it is important when investigating the link between entrapment and suicide to include hopelessness as a covariate. This has already been undertaken in existing research assessing entrapment (O’Connor, 2003). This approach at a minimum allows conclusions to be drawn concerning the incremental validity of entrapment in explaining suicidality and thus supports its relevance in suicide research (Hunsley & Meyer, 2003).

**1.4.1.4. Active ingredients of hopelessness.**

A final notable point concerning hopelessness regards recent developments in what constitutes this variable’s active ingredients when it comes to suicide. It has been shown that a lack of positive future thinking, rather than an increase in negative future thinking, is the major component of hopelessness in parasuicidal individuals (Hunter & O’Conner, 2003; MacLeod, Pankhania, Lee, & Mitchell, 1997). General self-report measures such as the Beck Hopelessness Scale (BHS) may therefore be deficient in truly capturing this construct. In partial support of this possibility, a lack of positive future thinking was at least as good at predicting suicide attempt repetition in a high-risk sample at 6-months following the initial attempt as the BHS (Sidley et al., 1999).

**1.4.2. Burdensomeness & belongingness.**

**1.4.2.1. The role of burdensomeness and belongingness in suicide.**

The interpersonal-psychological (I-P) theory of suicide (Joiner, 2005) describes two key factors that contribute to a desire for suicide, perceived burdensomeness and thwarted belongingness. The former refers to the sense of being a burden upon others, whilst the latter refers to an absence of meaningful connections with others. High levels of these two variables is assumed to explain the heightened risk of suicidal behaviour within certain societal groups, such as those with mental disorders and the older aged (Joiner, 2005). In a study of university undergraduates it has been found that the interaction between belongingness and burdensomeness predicts suicidal ideation above and beyond the effects
of depression and these variables in isolation (Van Orden, Witte, Gordon, Bender, & Joiner, 2008). Similar findings emerged in a sample of young adults, using proxy measures of burdensomeness and belongingness, but effect sizes were marginal (Joiner et al., 2009).

An important aspect of I-P theory is that the desire for suicide, compounded by these two factors, is distinct from the capability to engage in suicidal behaviours. The latter is believed to reflect a more developmental process, involving the gradual loss of inhibitions to self-harm through repeated injurious experiences (Joiner, 2005). Both desire and capability are necessary for suicidal behaviour to occur. An instrument designed to assess both desire (belongingness and Burdensomeness) and capability was able to distinguish suicides from non-suicides in a case-control study of US military personnel (Nademin et al., 2008). However, when sub-scales of this instrument were examined, only capability remained a significant predictor. A second study in a military sample demonstrated a significant interaction, whereby greater perceived burdensomeness was associated with suicidality at medium and high levels of acquired capability for suicide, but not at low levels (Bryan, Morrow, Anestis, & Joiner, 2010). Belongingness was, however, not related to suicidality.

1.4.2.1. Conceptual overlap of burdensomeness and belongingness with defeat and entrapment.

Both burdensomeness and belongingness overlap conceptually with perceived defeat and entrapment. Defeat and entrapment encompass perceptions of being trapped in a position of low social rank or status (Gilbert & Allan, 1998; Gilbert & Gilbert, 2003). Feeling like a burden on others and not belonging socially are likely characteristics of this subordinate position. Belongingness also seems similar to social support, especially emotional modes of social support (e.g., Vaux, Riedel, & Stewart, 1987), where the presence of a meaningful relationship is important. Although this similarity is implicit in a recent review of the model (Van Orden et al., 2008), the issue of whether belongingness
really adds anything as a psychological construct, over and above social support, has not been addressed.

An additional problem with the concepts of belongingness and burdensomeness is that they are only relevant to suicidality driven by interpersonal concerns. Although interpersonal difficulties commonly precede suicides, other stressors, such as those related to illness and finance, are also notable (Harwood, Hawton, Hope, Harriss, & Jacoby, 2006; Kolves, Varnik, Schneidere, Fritzee, & Allikf, 2006). Belongingness and burdensomeness therefore seem overly-restrictive in outlining the psychological factors behind suicidal intent. This over-restrictiveness may explain the sometimes inconsistent findings for these variables when used as indicators of suicidality (e.g., Bryan et al., 2010; Nademin et al., 2008) and the small effect sizes observed in other studies (Joiner et al., 2009). Defeat and entrapment do not suffer from this problem as they represent broader concepts. For example, it has been suggested that a variety of circumstances may trigger perceptions of defeat, including the loss of social material resources or failure to meet unachievable personal ambitions (Gilbert, 2000b, 2006b).

1.4.3. Summary.

In the field of suicide research three variables in particular, hopelessness, burdensomeness and belongingness, appear to overlap conceptually with defeat and entrapment. It could be argued that hopelessness reflects a more specific instance of entrapment, focussed particularly on the future, although these two variables still differ in important ways (see Chapter 3). Similarly, both burdensomeness and belongingness seem to describe perceptions characteristic of a defeated or trapped state. This overlap raises concerns about the discriminate validity of these concepts. This problem might in part stem from the relatively broad definitions of defeat and entrapment. A richer description of these concepts at the underlying facet-level (i.e., Smith, Fischer, & Fister, 2003) may be useful in clarifying the extent to which they incorporate elements of hopelessness, burdensomeness and belongingness.
Considering the preliminary nature of the current research supporting the role of burdensomeness and belongingness in suicide, including a lack of evidence demonstrating incremental validity over related variables (e.g., social support), it is perhaps less crucial to control for these variables when investigating suicide. In studying the link between defeat, entrapment and suicide, controlling for belongingness and burdensomeness may be overly conservative. This is because the expected shared variance between the COP and I-P constructs could obscure theoretically important associations between defeat, entrapment and suicide. In contrast, hopelessness is well established as a risk factor for suicide, making it an appropriate variable to control for in analyses. Controlling for this variable was therefore a strategy used in the empirical components of this thesis (see Chapters 6 and 7).

1.5. Re-conceptualising Defeat and Entrapment

1.5.1. The Schematic Appraisals Model of Suicide (SAMS).

It was noted in the previous section that the COP model has been criticised for a lack of clarity and distinction in its components. A further criticism levelled at this model is that the concepts of defeat and entrapment are difficult to separate within the context of human cognition and behaviour (Johnson et al., 2008a). This argument centres on the idea that perceptions of being trapped and being defeated share a number of key features, including a sense of irrevocable loss or failure concerning important standards and goals, where a way forward is not apparent (This issue is discussed in more detail in Chapters 4 and 5).

These limitations have lead theorists to suggest a modified version of the COP model (Johnson et al., 2008). The Schematic Appraisals Model of Suicide (SAMS) incorporates the existing COP components into an established framework of cognitive-behavioural processes. This model emphasises the role of cognitive appraisals in suicide, describing a pluralistic and mutually interactive system of appraisals. It is believed that
these appraisals are influenced by biased information processing and pre-existing cognitive schema. This model therefore capitalises on the literature demonstrating maladaptive information processing in suicidal individuals (e.g., dichotomous thinking; Shneidman, 1996) and supporting a schema-like developmental trajectory to suicidality (Lau et al., 2004; Rudd, 2006). The SAMS is depicted in Figure 2.

![Figure 2: A diagrammatic depiction of the Schematic Appraisal Model of Suicide (SAMS; Adapted from Johnson et al., 2008)](image)

The SAMS model has three main advantages over the earlier COP account of suicide. First, this model was initially described within the context of suicide risk in psychosis, and therefore should be especially applicable to this group of individuals (Johnson et al., 2008a). That said, the model also draws on common socio-cognitive processes, including cognitive appraisals and schema, not specific to a particular clinical group, and should therefore provide a relatively trans-diagnostic account of suicide.
Indeed, recent research in a non-clinical student population has already used the SAMS model to formulate hypotheses (Johnson, Gooding, Wood, & Tarrier, 2010). Second, the processes implicated in the model are already grounded within the cognitive-behavioural therapy paradigm. These links should therefore facilitate the translation of theory into therapeutic practice. Third, the process-level account provided by the SAMS allows a clearer definition of the components initially suggested by the COP model, particularly defeat and entrapment.

Defeat and entrapment are described in the SAMS as an emergent psychological property of an individual’s underlying appraisal systems (Johnson et al., 2008). The idea that different sets of underlying appraisals are responsible for perceptions of defeat and entrapment is already implied to a certain extent in the COP model, via the role attributed to judgements of escape potential and rescue factors (Williams, 1997; Williams et al., 2005). The SAMS expands on these ideas, but also re-conceptualises the construct-level definition of defeat and entrapment. Within this re-conceptualisation, defeat and entrapment are no longer considered as separate, distinct constructs, but viewed as a singular factor. Thus, the SAMS model avoids problems associated with the overlap of these concepts. It is theorised that this putative defeat/entrapment factor arises from a confluence of both self-appraisals (i.e., an individual’s self-assessed abilities and resources to cope with stressors) and appraisals of their current environment, future projections and past experiences (Johnson et al., 2008).

**1.5.2. Hypotheses generated from the SAMS.**

The value of a theoretical model is largely determined by its ability to generate testable novel predictions. In regards to the SAMS, this model makes three main hypotheses concerning defeat and entrapment, and their role in suicide.
1.5.2.1. Defeat and entrapment constitute a singular psychological construct.

First is the contention that defeat and entrapment are conceptually equivalent or co-occurring mental representations. Three corollaries of this prediction are that levels of perceived defeat and entrapment should be highly correlated at any one time, items reflecting either defeat or entrapment should load onto a single latent variable and defeat and entrapment should show practically indistinguishable patterns of correlations with other variables. This prediction is tested in Chapter 4 and Chapter 5 of the current thesis.

1.5.2.2. Perceptions of defeat/entrapment predict suicidality.

Second, the SAMS makes the hypothesis that the singular defeat/entrapment factor should predict suicidality. Demonstrating an association between perceptions of defeat/entrapment and suicidality via cross-sectional research will provide empirical support for this hypothesis. This is undertaken in Chapter 6 and Chapter 7. However, it is also important to demonstrate the causal direction of this association. That is, the SAMS assumes that heightened perceptions of defeat and entrapment precede and predict subsequent changes in suicidality, but it is also conceivable that suicidal thoughts and experiences could themselves provoke perceptions of defeat and entrapment. Research employing a longitudinal design is therefore required to allow inferences concerning the direction of causality. All previous studies employing measures of defeat and entrapment in the context of suicide have been cross-sectional (O'Connor, 2003; Park et al., 2010; Rasmussen et al., 2010), so that the issue of the direction of causality amongst these variables remains to be resolved. A longitudinal analysis of defeat, entrapment and suicidality is undertaken in Chapter 8.

It is also hypothesised that the relationship defeat/entrapment share with suicidality should not be entirely redundant with other risk factors, but should have some unique predictive value. Two psychological risk factors, in particular, may be related to both defeat/entrapment and suicidality, and so confound this relationship, namely hopelessness
and depression. The studies in Chapters 6, 7 and 8 therefore control for one or both of these variables.

1.5.2.3. Perceptions of defeat/entrapment mediate the effect of cognitive appraisals and psychotic symptoms upon suicidality.

Third, the SAMS suggests that the perceptions of defeat and entrapment are a property of specific sets of underlying cognitive appraisals. A corollary of this assumption is that appraisals associated with escape potential (i.e., social problem-solving ability) and rescue factors (i.e., the availability of social support) should be associated with an individual’s degree of perceived defeat and entrapment.

The appraisals believed to underlie perceptions of being defeated and trapped will also be fuelled by various life events and stressors. As such, certain life experiences and circumstances are also likely to contribute to perceptions of defeat and entrapment (Brown et al., 1995). This may be of particular interest in individuals with psychosis, as psychotic symptoms themselves represent a key source of distress and impaired wellbeing in such individuals (Bradshaw & Brekke, 1999; Staring, Mulder, Duivenvoorden, De Haan, & Van der Gaag, 2009; Willige, Wiersma, Nienhuis, & Jenner, 2005) and may thus represent a major factor in determining the severity of perceived defeat and entrapment.

The suggestion that these experiences and appraisals will be associated with heightened levels of defeat and entrapment is perhaps not an especially bold or speculative hypothesis. However, an important assertion of the SAMS model is that it is the ability of these experiences and appraisals to produce the perception of being defeated and trapped that ultimately leads to suicidality. Consequently, the SAMS predicts that perceptions of defeat and entrapment will mediate the impact of aversive experiences and maladaptive appraisals on suicidal ideation and behaviour. This is a stronger hypothesis than simply predicting bivariate associations between variables and consequently provides a more stringent test of the SAMS model. This hypothesis is tested in Chapters 6 and 7. It is important to recognise that although similar hypotheses could be formed based on the COP
model, important differences would remain. For example, defeat would feature as an independent predictor of entrapment within the COP model (Rasmussen et al., 2010), but is viewed as being interchangeable with entrapment in the SAMS.

1.6. Autobiographical Memory and Suicide

Memory appears a vital process in understanding suicidality (Van Heeringen et al., 2000). In particular, autobiographical memory, that is an individual’s memory for personal events experienced in their life, may be important since it is believed to be central to a person’s sense of self and self-worth (Conway & Pleydell-Pearce, 2000).

1.6.1. Autobiographical memory specificity.

In the suicidology literature, the predominant finding regarding autobiographical memory concerns the specificity of recalled memories. Autobiographical memory recall has been compared in patients who recently made suicide attempts via overdose and controls using the autobiographical memory task (AMT; Williams & Broadbent, 1986). In this task, participants have limited time to recall a specific personal memory in response to a series of cue-words of different valences. A serendipitous finding from this study was that overdose patients tended to recall a greater proportion of overgeneral memories (e.g. Happy: “When I go to the cinema with friends”) to specific memories (e.g. Happy: “When I went to the cinema last Tuesday with Alex”). This difference could not be explained by general differences in semantic memory functioning. A variety of studies have since replicated this association between memory specificity and suicidal behaviour (see the review by Williams et al., 2007) and have extended it to neutral cue-words (Kaviani, Rahimi-Darabad, & Naghavi, 2005) and negative cue-words (Swales, Williams, & Wood, 2001). It is important to note that these findings occur even though the recall of specific memories is stressed in the AMT paradigm. Although this deficit in memory specificity has also been noted in depression, co-morbid depression alone does not seem to account
for the presence of this impairment in parasuicidal patients (Leibetseder, Rohrer, Mackinger, & Fartacek, 2006).

Research has identified a number of maladaptive outcomes that may result from impaired memory specificity, which may account for its seemingly suicidogenic effect. A number of studies have associated impaired social problem-solving ability with overgeneral memory (Kaviani et al., 2005; Pollock & Williams, 2001; Sidley, Whitaker, Calam, & Wells, 1997), including experimental studies, therefore suggesting this relationship is causal (Williams et al., 2006b). These authors suggest that the recall of specific autobiographical memories of previous experiences may facilitate the generation of solutions to current problems, so that the blocking of such specific memories can hinder problem-solving. As discussed, impaired problem-solving ability has been recognised as a risk factor for suicidality (e.g., Clum & Febbraro, 1994). Impaired memory specificity has also been associated with a difficulty in imagining positive future events, which again has been linked to increased suicidality (Williams et al., 1996). Finally, access to specific autobiographical memories may be important for maintaining a positive self-regard (Conway & Pleydell-Pearce, 2000), which may represent an important rescue-factor in times of stress and difficulty (Johnson et al., 2008a).

1.6.2. Autobiographical memory as an affect-regulation strategy: Implications for research into psychosis.

One of the proposed causes of overgeneral memory is a learned affect-regulation strategy (Williams, 2006; Williams et al., 2007). It is suggested that individuals halt the effortful retrieval of memories prematurely so as to avoid the greater negative-affect associated with particular specific memories (Williams, 2006; Williams et al., 2007). Whilst this strategy may be adaptive in the short term in avoiding particular aversive memories, it may generalise to form the more habitual impairment seen in parasuicidal patients (Raes, Hermans, Williams, & Eelen, 2006; Williams et al., 2007). Evidence for this comes from research linking overgeneral memory to past experiences of sexual abuse.
and trauma (Kuyken & Brewin, 1995; McNally, Lasko, Macklin, & Pitman, 1995) and with the avoidance of troubling thoughts and experiences (Hermans, Defranc, Raes, Williams, & Eelen, 2005; Kuyken & Brewin, 1995). Further, in non-clinical samples a less specific retrieval style has been found to protect against negative affect following a stressful event, supporting the suggestion that such a retrieval style may initially be effective in minimising distress (Raes et al., 2006).

The recognised link between past trauma and autobiographical memory impairments may be important for understanding suicidality in individuals with psychosis. Psychosis has been associated with previous traumatic experiences (Morrison et al., 2003). The psychosis itself may often be a source of such trauma through related events such as breakdowns and hospitalisation (Jackson et al., 2004; Tarrier, Khan, Cater, & Picken, 2007b). Consequently, overgeneral memory would be expected amongst those with psychotic disorders such as schizophrenia. Studies comparing individuals diagnosed with schizophrenia spectrum disorders with matched controls in recall tasks such as the AMT support this predicted memory deficit (Danion et al., 2005; Neumann, Blairy, Lecompte, & Philippot, 2007; Wood, Brewin, & McLeod, 2006). No studies have, however, investigated whether the capacity to recall specific autobiographical memories is associated with suicidality in individuals with psychosis. Considering the robust links that have been demonstrated between memory specificity and suicidality in non-psychotic groups, this is clearly an area of research requiring investigation.

1.6.3. The relationship between defeat, entrapment and autobiographical memory specificity.

Normative theories of autobiographical memory suggest that even in individuals presenting with an overgeneral style of memory retrieval, certain specific memories may still invade consciousness through a more automatic, direct route of memory retrieval (Conway & Pleydell-Pearce, 2000; Golden, Dalgleish, & Mackintosh, 2007). Memories of traumatic experiences are believed to be especially sensitive to direct retrieval (Conway &
Pleydell-Pearce, 2000; Golden et al., 2007). This is likely to occur when cues readily map onto the content of the traumatic memory. Consequently, it might be expected that the standard overgeneral memory effects would be negated in situations where cues closely mapped the content of traumatic or distressing memories. Support for this hypothesis has already been obtained in a study of individuals experiencing complicated grief following bereavement (Golden et al., 2007). Whilst the expected deficits in memory specificity were observed using the standard AMT, compared to controls, these effects disappeared when participants were asked to recall memories related to the deceased individual.

These findings may have implications for the relationship between defeat, entrapment and autobiographical memory. If defeat and entrapment represent major themes in a suicidal individual’s perception of the world, specific memories associated with these themes (e.g., hospitalisation in individuals with psychosis; Rooke & Birchwood, 1998) may also be hypersensitive to retrieval. Consequently memory specificity may improve in suicidal individuals for cues related to themes of defeat and entrapment, compared to more general positive and negative cues. This effect would not be expected to occur in non-suicidal individuals who have fewer entrapment-related memories for the cues to map onto. It could be speculated, in light of such an effect, that the sensitivity of defeat/entrapment-related memories is one of the mechanisms maintaining these maladaptive perceptions over time. These possibilities are explored in Chapter 9.

1.6.4. Summary.

In summary, difficulty in the ability to recall specific autobiographical memories appears to be an important vulnerability factor for suicide. However, the way in which this impairment is related to perceptions of defeat and entrapment has received no research attention to date. A particularly interesting possibility is that defeat and entrapment may moderate the ability to recall specific memories in at-risk individuals, with memories bearing themes of defeat and entrapment being more accessible in suicidal individuals, compared to other memories. Overgeneral memory may also be related to suicidality in
individuals with psychosis, but this prospect has not yet been investigated. As noted, a study exploring these issues features in Chapter 9 of this thesis.

The research into the overgeneral memory phenomena has been criticised for its over-reliance upon one particular methodology, the AMT, with suggestion that results may differ under alternative paradigms (e.g., Rottenberg, Hildner, & Gotlib, 2006). Nevertheless, the AMT has been found to be reasonably robust to variations in procedure (Williams et al., 2007), and as the method most widely-used in exploring these memory phenomena, it seems the most appropriate choice for novel research in this area. A modified version of this task was therefore employed in the study reported in Chapter 9.

1.7. Overview of the Thesis

The overarching aim of this thesis was to investigate the concepts of defeat and entrapment and determine the role that they play in suicidality. The third chapter puts this aim into context by providing the first systematic review of the links between defeat, entrapment and psychopathology, focusing on the key domains of anxiety, depression and suicidality. The chapters following this are directed at four unresolved research questions, which are outlined in the above introduction. First, the factor structure of the defeat and entrapment scales was tested to ascertain whether separate defeat and entrapment factors were empirically supported, or whether these variables were better conceptualised as a single construct (Chapters 4 and 5). Second, it was investigated whether or not defeat and entrapment would be related to suicidality, and whether these variables would mediate the impact of other clinical and cognitive variables on suicidality. This possibility was explored in a non-clinical student sample, looking at self-appraisals (Chapter 6), and in a clinical sample of individuals diagnosed with schizophrenia-spectrum disorders, looking at clinical symptomology (Chapter 7). Third, the hypothesis was tested that defeat and entrapment could predict changes in suicidality over time indicating the temporal precedence of defeat and entrapment within this relationship and supporting the case for a causal effect (Chapter 8). Fourth, the link between defeat and entrapment related
autobiographical memories and suicidal behaviour was explored. This study included a sample of individuals diagnosed with schizophrenia-spectrum disorders, and consequently represents the first study to investigate the link between memory specificity and suicidality in this group (Chapter 9). A final study focused on an ethical and methodological question highly pertinent to the current thesis, establishing whether research into suicide is ethically viable in an at-risk clinical group, namely those with psychosis (Chapter 10). This thesis then ends with an overview and general discussion of the preceding studies (Chapter 11). There is a focus upon how these studies support existing theoretical models, and the clinical implications that can be drawn from these results.

1.8. Note on Collaboration and Published Material

The current thesis has been produced in the alternative format option offered by the University of Manchester, whereby empirical chapters are written up in a standard and format appropriate for publication in academic peer-reviewed journals or other dissemination. Alternative format was chosen for this thesis to maximise the opportunity to submit work for publication during the course of the PhD. Consequently, a number of the chapters presented below have also been accepted as papers. Chapter 4 (Are defeat and entrapment best defined as a single construct?) has been accepted for publication in Personality and Individual Differences. Chapter 6 (Appraisals and suicidality: The mediating role of defeat and entrapment) has been accepted for publication in Archives of Suicide Research. Chapter 7 (Defeat and Entrapment in schizophrenia: The Relationship with Suicidal Ideation and Positive psychotic Symptoms) has been accepted for publication in Psychiatry Research. Chapter 9 (Memory specificity as a risk-factor for suicidality in non-affective psychosis: The ability to recall specific autobiographical memories is related to greater suicidality) has been accepted for publication in Behaviour Research and Therapy. Chapter 10 (The subjective experience of participation in schizophrenia research: A practical and ethical issue) has been accepted for publication in the Journal of Nervous and Mental Disease.
The author completed the research contained in this thesis in collaboration with a number of other individuals who require recognition. The author’s supervisory team, Prof. Nicholas Tarrier, Dr Patricia Gooding and Dr Alex Wood contributed to the design of the studies, as well as providing input on write-up and theory, and are therefore recognised as co-authors. Judith Johnson and Dr Daniel Pratt are recognised as co-authors on Chapters 7 and 10, where they contributed to the process of recruitment, provided inter-rater information on certain variables and had input into the design of the studies. Judith Johnson is also recognised as co-author on Chapter 4, where she contributed to the process of recruitment. Finally, Yvonne Awanet is recognised as co-author on Chapter 10, for her involvement in the qualitative analysis.

Recruitment was therefore either undertaken solely by the author of this thesis (Chapters 5, 6, 9) or in collaboration with others, with the author of this thesis having an active and equal involvement in the process of recruitment (Chapters 7, 10). The only exception was the study outlined in Chapter 8 which made use of an existing dataset. The study outlined in this chapter represents an entirely unique use of this data. All analyses were undertaken solely by the author of this thesis, with the exception of the qualitative analysis described in Chapter 10, which had additional assistance from Yvonne Awenat, as stated above. All write-up was solely the work of the author of this thesis, with others providing input in terms of feedback on drafts and ideas.
CHAPTER 2

2. Methodological Considerations

The methodologies employed, including the choice of measures, designs, procedures and analyses are described within each empirical chapter of this thesis. Nonetheless, a number of general methodological points do require some further elucidation. This chapter will provide a brief discussion of these points and a basic overview of any advanced statistical techniques being used in this thesis.

2.1. Methodological Decisions

2.1.2. Measuring defeat and entrapment.

The first of these concerns the choice of measures. Throughout the studies included in this thesis, defeat and entrapment were measured using the self-report scales developed by Gilbert and Allan (1998; see Appendix I and II). These measures were chosen as they are the most widely used in the existing literature, and are the most widely validated. A review of these measures, and all other existing instruments used to assess defeat and entrapment, including psychometric information, is provided in Chapter 3.

One measure, the Personal Beliefs about Illness Questionnaire (PBIQ) has been designed to assess feelings of entrapment surrounding psychosis in particular (Birchwood et al., 1993; Rooke & Birchwood, 1998). Although three studies in the current thesis recruited samples diagnosed with schizophrenia spectrum disorders (Chapters 7, 9 and 10), the PBIQ was not used. There are three reasons for this. First, there is a substantial advantage in being able to directly compare results across studies. This can easily be achieved when the same scales are used. Second, the PBIQ has a number of psychometric limitations, including a) a small number of items, just five for the entrapment subscale, that may impair content validity (Haynes, Richard, & Kubany, 1995), and b) no existing test of factor structure to support the distinctions drawn between subscales (Birchwood et al., 1993). Third, the PBIQ only has subscales assessing entrapment, not defeat.
2.1.3. Testing the distinction between defeat and entrapment.

A second issue concerns how best to test the prediction that defeat and entrapment represent a unitary construct. Indirect support for this prediction could be obtained by demonstrating high inter-correlations between these variables (e.g., $r > .7$; Tabachnick & Fidell, 2001). However, a more direct test of this prediction would be to use a statistical technique such as factor analysis, that allows for the identification of underlying latent variables or factors (Preacher & MacCallum, 2003; Tinsley & Tinsley, 1987). Assuming the measures used to assess defeat and entrapment adequately capture the concepts, then the SAMS would predict that items associated with both concepts would load onto a single latent variable, which would explain a large proportion of the variance in items. If this analysis was undertaken on self-reported levels of perceived defeat and entrapment, such a finding would in effect suggest that the phenomenology (i.e., subjective experience) of defeat or entrapment was largely indistinguishable for those in the study population.

It would further be expected that a two factor structure would not provide a significant improvement over the one-factor structure in terms of fit with the data. This latter possibility can be tested explicitly with confirmatory factor analysis (Kline, 1998). In the current thesis, both exploratory and confirmatory factor analyses were utilised across different samples, providing a robust test of the factor structure of defeat and entrapment (Chapters 4 and 5).

An additional test of the distinction between these variables was provided by examining the pattern of correlates they showed with other relevant variables (Chapter 5). Differences in these correlations would imply some degree of functional distinction in defeat and entrapment (Wood, Taylor, & Joseph, 2010).

2.1.4. Choice of research designs.

A third issue concerns the research designs used in order to examine the relationship between defeat, entrapment and suicidality. In order to establish a causal relationship, an experimental design is ideally needed. However, such a design was not
possible in this instance due to clear methodological and ethical problems. Meta-analytic evidence shows that mood induction procedures can produce valid changes in affective states (Nummenmaa & Niemi, 2004), but that they may lack specificity when it comes to distinguishing between more fine-grain emotional-cognitive states. Defeat and entrapment are a complex emotional-cognitive construct, and basic experimental induction procedures may fail to produce an accurate analogue of these feelings. Experimental inductions of defeat have been used in previous research (Johnson, Tarrier, & Gooding, 2008b; Maner, Miller, Schmidt, & Eckel, 2008), but there is currently no evidence to support the assumption that these procedures induce defeat, rather than related psychological states, such as perceived failure (for a discussion of the difference between defeat and failure, see Chapter 3). Moreover, it is theorised that it is the intense chronic character of perceived defeat and entrapment that causes it to become maladaptive (Sloman, 2000; Sloman et al., 2003). Brief instances of feeling defeated or trapped, produced in a lab, are likely to lack these qualities. A final problem is that any experimental procedure capable of increasing suicidal ideation would not be ethical, especially for use in vulnerable clinical populations.

Consequently, the current research makes use of naturalistic assessments of these perceptions and associated outcomes. In the majority of studies a cross-sectional design was employed. This was appropriate considering the preliminary nature of this research and the advantages of this method in terms of ease of implementation and burden to the participant. One study also employed a prospective design, covering a 12 month period (Chapter 8), so as to provide some indication of temporal precedence concerning the relationship between defeat, entrapment and suicidality.

2.2. Statistical Techniques

A variety of statistical techniques were employed throughout this thesis as a means of quantitative data analysis. As some of these techniques may be less familiar than others, a basic overview is provided below.
2.2.1. Structural Equation Modelling (SEM).

Structural Equation Modelling (SEM) allows the testing of pre-defined (although exploratory methods are also available, see Ting, 1998) models of the relationships between observed and latent variables based on covariance or correlation matrices derived from the data (Kline, 1998). One advantage of SEM is that models can be tested not only in terms of the significance of their individual parameters but also in terms of the overall fit of the model with the observed data (Hu & Bentler, 1999; Kline, 1998). This also means competing hypothetical models of differing complexity can be directly compared (Kline, 1998).

A number of developments in SEM approaches have allowed greater flexibility in utilising this technique. First, various corrections to the goodness-of-fit indices provided by SEM have been suggested to compensate for smaller sample sizes, and Monte Carlo simulation studies have supported their efficacy in avoiding Type I and Type II error (Fouladi, 2000; Nevitt & Hancock, 2004). Second, approaches have been suggested for compensating for non-normally distributed data and ordinal data, which would typically distort SEM results. These approaches include corrections to fit indices, use of polychoric correlation input matrices and different estimation methods (Fouladi, 2000; Lei, 2009; Satorra & Bentler, 2001).

SEM was utilised for two different kinds of analysis in the current thesis. First, SEM was employed to test mediation effects in two studies (Chapters 6 and 7). SEM has a number of advantages over other approaches to testing mediation, such as using multiple regression (e.g., Baron & Kenny, 1986) or partial correlations (see review by Cheung & Lau, 2007). Of particular relevance to this thesis is the ability to model latent variables as mediators, and the ability to compare mediation models of varying complexity (Cheung & Lau, 2007). The latter option means full and partial (i.e., independent variable has a residual effect on the dependent variable independent of the mediator) mediation models can be directly compared, providing further information about the nature of the mediation...
effect. The second use of SEM in this thesis was for conducting the CFA analysis in Chapter 5.

2.2.2. Bootstrapping.

Bootstrapping is a statistical re-sampling procedure that can be used to provide a non-parametric method of statistical inference (Mooney & Duval, 1993). Bootstrapping works by taking a large number of subsamples (1000 may be needed for statistical inferences; Mooney & Duval, 1993), with replacement, from the initial sample. The statistic of interest (e.g., a regression coefficient) is then computed in each subsample, resulting in an empirically derived sampling distribution for that statistic. A central assumption of bootstrapping is that this empirically-derived sampling distribution mirrors the distribution of that statistic in the population (Fox, 2008; Mooney & Duval, 1993). Consequently, it is possible to generate confidence intervals from the bootstrapped distribution in order to test null hypotheses, for example, that the statistic of interest does not exceed zero at a given value of alpha (Fox, 2008; Mooney & Duval, 1993; Wood, 2005). The advantage of this method is that it does not rely on the assumptions that are required by parametric statistics, such as normally distributed data, yet it can be readily used with traditionally parametric techniques such as multiple regression (Fox, 2008).

Bootstrapped regression analysis is used in Chapter 8 to avoid the problem of skewed data. This chapter makes use of a recent application of bootstrapping to determine the change in the squared multiple correlation coefficient ($\Delta R^2$), commonly used as a measure of effect size in multiple regression. Normal methods of bootstrapping are inappropriate here, due to the tendency for values to fall below 1, an impossible result for $\Delta R^2$, but recently software has been developed to overcome this problem (Algina, Keselman, & Penfield, 2007, 2008). Bootstrapping is also used as a means of testing the significance of indirect or mediated effects in the SEM analyses conducted in Chapters 6 and 7. It has been argued that bootstrapping provides an ideal method for testing mediation effects, and is appropriate amongst smaller samples (Preacher & Hayes, 2004). Indirect
effects (i.e., the effect of the independent variable on the dependent variable, through the mediator) are often tested with Sobel’s test, which assumes a normal distribution. It has been suggested that this approach is inappropriate as the mediated or indirect effect is rarely normally distributed (Cheung & Lau, 2007). Bootstrapping therefore provides a more robust alternative.

2.2.3. Random-effects linear regression.

A random-effects linear regression model was used in Chapter 9 to accommodate data where each participant produced a number of responses across different conditions. This situation can pose problems for conventional ordinary-least squares regression or ANOVA because the inter-relations amongst observations within a particular level, for example between responses produced by the same individual, violates the assumption of independent observations (Field, 2005; Rabe-Hesketh & Skrondal, 2008). Another example of data of this nature would be school-children sampled from a number of different schools, where a certain degree of within-school correlation would be expected. One way of analysing this data is to compute two independent error terms, rather than the single error term used in ordinary-least squares regression, one representing variation across individuals, and the other representing the variation between individual responses (Healy, 2001; Rabe-Hesketh & Skrondal, 2008). The participant-level error term is shared by all responses produced by the same individual, and so accounts for the inter-dependence between these responses (Rabe-Hesketh & Skrondal, 2008). This can be achieved with a random-intercept regression model (Ettingera et al., 2004; Healy, 2001; Rabe-Hesketh & Skrondal, 2008).

An advantage of this model is that it allows the joint estimation of both between-participant effects and within-participant (fixed) effects (Rabe-Hesketh & Skrondal, 2008). Moreover, it is possible to see whether the effect of the predictors on the dependent variable vary as a function of the different (within-participant) conditions, in other words
test for interaction effects (Healy, 2001; Singer & Willett, 2003). Such interaction effects were of interest in Chapter 9, making this approach advantageous.
CHAPTER 3

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

3.1. Abstract

Defeat and entrapment are two psychological concepts originally developed within evolutionary accounts of depression. These concepts have since been implicated in theoretical models of anxiety disorders and suicidality. The current paper reports on a systematic review of the existing research, investigating the link between defeat, entrapment and psychopathology in the domains of depression, anxiety and suicidality. The review aimed to 1) determine the evidence of a link between defeat, entrapment and these forms of psychopathology, 2) to establish the commensurability of findings across different disorders and symptoms and 3) to examine the evidence for the distinction between defeat and entrapment. Fifty-one original research articles were identified and critically reviewed. Overall, there was evidence that perceptions of defeat and entrapment are closely associated with various forms of human psychopathology. There was strong convergent evidence for a link between defeat, entrapment and depressive symptoms. The evidence was also strong for the links with social anxiety in psychosis, and with PTSD. Preliminary support for the relationship between defeat, entrapment and suicidality was also observed, with effects not readily explainable in terms of comorbid depression. These effects typically superseded the impact of other environmental and psychological stressors on psychopathology. There was an indication that defeat was more closely associated with depression than entrapment. No other meaningful dissociations in effects were apparent though, lending possible support to the idea that defeat and entrapment are co-occurring. Clinical implications and possible avenues for future research are discussed.

Currently under re-review at Psychological Bulletin
3.2. Introduction

Experimental and ethological research in animals has broadened our understanding of the evolutionary processes determining behaviour and responses to threat (Dixon, 1998; Price & Sloman, 1987). Such evolutionary processes have parallels in human behaviour and, consequently, can provide a useful basis in understanding the maladaptive and pathological side of human behaviour (Gilbert, 2001a, 2001b; Price, Sloman, Gardner, Gilbert, & Rhode, 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 three main types of human psychopathology, namely depression (e.g., Gilbert & Allan, 1998; e.g., Price et al., 1994), anxiety disorders (e.g., Dunmore, Clark, & Ehlers, 1997) and suicidality (e.g., Williams, 1997). Defeat and entrapment, therefore, appear to be involved in 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; Rhode, 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. Prior to the review of empirical studies, it is first necessary to discuss the definitions, background literature and theoretical models that implicate defeat and entrapment as causes of depression, anxiety and suicide.

3.2.1. Defeat.

The concept of defeat has been developed within social-rank theories of depression. Such theories view depression as resulting from the disregulation 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 et al., 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 behaviours in some animals. Reports of ritualized agonistic behaviour 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, using a procedure whereby agonistic encounters are set up between an intruder and a territory-owner. This research has shown how repeated instances of social defeat leads to reductions in locomotion, decreased motivation (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 behaviours 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 & Flugge, 2002; Meerlo, Pragt, & Daan, 1995; Raab et al., 1986). Weight loss has also been noted as a consequence of social defeat amongst rats in naturalistic settings (Adams & Boice, 1983).

It is suggested that these submissive, depression-like behaviours 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 cost of winning become too high (e.g., Hammerstein & Parker, 1982).

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.
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 behaviour, characterised by a collapsed posture and lack of responsiveness to environmental stimuli (Shively et al., 1997; Shively et al., 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 behaviours have also been observed as an outcome of social defeat in animals. Research in rodents has found reductions in exploratory behaviour and elevated heart-rate in subordinate animals following defeat (Fuchs & Flugge, 2002; Raab et al., 1986; Rygula et al., 2005). Similarly, studies of macaque monkeys have found heightened levels of fearful, vigilant scanning of the surroundings in subordinate monkeys (Shively, 1998; Shively et al., 1997). As before, such behaviours are postulated to have an adaptive value in avoiding further injury from more dominant conspecífics.

Further research has identified a number of psychobiological systems that are affected by social rank and defeat, and which may mediate the relationship between these stressors and depression-like behaviours. 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 which 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 whilst
serotonin facilitates aggressive tail-flip behaviour in dominant individuals, it inhibits the same behaviour 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 the psychobiological response 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 adrenocorticotropic hormone (ACTH) levels amongst subordinate animals (Fuchs & Flugge, 2002; Jasnow, Drazen, Huhman, Nelson, & Demas, 2001; Keeney et al., 2006; Raab et al., 1986). In a meta-analysis of studies involving numerous non-human primate species, low social rank was associated with heightened cortisol levels in species where subordinate status carried a high rate of stress (e.g., female macaque monkeys), and where 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; 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; Olffa, Langelanda, & Gersons, 2005). Moreover, it is likely that the proclivities towards social hierarchies and the associated defense mechanisms apparent in so many other species, including human-ancestors in the primate world, will have been inherited by humans to a certain extent (Nesse, 1998; Rhode, 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 behaviour. It needs to be recognized that in addition
to external social hierarchies, humans are capable of developing internal, ‘psychological’
层级目标和目标 (Rhode, 2001). 这意味着, 人类能够保持内在的心理感知, 他们在这个世界中的位置, 以及对他们具体目标和值的认识。这些内在的层级目标可能更加复杂和多样, 比非人类物种的基本生物心理社会目标更为复杂。人类不仅追求社会地位, 也追求成为特定技能的高手, 如写作或绘画, 创作艺术作品或推进科学知识 (Nesse, 1998)。因此, 人类的失败可能不仅限于直接的社会关系。相反，一种失败感可能来自失败或失去这些更多元的目标。

The range of circumstances that may provoke feelings of defeat in humans has
therefore been broadened beyond direct interpersonal conflict, although this still remains a possible cause, to include a range of other circumstances. Gilbert (2000b) described three main classes of events with the potential to induce perceptions of defeat: 1) a failure to attain, or loss of valued resources, including social and material resources (e.g., financial instability; Gilbert, 2006b; Sloman et al., 2003); 2) social, put-downs or attacks from others; 3) internal sources of attack, such as 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, which 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 the 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; Rhode, 2001). The idea that the individual feels 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 does not necessary entail this sense of failed struggle. An individual’s marriage may fail with an ensuing divorce. However, if they were dubious about the marriage in the first place, and resigned to its failure, then feelings of defeat are unlikely.

3.2.2. Entrapment.

The concept of entrapment has its origins in theoretical accounts concerning the impact of blocked or arrested defensive behaviours (Dixon, 1998; Gilbert, 2000b, 2001a). These accounts build on ethological studies attempting to identify defensive postures and behaviours in animals (e.g., 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 behaviours 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 behaviours are believed to serve an adaptive role, by minimizing arousal in the trapped individual whilst simultaneously limiting signals to others that may potentially provoke further attack (Dixon et al., 1989).
Dixon (Dixon, 1998; Dixon & Fisch, 1998) describes an ethological paradigm for studying arrested flight in humans. Participants are interviewed whilst sitting in a chair that is fixed to the floor. It is argued that the fixed chair prevents escape from the interview situation when challenging or stressful questions are posed. In this scenario a marked similarity has been noted between the defensive behaviours 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 behaviours is particularly pronounced in participants diagnosed with depression, compared to healthy controls (Dixon & Fisch, 1998). Although this scenario is limited in as much as it provides an artificial and localized instance of blocked escape, it does suggest that similar defensive mechanisms may operate in humans as those observed in animals. This has lead to suggestions 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). The concept of entrapment, therefore, has a theoretically distinct basis to defeat, but both concepts have since been implicated together in models of psychopathology (e.g., Gilbert & Allan, 1998; Williams, 1997).

In humans, a sense of entrapment may be associated with stressful life events or circumstances that are particularly chronic and on-going (Brown et al., 1995). However, as with defeat, entrapment also involves psychological processes, relating to an individual’s subjective perception of their circumstances as uncontrollable, unremitting and inescapable (Gilbert & Gilbert, 2003; Williams, 1997). It has been suggested that entrapment can be divided into two sub-classes (Gilbert & Allan, 1998). *External* entrapment relates to entrapment by external events or circumstances whereas *internal* entrapment relates to entrapment by internal thoughts and feelings. Thus, there is a considerable diversity to 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 discuss perceptions of defeat and entrapment, highlighting the inherent inter-individual 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.

3.3. Theoretical Models of Defeat and Entrapment in Psychopathology

Perceptions of defeat and entrapment have been implicated, both together and independently, in theoretical models of three main clinical disorders, namely unipolar depression, anxiety disorders and suicidality.

3.3.1. Defeat and entrapment in unipolar depression.

Unipolar depression has been the clinical domain where the concepts of defeat and entrapment have so far received most attention. As discussed, defeat and entrapment were originally developed within evolutionary, social-rank models of depression. Recent formulations of this model view the relationship between defeat and depression as occurring through the activation of the Involuntary Defeat Strategy (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 and cognitive components of the human IDS. These include negative cognitions concerning personally adequacy and ability to succeed (Sloman, 2000), and a toning down of the positive
(reward-orientated) affect system (Gilbert, 2006b; Gilbert, Allan, Brough, Melley, & Miles, 2002; 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 whilst 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 (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. It is suggested that depression emerges from the disregulation 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 defeating situation is blocked (i.e. entrapment). Under optimal circumstances, the IDS is assumed to become active for only a brief period of time, 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 an escalation of depressive symptoms (Gilbert, 2000b, 2001b; Sloman, 2000; Sloman et al., 2003). This possibility has parallels with animals research, which has shown that when defeating situations are chronic, re-occurring repeatedly over time, initial adaptive stress responses give way to more excessive, potentially maladaptive, stress responses (Keeney et al., 2006).

Consequently, depression is proposed to occur in situations where the individual feels they are unable to escape from their 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, uncontrollable flashbacks to a trauma). These circumstances are likely to engender perceptions of entrapment, which would be expected to be closely associated with depression. Thus a pathway into depression is described, triggered by perceptions of defeat and mediated through perceptions of entrapment, grounded in underlying psychobiological processes. 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 which enforce that entrapment\(^1\). 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.

A number of additional factors may also contribute to, and maintain, the disregulation 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 (Olffa 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 chronic IDS activation (Gilbert, 2001b; Sloman et al., 2003). Finally, availability of social support may be an important factor. Research in non-human 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).

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 can be distinguished from the view that depression itself is an adaptation, as has been implied by other theories (for a discussion, see Nettle, 2004). The former position may be preferable since it has been argued that it is implausible to view most forms of depression as adaptations in themselves, as 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).

Nonetheless, other evolutionary theories do suggest that certain forms of entrapment-related depression serve adaptive purposes. For instance, the bargaining model of depression asserts that postpartum depression occurs in cases where the pregnancy is unwanted but perceived constraints exist on possible escape behaviours, 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.

One clinical group where the role of perceptions of entrapment in depression has received particular attention has been in individuals with psychosis. Co-morbid depression has been recognized as a common secondary problem associated with experiencing a psychotic episode (Rooke & Birchwood, 1998). Perceived entrapment has subsequently been enlisted in attempting to explain the onset of co-morbid depression. 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 reasonable, 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 hospitalisation (Birchwood et al., 1993; Jackson et al., 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 readily be perceived as an entrapping experience. Consequently, it has been suggested that perceptions of entrapment represent a central theme in maladaptive reactions to psychosis (Birchwood et al., 1993; Rooke & Birchwood, 1998). This idea builds directly on the social rank model of depression, discussed above, whereby perceptions of entrapment are inherently depressogenic due to an individual’s evolutionary-determined psychobiological makeup. However, within the domain of psychosis, focus has been on the individual’s cognitive appraisal of their illness as entrapping (Birchwood et al., 1993; Iqbal et al., 2000; Rooke & Birchwood, 1998). As such, there has been an emphasis on socio-cognitive processes, which has been largely absent from the main body of the literature on defeat, entrapment and depression. This approach makes explicit the mediating role of evaluative-interpretative cognitive processes in determining whether a particular set of life experiences result in perceptions of entrapment.

Despite the importance 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. In as much as psychosis has the capacity to signal a substantial loss of status and damage to an individual’s aspirations, it would also be expected to result in perceptions of defeat for many individuals. Consequently it is likely the absence of research studying defeat in
psychosis is due to the availability of appropriate measures, because whilst measures of entrapment by psychosis exist, none specifically assessing perceptions of defeat by psychosis have been developed (see section on measures).

### 3.3.2. Defeat and entrapment in suicide.

The idea that perceptions of defeat are intrinsic to suicidal behaviour has been present in discussions on the subject for some time (e.g., Kallmann & Anastasio, 1947). Likewise, several theoretical accounts of suicidal behaviour have emphasized the desire to escape as a central impetus (e.g., Baumeister, 1990; Johnson et al., 2008a; Shneidman, 1996). Reported motives for parasuicide support the importance of a desire to escape (Bancroft et al., 1976). Themes of escape are also apparent in mental imagery surrounding ideas of suicide (Holmes et al., 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. Suicidal behaviour is seen to occur as a protest or escape-reaction (the eponymous ‘Cry of Pain’) to the individual’s awareness of this aversive, entrapped state. It is suggested that perceptions of entrapment emerge following defeating experiences (Williams, 1997; Williams et al., 2005). These circumstances are believed to 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). Similarly to the social rank theory of depression, it is suggested that the maintenance of this script underlies suicidal behaviour (Williams, 1997).

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 pre-existing suicidogenic cognitive structures may increase the likelihood of suicidality in some individuals. These may include pre-existing mental models for suicidal behaviour, beliefs about suicide or suicidogenic schema (Johnson et al., 2008a; Lau et al., 2004; Rudd, 2006; Williams et al., 2005). It is possible that such beliefs may be formed through the modeling provided by other individuals’ suicide attempts, particular 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 pre-existing cognitions may be activated by perceptions of defeat and entrapment, and will bias an individual towards particular patterns of suicidal behaviour 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 their judgment of their ability to escape from aversive situations through their own agency. This concept has been operationalised in terms of social problem-solving ability and thus fits with the extensive evidence of problem-solving deficits in suicidal individuals (Clum & Febbraro, 2002). Third, people are assumed to vary in their perceptions of rescue factors, external sources of escape, often operationalised 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 regards to the inter-relationships between these components (Johnson et al., 2008a). For example, it is not clear whether hopelessness is simply an aspect of the entrapment construct, an antecedent, or a consequence (Johnson et al., 2008a). Similarly, it would be logical to suppose that the awareness of rescue factors contributes to perceptions of entrapment, because if a person 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 distinction between defeat and entrapment has also been brought into question (Johnson et al., 2008a; Taylor, Wood, Gooding, Johnson, & Tarrier, 2009). This argument centers on the possible conceptual overlap between the constructs of defeat and entrapment. It is suggested that a single construct, capturing perceptions of being powerless, or lacking the capacity to effect change, to move on from an aversive status or role, captures the central themes of both constructs (Johnson et al., 2008a; Taylor et al., 2009). This argument has been supported by an exploratory factor analysis of students’ 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). Although this issue was originally directed at the COP model, it is equally relevant to the social rank model of depression, and indeed any theoretical account that views defeat and entrapment as separate and discreet constructs.

In response to these conceptual problems, the COP model has recently been modified in the Schematic Appraisal Model of Suicide (SAMS; Johnson et al., 2008a). The COP model already implies that defeat and entrapment are multifaceted constructs that are readily influenced by a number of underlying subjective judgments. The SAMS builds on this idea by suggesting that defeat and entrapment are fundamentally synonymous perceptions, which emerge from the interactions between different underlying appraisals (Johnson et al., 2008a). Judgments of escape potential and rescue factors can be readily
conceptualized as specific self-appraisals, whilst judgments of no improvement in the future (hopelessness) and the current situation being aversive, can be understood as cognitive appraisals of the future and present, respectively. This model was originally developed in order to explain suicidality in individuals with psychosis, but has since been considered as a framework for understanding suicide in general (Johnson et al., 2010).

3.3.3. Defeat and entrapment in anxiety disorders.

The link between defeat, entrapment and anxiety disorders has received less research attention than the link with depression or suicide. 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 has also been suggested that the operation of the IDS brings about characteristic features of anxiety, such as hyper-vigilance for threat and behavioural inhibition (Gilbert, 2000a; Sloman et al., 2003). The suggestion 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 co-morbidity of depression and anxiety disorders and the overlap in symptomatological and neurological characteristics between these disorders (Gorman, 1997; Nesse, 2000).

It is plausible that the cognitive, affective and physiological sequelae following perceptions of defeat and entrapment could develop into an anxiety disorder. Cognitive models of anxiety disorders including social phobia and Generalized Anxiety Disorder (GAD), emphasize the role of threat related appraisals in triggering and maintaining anxiety (Wells, 2006). Perceptions of defeat and entrapment may negatively bias these appraisals. 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. Similarly, certain behaviours such as hyper-vigilance, which are characteristic of the IDS
(Gilbert, 2000a; Shively, 1998; Shively et al., 1997; Sloman et al., 2003), are assumed to increase sensitivity to threat-related cues and so maintain anxiety disorders (Wells, 2006). Consequently, elevated perceptions of defeat and entrapment would be predicted to increase the likelihood of developing anxiety symptoms.

As with depression, it is assumed that initial anxiety-like reactions served an adaptive purpose at some point during human evolution, for example, by encouraging the avoidance of further injury from conspecifics following conflict (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).

One area of investigation where the role of defeat in the initiation and maintenance of anxiety disorders has received particular attention has been Post-Traumatic Stress Disorder (PTSD). The concept of mental defeat has been developed in order 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 which emphasizes how the processing of the traumatic experience and its sequelae can engender a sense of on-going 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, which 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, Maercker, & Boos, 2000).

As with other anxiety disorders, it is suggested that it is the downstream cognitive and behavioural consequences of perceived defeat that lead to PTSD. First, it has been suggested that perceptions of defeat may engender negative cognitions concerning an individual’s self-worth and autonomy, as well as their capacity to cope with future
problems and traumas (Dunmore, Clark, & Ehlers, 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 viewing the trauma as a discreet and time-limited event, experiences an on-going sense of threat (Ehlers & Clark, 2000; Ehlers et al., 2000). It is this on-going sense of threat that generates PTSD symptoms such as intrusions and anxious arousal. Second, an individual may employ various coping behaviours 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 behaviours are often counterproductive, promoting rumination and further intrusions that maintain PTSD symptoms (Ehlers & Clark, 2000; Ehlers et al., 2000; Gold & Wegner, 1995).

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 centre of this concept is the perception of failed struggle, giving-up and powerlessness associated with the loss of highly valued status. In the PTSD literature, emphasis has been on the giving-up or loss of that person’s status as a human being and their sense of autonomy (Ehlers & Clark, 2000; Ehlers et al., 2000). The individual feels they have struggled against, but ultimately failed, to maintain these core aspects of themselves in the face of the traumatic event. It could be speculated that part of the devastating impact of trauma is due to the disruption of such essential goals, so that perceptions of defeat cannot be readily reconciled and accepted, as they may be in other instances.

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 re-experience the trauma 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 re-experience 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 re-experience traumatic events along with their related emotions and cognitions may be an important determinant of PTSD.

3.3.4. Distinguishing defeat and entrapment from related constructs.

It is possible to identify a number of psychological constructs that share similarities with the concepts of defeat and entrapment. It is important to establish the extent to which defeat and entrapment are conceptually distinct from these other constructs, as substantial overlaps would suggest defeat and entrapment lack discriminant validity and provide minimal explanatory gain over and above these other constructs. Helplessness has similar theoretical origins in animal based research. Specifically, the concept of learned helplessness has been applied to the behaviour of animals following a series of inescapable shocks or other stressors, whereby the animals ceases to attempt to escape, even when stressors become escapable (Gilbert, 1984). The stressor in the learned helplessness paradigm, an uncontrollable and unpredictable aversive event, is different from that in the animal social defeat paradigm, which specifically involves a loss of rank within an inter-animal context. Nonetheless, the apparent powerlessness and ‘giving-up’ behaviour in the learned helplessness paradigm is similar to descriptions of defeat and entrapment. The concept of humiliation has also been used interchangeably with defeat in some discussions (Williams, 1997), and may represent a similar loss of rank. The concepts of hopelessness
and *uncontrollability* may overlap with entrapment, as having control over a situation, or having hope that it might improve in the future are both factors likely to bear on whether or not it is perceived as entrapping.

However, under further analysis, all four of these constructs fail to fully capture the phenomenology of defeat and entrapment. A key phenomenological feature of entrapment is the motivation to escape. Gilbert (1998) has argued that the construct of helplessness does not adequately describe this underlying motivation, and so does not provide a suitable alternative. This argument can be extended to the concepts of hopelessness and uncontrollability, as neither explicitly includes escape motivation as a central feature. It has been suggested that the experience of hopelessness, in particular, represents an evolutionarily much more recent capacity than defeat or entrapment, involving cognitive projections of future outcomes (Gilbert & Allan, 1998).

Helplessness concerns the controllability of external circumstances, but has little to do with perceptions of status or identity that are central to defeat. It has been noted that uncontrollability of a situation, even in extreme cases such as interpersonal violence or abuse, does not necessarily give rise to defeat either, because an individual may still maintain a strong psychological sense of their identity and status under these circumstances (Ehlers et al., 2000). Likewise, although inter-related, humiliation does not necessarily entail defeat (Ehlers et al., 2000). Humiliation involves processing images of the self from the assumed perspective of others and is, therefore, an externally orientated cognition involving external attributions (Gilbert, 2006a). In contrast, defeat is tied to an individual’s internalized goals and self-perceptions. In summary, the concepts of defeat and entrapment cannot be used interchangeably with the related constructs of hopelessness, helplessness, humiliation and uncontrollability.

### 3.3.5. Overview of theory.

Although initially conceptualized as factors underlying the development of depression, theoretical accounts of defeat and entrapment have since hypothesized causal
roles for these variables in the development of anxiety disorders and suicidality. It is important to note that across these various theoretical models, the basic phenomenology and conceptualization of defeat and entrapment remains largely the same, even though triggering circumstances may differ. 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 characterised 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.

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, whilst 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 their 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 Pain Self Perception Scale (PSPS) assesses defeat in response to chronic pain (Tang, Salkovskis, & Hanna, 2007). This measure was developed by adapting items from scales used both in the context of depression (defeat and entrapment scales; Gilbert & Allan, 1998) and PTSD (Mental Defeat during Trauma Scale; Dunmore, et al., 1999). Despite their different origins, items loaded onto a single factor in an exploratory factor analysis. These results suggest that a common phenomenology, manifested in these items, underpins both scales. Nonetheless, variations in the definition of defeat could lead to problems in 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 to other contexts (e.g., Gilbert & Allan, 1998).
Theoretical developments in the areas of psychosis, PTSD and suicide have highlighted the role of socio-cognitive processes in determining perceptions of defeat and entrapment (Ehlers & Clark, 2000; Iqbal et al., 2000; Johnson et al., 2008a). In doing this, these accounts bridge the gap between the traditional social rank model of psychopathology and the understanding of individual differences in vulnerability to anxiety, depression and suicide (Lazarus & Folkman, 1984; Swallow, 2000). By implicating cognitive appraisals they clarify the psychological mechanisms that may be responsible for the enactment of these evolutionary strategies. An elaboration of these underlying mechanisms would be beneficial when it comes to translating theory into therapeutic practice (Swallow, 2000). The COP model, and subsequently the SAMS, develop this cognitive approach further by demonstrating how perceptions of defeat and entrapment may be grounded in, and influenced by, a number of underlying psychological processes. The descriptions of these underlying processes, for example, in terms of escape potential and rescue factors, do not seem clinically specific to suicide. Consequently, there is no reason why this account of defeat and entrapment could not be adopted in understanding these constructs in relation to other disorders such as depression, social anxiety or PTSD.

The most prominent division in the theoretical accounts of defeat and entrapment is the argument, raised in the SAMS model of suicide, that both concepts are better conceptualized as a single construct (Johnson et al., 2008a; Taylor et al., 2009). Although providing a more parsimonious account of these concepts, this single-factor argument seems to conflict with the observation that defeat and entrapment describe two distinct types of psychological judgments. Defeat primarily involves processing of goal or status attainability. Conversely, entrapment appears to represent on-going appraisals of a situation, whereby the situation is judged to be inescapable, with no likelihood of rescue, either through personal volition or the agency of others.
This apparent paradox can be resolved if these differing accounts of defeat and entrapment are simply conceptualized as different underlying processes. When an individual becomes aware of a major loss in status and first experiences a sense of defeat, an evaluation of their ability to cope with, resolve or escape from this aversive situation is likely to follow in an immediate and automatic fashion. This idea is an extension of transactional theory of stress (Lazarus & Folkman, 1984) whereby primary appraisals of threat in the environment are followed by secondary appraisals of an individual’s future expectancies and resources to cope with such threats. If an individual cannot perceive a plausible escape from their aversive, defeated state, it does not necessarily follow that they experience a second, distinct sense of entrapment. Instead they may experience a further exacerbation of the initial defeat. The feeling of failed struggle becomes more palpable as the irreparability of the failure becomes increasingly dominant in their thoughts. Consequently, it could be argued that subjective perceptions of defeat and entrapment are indistinguishable and indeed constitute a single mental representation, but that this representation is based on the activity of different, inter-linked, underlying psychological processes. These processes would include appraisals with themes of escape potential and rescue, and evaluations of current status. This approach is consistent with the research evidence (Taylor et al., 2009), as it is the mental representation of defeat/entrapment, or its phenomenological experience, that is picked-up by self-report measures and interviews, rather than the substratal processes.

Drawing an analogy in non-human animals, an animal may lose a particular confrontation or competition, but does necessarily have to accept a subordinate, defeated position unless it becomes apparent this defeat is not a transient phenomenon. The animal may, for example, maintain a dominant role relative to others in the social group (i.e. Beta position), and restore his former rank through future competition (e.g., Uehara, Hiraiwa-Hasegawa, Hosaka, & Hamai, 1994). It is perhaps only when this defeated state comes to
be seen as enduring and inescapable that the animal manifests subordinate behaviours generally, as oppose to just in the presence of more dominant individuals.

Whether or not this single-factor argument holds true is likely to have important consequences for how defeat and entrapment are conceptualized in theory, how they are operationalised and how treatments, in cases where these perceptions have become pathological, are formulated. Currently the argument that defeat and entrapment are best conceptualized as a single construct remains speculative and empirical evidence is still required to determine the veracity of this claim.

Figure 3 is an attempt to provide a diagrammatic overview of the putative relationship between defeat and entrapment and the effects they exert upon experiences of depression, anxiety and suicidality within a single model. At the core of this model is a feedback loop, where perceptions of entrapment, following from cognitions concerning the escapability of the situation, feed back into the original perceptions of defeat and maintain them. This loop, involving the escalation and disregulation of the IDS response, is proposed to underlie depressive symptomology. It should be noted that if defeat and entrapment are conceptualized as one factor, then the model is altered so that the oval representing entrapment is removed. Instead, judgments of escapability would feed directly into a sense of failed struggle. An increasing desire to escape, associated with feelings of defeat and entrapment, may provoke suicidality where existing suicidogenic beliefs or schema are present and sensitive to activation. The downstream consequences of repeated IDS activation may also bias subsequent appraisals of threat-related information, including for example, threatening social situations or re-experienced traumatic intrusions. The result of these biased appraisals may be the symptoms of anxiety including anxious affect, fear, arousal and hyperactivity.
3.4. 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 which 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.
Table 1: *Psychometric properties of main self-report measures of defeat and entrapment*

<table>
<thead>
<tr>
<th>Scale</th>
<th>Authors</th>
<th>Population/experience of focus</th>
<th>Internal consistency</th>
<th>Test re-test reliability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Defeat scale</td>
<td>Gilbert &amp; Allan (1998)</td>
<td>-</td>
<td>.93 - .94</td>
<td>-</td>
</tr>
<tr>
<td>Entrapment scale</td>
<td>Gilbert &amp; Allan (1998)</td>
<td>-</td>
<td>.86 - .94</td>
<td>-</td>
</tr>
<tr>
<td>Personal Beliefs about Illness Questionnaire - Entrapment (PBIQ)</td>
<td>Birchwood, Mason, Macmillan &amp; Healey (1993)</td>
<td>Psychosis</td>
<td>.64</td>
<td>.92 (two weeks)</td>
</tr>
<tr>
<td>Mental Defeat during Trauma scale (MDTS)</td>
<td>Dunmore, Clark &amp; Ehlers (1999)</td>
<td>Trauma</td>
<td>.93</td>
<td>-</td>
</tr>
<tr>
<td>Pain Self Perception Scale (PSPS)</td>
<td>Tang, Salkovskis &amp; Hanna (2007)</td>
<td>Physical pain</td>
<td>.98</td>
<td>.92 (two days)</td>
</tr>
<tr>
<td>Caregiver Burden Scale - Entrapment (CBS-E)</td>
<td>Stommel, Given &amp; Given (1990)</td>
<td>Caregivers</td>
<td>.87</td>
<td>-</td>
</tr>
<tr>
<td>Caregiver's Entrapment Scale (CES)</td>
<td>Martin, Gilbert, Mcewan &amp; Irons (2006)</td>
<td>Caregivers</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
The defeat and entrapment scales, developed and validated by Gilbert and Allan (1998), provide a generalized, or situation non-specific, assessments 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 ("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 sub-scales 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 development process implies a reasonable degree of face and content validity in these measures. Candidate items related to themes of defeat and entrapment were generated from patient transcripts. The scales were subsequently pre-tested with a small group of depressed patients to ensure intelligibility and face validity. These scales were also found to show moderate, but not excessive (< .7; Tabachnick & Fidell, 2001) correlations with other social rank-related variables (social comparison, submissive behaviour) and hopelessness, $r = .34 - .65$, supporting their concurrent validity (Gilbert & Allan, 1998).

Variation exists in the literature in regards to how the defeat and entrapment scales have been employed. Initial principal components analyses were conducted separately for the defeat, internal entrapment and external entrapment scales (Gilbert & Allan, 1998). Although these analyses supported the unidimensionality of these scales, they says little about the validity of the distinctions drawn between the scales (i.e., internal vs. external entrapment). Subsequently, whilst 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 and colleagues (2009) has been the first to include all items across both the 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 et al., 1993). This questionnaire assesses illness-related appraisals in five different domains, including entrapment. 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). The remaining domains cover negative expectations, stigma, beliefs concerning social containment and the attribution of behaviour to the self or to the 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, or prevent further relapse from (e.g., “I am powerless to influence or control my illness”; Birchwood et al., 1993). One limitation of this measure is the small number of items ($n = 4$). 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 et al., 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 using the Mental Defeat during Trauma Scale (MDTS; originally mental defeat scale; Dunmore et al., 1999). Respondents are required to answer retrospectively, concerning their thoughts and feelings at the time of the trauma, and rate the applicability of eleven items reflecting perceptions of mental 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 that the unidimensionality of the scale remains to be established. Although the retrospective nature of this measure may introduce some degree of bias in responses, it is difficult to conceive of a measure assessing peri-traumatic cognitions that would not suffer this limitation.

The Pain Self Perceptions Scale (PSPS; Tang et al., 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), and which 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 (CBS-E; 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 amongst three independent samples of caregivers. The second scale, the Carer’s Entrapment Scale (CES; 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, which rely on external ratings of defeat or entrapment based on interview or other transcribed data. The Life Events and Difficulties Schedule (LEDS) is a semi-structured interview that assesses the presence and severity of aversive life experiences, retrospectively (Craig, 1996). An adapted scoring system for this measure has been developed, which 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 reaction 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 is determined through independent group discussion 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). Inter-rater 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 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 a parent whose child has left home may experience a sense of loss, they may also recognize this outcome is desirable and a part of life, and do not feel like 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. Therefore the distinction between entrapping and humiliating experiences is blurred, with a subset of humiliating events potentially also involving a considerable element of entrapment (e.g., having a violent partner who beats the individual). It should also be noted that the use of retrospective life-event interviews exposes these findings to numerous
sources of bias, including the possible effect of differential recall accuracy or response styles for depressed and non-depressed 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 another aversive subjective states (Gilbert & Allan, 1998). It is known that 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, socio-cognitive accounts of entrapment emphasize the role of underlying appraisals in determining these perceptions (Johnson et al., 2008a; Williams, 1997). The aim of life-event measures like the LEDS is to contextualize information on life experiences with details of the participant’s biographic history, and so partially capture individual differences in the subjective impact of events. However, to fully capture such inter-individual 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 do this.

Perceptions of defeat during traumatic experiences have been measured using 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 semi-structured 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 version of this approach measured defeat dichotomously as present or absent (Dunmore et al., 1997), later versions introduced a five-point mental defeat rating scale (Ehlers et al., 2000). Inter-rater reliability for this measure is reportedly high, $\kappa = .87$ (Ehlers et al., 2000). The retrospective nature of the
experiences being reported is again a limitation. Nonetheless, as already stated, an ethical means of assessing peri-traumatic cognitions in-situ does not exist.

In summary, a range of measures have 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) represent the most widely employed measures of these constructs, and appear to demonstrate reasonable reliability and validity, although further psychometric evaluation, particularly in regards to the underlying factor structure of the entrapment scale, would be beneficial. The CBS-E also demonstrated good psychometric properties. The PSPS and CES 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.

3.5. Systematic Review

3.5.1. Aims.

The aim of the current review was to investigate the evidence of the role perceptions of defeat and entrapment have in the development of depression, anxiety and suicidality. In pursuing this aim, two further issues require mention.
The first of these concerns the nature of the effect that defeat and entrapment have upon different psychopathologies. Considering the variety of clinical problems defeat or entrapment are believed to cause, an interesting question is to what extent are these concepts 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 can be accounted for by different mediating and moderating mechanisms, as described in Figure 3. For example, biased threat appraisals may explain the link between defeat, entrapment and anxiety disorders. Likewise, the content of that particular situation (e.g., acute trauma versus on-going struggle) may moderate the link between defeat, entrapment and clinical outcomes.

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 et al., 2007). The high comorbidity of depression with numerous other disorders is well documented, making this a plausible possibility (e.g., Gorman, 1997). Note that this is different to suggesting that certain psychological mechanisms, such as the IDS, may be involved in the formation of both depressive and anxiety disorders.

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 well supported as a psychological risk factor for suicide (e.g., Kuo et al., 2004), and may better account for any relationship perceptions of defeat and entrapment demonstrate with this outcome. One aim of the current review is, therefore, to establish the extent to which defeat and entrapment have a
common or commensurate effect across different psychological disorders or experiences. This aim can be operationalised in terms of the three competing accounts described above.

A second important issue concerning the concepts of defeat and entrapment is whether or not they are better conceptualized as a unitary construct. As discussed, an alternative, single-factor conceptualization has been suggested by other theorists (Johnson et al., 2008a), and has been backed by empirical research (Taylor et al., 2009). The authors of the latter study suggested that defeat and entrapment could still be distinguishable in other ways. They may, for example, demonstrate different patterns of correlates or a differential impact upon particular forms of psychopathology. Evidence of this should be apparent in the existing literature on defeat and entrapment.

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. This aim can be broken down into three specific questions, based on the above considerations: 1) to determine to what extent defeat and entrapment are associated with increased depression, suicidality and anxiety; 2) to determine to what extent defeat and entrapment have a common effect across different psychological disorders or experiences; 3) to search for instances in which defeat and entrapment have dissociable relationships or effects with different clinical outcomes.

3.5.2. 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 Psychinfo (1806 – April 2010), Medline (1950 – April 2010) and Web of science (1945 – April 2010). Key word searches were employed using the terms defeat, entrapment or trapped in combination with key words indexing anxiety, depression and suicide (depres$, anxi$, suicide$, stress, symptoms, distress). Abstracts to 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 papers 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, 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 c) and d), which became: c) identified themes phenomenologically equivalent to defeat or entrapment, and d) established these themes in the context of symptoms or experiences related to anxiety, 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, and then anxiety symptoms.

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 in a common metric, $r$, and describe bivariate or zero-order relationships. In many cases these were not reported in papers 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, 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 some other 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.

3.5.3. Defeat and entrapment in unipolar depression.

Thirty-two of the identified papers focused on the links between defeat or entrapment and unipolar depressive disorders or symptoms. These studies can be divided into three methodological types, those focusing on the impact of entrapping types of life-event, those using self-report measures to directly assess subjective perceptions of defeat and entrapment, and those employing qualitative methodologies.

Three studies were identified that employed the LEDS interview measure and classification system of entrapping life-events. 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). In both studies no analysis was conducted on entrapping events in isolation, although Brown and colleagues (1995) found that the percentage of individuals experiencing entrapping events and then developing depression were equivalent to those in the combined entrapment and humiliation category (34% vs. 31% for the combined category). The most recent study to employ this methodology was also the first to use a mixed-gender sample and to investigate the impact of humiliating 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 three months of the event. However this finding could have partly been an artefact of the hierarchical classification system used, as a number of entrapping experiences may have been classified as humiliations instead. Such humiliations were associated with depression.
<table>
<thead>
<tr>
<th>Author</th>
<th>Design and sample</th>
<th>Defeat/Entrapment measure</th>
<th>Outcome measure</th>
<th>Key finding</th>
<th>Effect size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retrospective life-event studies</td>
<td></td>
<td></td>
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<tr>
<td>Kendler, Jettema, Butera,</td>
<td>Adult twins (n = 7322)</td>
<td>LEDS (past year)</td>
<td>Onset of MD or</td>
<td>Entrapment events &gt; co-morbid MD and GAS, 1 month after life-event</td>
<td>Hazard Ratio =</td>
</tr>
<tr>
<td>Gardner &amp; Prescott (2003)</td>
<td></td>
<td></td>
<td>GAS</td>
<td></td>
<td>1.33</td>
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<tr>
<td>Broadhead &amp; Abas (1998)</td>
<td>Zimbabwean women (n = 172)</td>
<td>LEDS (past year) - adapted for Zimbabwean women</td>
<td>Onset of depression (PSE)</td>
<td>Humiliation, entrapment or bereavement events linked to greater risk of depression than loss or danger events alone</td>
<td>$r = .17^b$</td>
</tr>
<tr>
<td>Brown, Harris, &amp; Hepworth (1995)</td>
<td>Female community sample (n = 404)</td>
<td>LEDS (past 2 years)</td>
<td>Onset of depression (PSE)</td>
<td>Entrapment or humiliation events linked to greater risk of depression than loss or danger events alone</td>
<td>$r = .26^b$</td>
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<tr>
<td>Cross-sectional studies</td>
<td></td>
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<tr>
<td>Study</td>
<td>Sample Description</td>
<td>Defeat and entrapment Scales</td>
<td>Suicidality Measure</td>
<td>Results and Correlations</td>
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<tr>
<td>Taylor, Gooding, Wood, Johnson, Pratt &amp; Tarrier (2010)</td>
<td>Schizophrenia spectrum disorder ($n = 78$)</td>
<td>Defeat and entrapment scales</td>
<td>Suicidal ideation (BSS)</td>
<td>Defeat and entrapment, treated as a single latent variable, is associated with suicidal ideation; Defeat $&gt;)$ suicidal ideation; $r = .52$ Entrapment $&gt;)$ suicidal ideation $r = .56$</td>
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<tr>
<td>Taylor, Wood, Gooding &amp; Tarrier (in press)</td>
<td>Students with past or current suicidal ideation ($n = 93$)</td>
<td>Defeat and entrapment scales</td>
<td>Suicidality (SBQ-R)</td>
<td>Defeat and entrapment, treated as a single latent variable, is associated with suicidality; Defeat $&gt;)$ suicidality; $r = .49$ Entrapment $&gt;)$ suicidality $r = .45$</td>
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<tr>
<td>Tang, Goodchild, Hester &amp; Salkivskis (2010)</td>
<td>Chronic pain patients ($n = 133$)</td>
<td>PSPS</td>
<td>Anxiety and Depression (HADS)</td>
<td>Defeat $&gt;)$ anxiety (also found when covarying pain intensity); $r = .60$ Defeat $&gt;)$ depression (also found when covarying pain intensity); $r = .66$</td>
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<td>Rasmussen et al., (2010)</td>
<td>Suicide attempters ($n = 103$); Hospital controls ($n = 37$)</td>
<td>Defeat and entrapment scales</td>
<td>Suicidal ideation (SPS)</td>
<td>Entrapment mediates defeat on ideation in suicide attempters; Defeat $&gt;)$ suicidal ideation; $r = .57$</td>
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<td>Park et al., (2009)</td>
<td>Korean school children (n = 11,393)</td>
<td>Entrapment scale (Korean translation)</td>
<td>Suicidal ideation (SSI)</td>
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<td>Entrapment main proximal predictor of ideation within path model;</td>
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<td>Entrapment &gt; suicidal ideation</td>
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<td>r = .71</td>
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<td>Jobson &amp; O'Kearney (2009)</td>
<td>Community sample with self-identified</td>
<td>Mental defeat rated from narrative trait</td>
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<td>traumatic experience (n = 106)</td>
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<td>Independent culture: Defeat higher in those with PTSD;</td>
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<td>Interdependent culture: no difference</td>
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<td>r = .59</td>
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<td>Sturman &amp; Mongrain (2008)</td>
<td>Students engaged in sport (n = 115)</td>
<td>Defeat scale and internal entrapment scale</td>
<td>Dysphoria (VAS)</td>
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<td>Defeat &gt; dysphoria;</td>
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<td>Internal entrapment &gt; dysphoria</td>
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r^a = .01
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<th>Group 2</th>
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<td>Tang, Salkovskis &amp; Hanna</td>
<td>Chronic pain participants (n = 124); Acute pain (n = 68); Pain-free controls (n = 110)</td>
<td>PSPS</td>
<td>Anxiety and Depression (HADS)</td>
<td>Defeat higher in chronic pain patients than all other groups; Defeat &gt; anxiety; Defeat &gt; depression</td>
<td>( r = .62 ) ( r = .65 )</td>
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<td>Karatzias, Gumley, Power &amp; O'Grady (2007)</td>
<td>Schizophrenia spectrum disorder (relapse-prone; n = 138)</td>
<td>PBIQ</td>
<td>Comorbid anxiety or affective disorder (SCID)</td>
<td>Entrapment &gt; comorbid disorder</td>
<td>( r = .32^a )</td>
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<td>White, McCleery &amp; Gumley</td>
<td>Schizophrenia spectrum disorder (n = 100)</td>
<td>PBIQ</td>
<td>Depression (CDSS)</td>
<td>Entrapment &gt; depression</td>
<td>( r = .60 )</td>
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<td>Birchwood, Trower, Brunet, Gilbert, Iqbal, &amp; Jackson (2006)</td>
<td>First-episode schizophrenia spectrum disorder (n = 103)</td>
<td>PBIQ</td>
<td>Social anxiety (cut-off on the SIAS)</td>
<td>Entrapment greater in social anxiety group</td>
<td>( r = .46^a )</td>
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<td>Martin, Gilbert, Mcewan &amp; Irons (2006)</td>
<td>Carers of dementia patients (n = 70)</td>
<td>CES</td>
<td>Depression (CES-D)</td>
<td>Entrapment &gt; depression</td>
<td>( r = .60 )</td>
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<tr>
<td>Study</td>
<td>Sample Description</td>
<td>Measures</td>
<td>Findings / Relations</td>
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<td>Kidd (2006)</td>
<td>Homeless youths ($n = 208$)</td>
<td>‘trapped experiences’ latent variable</td>
<td>Suicidal ideation (unvalidated) Feeling trapped main proximal predictor of suicidality in path model $\beta = .79$</td>
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<td>Birchwood, Iqbal &amp; Upthegrove (2005): Study 3</td>
<td>Schizophrenia spectrum disorder (first-episode, acute; $n = 26$)</td>
<td>PBIQ Depression (CDSS)</td>
<td>Entrapment &gt; depression (covarying psychotic symptoms) $r = .59$</td>
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<td>Sturman &amp; Mongrain (2005)</td>
<td>Formerly depressed students ($n = 146$)</td>
<td>Entrapment scale Depression (CES-D); Past depressive and anxiety episodes (SCID)</td>
<td>IDS (Entrapment, Social comparison) mediates effect of self-criticism on past depressive episodes; Internal entrapment &gt; depression $r = .71$</td>
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<td>Gilbert, Cheung, Irons &amp; McEwan (2005)</td>
<td>Students ($n = 166$)</td>
<td>Entrapment scale Depression (CES-D)</td>
<td>Entrapment &gt; depression $r = .65$</td>
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<td>Gilbert, Gilbert &amp; Irons (2004)</td>
<td>Depressed patients ($n = 50$)</td>
<td>Interview concerning experience of entrapment Depression (BDI)</td>
<td>Reasons for not escaping &gt; depression $r = .54$</td>
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<td>Study</td>
<td>Population</td>
<td>Measures</td>
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<td>LeBlanc, Driscoll &amp; Pearlin (2004)</td>
<td>Adult Alzheimer caregivers (n = 188)</td>
<td>Unvalidated measure of role entrapment</td>
<td>Unvalidated measure of depressive symptoms</td>
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<td>Entrapment associated with depressive symptoms after controlling for socio-demographics and caregiver stress variables</td>
<td>$\beta = .31$</td>
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<td>Gumley, O'grady, Power &amp; Schwannauer (2004)</td>
<td>Schizophrenia spectrum (relapse prone; comorbid social anxiety n = 19; matched controls n = 19)</td>
<td>PBIQ</td>
<td>Comorbid social anxiety disorder; Social avoidance (BSI)</td>
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<td></td>
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<td></td>
<td>Entrapment higher in socially anxious group (also found when covarying depression)</td>
<td>$r = .50^a$</td>
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<td>O'Connor (2003)</td>
<td>Suicide attempters (n = 30); Hospital controls (n = 30)</td>
<td>Defeat Scale (unvalidated); Social support (MOS); Escape-potential scale (unvalidated)</td>
<td>Attempter status</td>
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<td>Defeat and social support x escape potential predict attempt status (covarying depression, anxiety and hopelessness); Defeat greater in parasuicidal group</td>
<td>$r = .45^a$</td>
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<td>Study Authors</td>
<td>Sample Description</td>
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<td>Yoon (2003)</td>
<td>Korean carers of family members ($n = 311$)</td>
<td>CBS-E Depression (SDS)</td>
<td>Entrapment &gt; depression $r = .40$</td>
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<td>Gilbert, Allan, Brough, Melley &amp; Miles (2002)</td>
<td>Students ($n = 193$); Psychiatric inpatients ($n = 81$)</td>
<td>Defeat and external entrapment scales</td>
<td>Anxiety, depression, anhedonia, anxious arousal (MASQ)</td>
<td>Defeat &gt; depressive symptoms; External entrapment &gt; depressive symptoms; External entrapment &gt; anxiety symptoms; Defeat but not entrapment (external) linked to anhedonia and anxious arousal in SEM (combined samples) $r = .71-.80, .42-.56, .59$</td>
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<td>Goldstein &amp; Willner (2002)</td>
<td>Students ($n = 32$)</td>
<td>Defeat and external entrapment scales</td>
<td>Depression (BDI)</td>
<td>Defeat &gt; depression; Entrapment &gt; depression $r = .70, .74$</td>
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<td>Allan &amp; Gilbert (2002)</td>
<td>Students ($n = 197$)</td>
<td>External entrapment scale</td>
<td>Depression (CES-D)</td>
<td>External entrapment $&gt; \text{depression}$, $r = .58$</td>
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<td>Gilbert, Birchwood, Gilbert, Trower, Hay, Murray, Meadon, Olson &amp; Miles (2001)</td>
<td>Schizophrenia spectrum disorder (voice-hearers; $n = 66$); Depressed patients ($n = 50$)</td>
<td>Entrapment by Voices and Thoughts Scales (EVT)</td>
<td>Depression (BDI)</td>
<td>Entrapment $&gt; \text{depression}$; Wishing to escape $&gt; \text{depression}$; When entrapment included in regression with other independent variables, it failed to predict depression, $r = .52$-$ .56$, $r = .35$-$ .45$</td>
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<td>Willner &amp; Goldstein (2001)</td>
<td>Mothers of children with special needs ($n = 76$)</td>
<td>Defeat and external entrapment scales</td>
<td>Depression (BDI); Anhedonia (FCPCS-R)</td>
<td>Defeat $&gt; \text{depression}$; Entrapment $&gt; \text{depression}$; Defeat &amp; entrapment mediated relationship of parental stress on depression; No associations with anhedonia found, $r = .74$, $r = .71$-$ .77$</td>
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<td>Outcome Measure 1</td>
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<td>Hagen (2001)</td>
<td>Recent mothers ($n = 129$)</td>
<td>Unwanted or unplanned pregnancy; Perceived social constraints on abortion</td>
<td>Depression (EPDS)</td>
<td>Unwanted/unplanned pregnancies: Social constraint on abortion $\rightarrow$ depression; Wanted/planned pregnancies: no effect</td>
<td>$r = .41$</td>
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<td>Ehlers, Maercker &amp; Boos (2000)</td>
<td>Former political prisoners ($n = 81$)</td>
<td>Mental defeat rated from narrative</td>
<td>PTSD (ADIS-R; DIPS); PTSD severity (DIPS; IES-R)</td>
<td>Defeat $\rightarrow$ PTSD severity; Defeat $\rightarrow$ number of PTSD symptoms; Defeat associated with PTSD severity (covarying subjective and objective severity of imprisonment)</td>
<td>$r = .42$</td>
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<tr>
<td>Dunmore, Clark &amp; Ehlers (1999)</td>
<td>Assault survivors ($n = 92$)</td>
<td>MDTS</td>
<td>PTSD (PSS-SR)</td>
<td>Defeat higher in PTSD group; Defeat higher in maintained PTSD vs. recovered PTSD group, but effect non-significant when history/severity variables covaried</td>
<td>$r = .51^a$</td>
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<td>Study</td>
<td>Sample Description</td>
<td>Measure of Mental Defeat</td>
<td>Measure of PTSD Symptoms</td>
<td>Relationship</td>
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<td>Ehlers, Clark, Dunmore, Jaycox, Meadows &amp; Foa (1998)</td>
<td>Female victims of sexual assault undergoing exposure therapy ($n = 20$)</td>
<td>Mental defeat rated from narrative (retrospective)</td>
<td>PTSD symptoms (PSS)</td>
<td>Defeat &gt; improvement in PTSD</td>
<td>$r = -0.66$</td>
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<td>Gilbert &amp; Allan (1998)</td>
<td>Students ($n = 302$); Depressed patients ($n = 90$)</td>
<td>Defeat and entrapment scales</td>
<td>Depression (CES-D, BDI)</td>
<td>Students: Defeat &gt; depression; Entrapment &gt; depression;</td>
<td>$r = 0.73$; $r = 0.64-0.65$</td>
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<td>Patients: Defeat &gt; depression; Entrapment &gt; depression;</td>
<td>$r = 0.77$; $r = 0.54-0.62$</td>
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<td>Wyatt &amp; Gilbert (1998)</td>
<td>Students ($n = 113$)</td>
<td>Defeat scale</td>
<td>Depression (CES-D)</td>
<td>Defeat &gt; depression</td>
<td>$r = 0.72$</td>
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<td>Dunmore, Clark &amp; Ehlers (1997)</td>
<td>Assault survivors with past PTSD ($n = 20$)</td>
<td>Mental defeat rated from narrative</td>
<td>PTSD (PSS-SR)</td>
<td>Defeat higher in persistent PTSD group</td>
<td>$r = 0.42^d$</td>
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<td>Clare &amp; Singh (1994)</td>
<td>Patients with psychotic disorders ($n = 11$)</td>
<td>PBIQ</td>
<td>Depression (BDI)</td>
<td>Entrapment correlated with depression</td>
<td>$r = 0.84^e$</td>
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<td>Birchwood, Mason, Macmillan &amp; Healey (1993)</td>
<td>Mixed psychosis sample (Schizophrenia spectrum disorder n = 49; Bipolar disorder n = 35)</td>
<td>PBIQ Depression (dichotomised; BDI)</td>
<td>Entrapment largest discriminator of depressed and non-depressed groups</td>
<td>r = .60&lt;sup&gt;a&lt;/sup&gt;</td>
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<td>Stommel, Given &amp; Given (1990)</td>
<td>Caregivers (n = 307)</td>
<td>CBS-E Depression (CES-D)</td>
<td>Entrapment &gt; depression</td>
<td>r = .63</td>
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<td>Sturman &amp; Mongrain (2008)</td>
<td>16 months follow-up; Formerly depressed students (n = 146)</td>
<td>Entrapment scale</td>
<td>Depressive episodes (SCID)</td>
<td>IDS (entrapment, social comparison) associated with recurrence of depression (covarying baseline and past depression); Baseline entrapment higher in those with recurring depression</td>
<td>r = .23&lt;sup&gt;a&lt;/sup&gt;</td>
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<td>Outcome Measure</td>
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<td>Kleim, Ehlers &amp; Glucksman (2007)</td>
<td>6 month follow-up; Assault survivors (n = 205)</td>
<td>MDTS</td>
<td>PTSD (SCID)</td>
<td>Defeat one of three best predictors of PTSD (covarying baseline Acute Stress Disorder); Defeat higher in individuals who went on to develop PTSD $r = .55^a$</td>
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<td>Dunmore, Clark &amp; Ehlers (2001)</td>
<td>9 month follow-up; Assault survivors (n = 57)</td>
<td>MDTS</td>
<td>PTSD severity</td>
<td>Defeat associated with PTSD severity (also when covarying initial PTSD symptoms) $r = .64$</td>
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<td>Iqbal, Birchwood, Chadwick &amp; Trower (2000)</td>
<td>4, 8, 12 month following acute episode; Schizophrenia spectrum disorder (n = 70)</td>
<td>PBIQ</td>
<td>Development of PPD (cut-off on BDI)</td>
<td>Entrapment was higher in those who went on to develop PPD than those who didn't at pre-PDD time point $r = .23^a$</td>
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<td>Rooke &amp; Birchwood (1998)</td>
<td>16 months follow-up; Formerly depressed students (n = 146)</td>
<td>PBIQ</td>
<td>Depression (BDI)</td>
<td>Entrapment at baseline predicted depression at follow-up (covarying symptoms, illness variables, treatment variables) $B = .39$</td>
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Note: \(^a\) calculated from means and standard deviations; \(^b\) calculated from odds ratios; \(^c\) calculated from Kendall’s tau; \(^d\) calculated from one-tailed \(p\) value; ADIS-R = Anxiety Disorders Interview Schedule (DiNardo & Barlow, 1988); BDI = Beck Depression Inventory (Beck, Ward, Mendelson, Mock, & Erbaugh, 1961); BDI-II = Beck Depression Inventory – II (Beck, Steer, & Brown, 1996); BHS = Beck Hopelessness Scale (Beck et al., 1974); BSI = Brief Symptoms Interview (Derogatis & Melisaratos, 1983); BSS = Beck Suicidal Ideation Scale (Beck & Steer, 1991); CBS-E = Caregiver Burden Scale – Entrapment subscale (Stommel et al., 1990); CES = Caregiver’s entrapment scale (Martin et al., 2006); CES-D = Centre for Epidemiological studies Depression Scale (Radloff, 1977); CDSS = Calgary Depression Scale for Schizophrenia (Addington, Addington, & Maticka-Tyndale, 1993); DIPS = the Diagnostic Interview for Psychological Disorders (Margraf, Schneider, Ehlers, DiNardo, & Barlow, 1993); EDE-Q = Eating Disorders Examination Questionnaire (Fairburn & Beglin, 1994); EPDS = Edinburgh Postnatal Depression Scale (Cox, Holden, & Sagovsky, 1987); FCPCS = Fawcett–Clark Pleasure Capacity Scale – reduced version (D’haenen, 1993); GAS = Generalised Anxiety Syndrome; HADS = Hospital Anxiety and Depression Scale (Zigmond & Snaith, 1983); IES-R = The Revised Impact of Events Scale (Weiss & Marmar, 1996); IDS = Involuntary Defeat Strategy; LEDS = Life Events and Difficulties Schedule (Brown & Harris, 1978); MASQ = Mood and Anxiety Symptoms Questionnaire (Watson & Clark, 1991); MOS = Medical Outcomes Study measure of social support (Sherbourne & Stewart, 1991); MD = Major Depression; MDTS = Mental Defeat during Trauma Scale (Dunmore et al., 1999); PBIQ = Personal Beliefs about Illness Questionnaire (Birchwood et al., 1993); PPD = Post-Psychotic Depression; PTSD = Post-Traumatic Stress Disorder; PSE = Present State Examination (Wing, Cooper, & Sartorius, 1974); PSPS = Pain Self Perception Scale (Tang et al., 2007); PSS = PTSD Symptoms Scale (Foa, Riggs, Dancu, & Rothbaum, 1993); PSS-SR = PTSD Symptom Scale: SBQ-R = Suicidal Behaviours Questionnaire – Revised (Osman et al., 2001); Self-Report version (Foa et al., 1993); SCID = Structured clinical interview for DSM-IV disorders (First, Spitzer, Gibbon, & Williams, 1996); SDS = Self-rating Depression Scale (Zung, 1965); SIAS = Social Interaction Anxiety Scale (Mattick & Clarke, 1998); SPS = Suicide Probability Scale (Cull & Gill, 1988); SSI = Scale for Suicidal Ideation (Beck, Kovacs, & Weissman, 1979); VAS = Visual Analogue Scale.
### Table 3: Summary of qualitative studies included in the review

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<th>Author</th>
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<th>Symptoms</th>
<th>Key finding</th>
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<tbody>
<tr>
<td>Tang et al (2009)</td>
<td>Chronic pain patients: Half with high health anxiety (n = 5), half with low health anxiety (n = 5)</td>
<td>Patients taken from larger sample based on five top and bottom scores for health anxiety (SHAI)</td>
<td>Perceptions of defeat related to pain episodes distinguished between the high and low health-anxiety groups, being more pronounced in the former</td>
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<tr>
<td>Ayers (2007)</td>
<td>Women with traumatic childbirth: half with childbirth-related PTSD symptoms (n = 25), half without (n = 25)</td>
<td>PTSD symptoms above cut-off in PTSD group (PSS-SR; IES); Few or no PTSD symptoms in control group</td>
<td>Perceptions of defeat related to the birth distinguished between the PTSD and non-PTSD groups, being more pronounced in the former</td>
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<tr>
<td>Chen, Wang, Chung, Tseng &amp; Chou (2005)</td>
<td>Taiwanese mothers with postpartum depression (n = 23)</td>
<td>Scoring over cut-off for depression on the BDI</td>
<td>Entrapment emerged as key theme. Often associated with social norms and role expectations; Defeat-like theme also emerged, related to ‘shattering’ of previous identity</td>
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<tr>
<td>Kidd (2004)</td>
<td>Homeless youths (n = 80)</td>
<td>n/a</td>
<td>Entrapment and the perceived inability to escape emerged as a key theme in discussion of suicidality</td>
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<tr>
<td>Author(s)</td>
<td>Study Details</td>
<td>Measure(s)</td>
<td>Findings</td>
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<tr>
<td>Gilbert &amp; Gilbert (2003)</td>
<td>Focus groups: Acute depressed inpatients ($n = 5$), bipolar self-help group ($n = 6$), depression self-help group ($n = 6$), psychiatric nurses ($n = 5$; not relevant for review)</td>
<td>Moderate to severe levels of depressive symptoms on the BDI</td>
<td>Discussions focussed on entrapment. Feelings of entrapment commonly endorsed. Associated with a variety of triggers including: inter-personal relationships, depressive symptoms, inability to cope, low self-esteem, and low status</td>
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<tr>
<td>Tzeng (2001)</td>
<td>Taiwanese suicide attempters ($n = 10$)</td>
<td>n/a</td>
<td>Being trapped and unable to escape from circumstances emerged as central theme related to suicide attempt</td>
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*Note: BDI = Beck Depression Inventory; IES = Impact of Events Scale (Horowitz, Wilner, & Alvarez, 1979); PSS-SR = PTSD Symptom Scale: Self-Report version; SHAI = Short Health Anxiety Inventory (Salkovskis, Rimes, Warwick, & Clark, 2002).*
Entrapping events were associated with the dual onset of both depression and Generalized Anxiety Syndrome (GAS), but only for the first month following the event.

As noted, an inherent problem with the LEDS measure and its emphasis on ‘objective’ life events is the uncertainty as to whether a particular set of external entrapping circumstances translates into a subjective perception of entrapment, as opposed to other aversive psychological states, for a particular individual. A fourth study, looking postpartum depression, approaches this issue by examining variability in the psychological characteristics of the pregnancy, rather than the concrete characteristics of the event itself. This study examined the impact of unplanned or unwanted pregnancies, and perceived social constraints on abortion (Hagen, 2002). Together these factors describe a motivation to escape and inability to do so, and so could be seen as a form of entrapment. 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 whilst this effect was not significant for mothers of planned or wanted pregnancies. Although this study implies an 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, only provides a proxy measure of entrapment.

Twenty-six studies were identified, meeting the inclusion criteria, which employed self-report measures of defeat or entrapment. The majority of these studies have utilized the defeat and entrapment scales developed and validated by Gilbert and Allan (1998). Cross-sectional studies using these measures in non-clinical 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; Gilbert et al., 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).

When depressed patients were interviewed concerning the timing, experience and reasons behind entrapment, the large majority reported a desire to escape (88%), with 77.3% of these indicating that a sense of entrapment had been present for over a year (Gilbert et al., 2004). 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 aetiological role, although it may have still served to maintain symptoms. A limitation of this study is the reliance on descriptive data and lack of inferential statistics. However, the number of perceived obstacles preventing escape, which may be indicative of a more severe sense of entrapment, were positively correlated with depressive symptoms.

Six studies have investigated cross-sectional relationships between appraised entrapment and depression in individuals diagnosed with psychotic disorders, such as schizophrenia. These studies have typically employed the PBIQ measure of illness-related appraisals. 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 non-depressed 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 socio-cognitive factors. Results were similar when the schizophrenia group was considered in isolation. Perceptions of entrapment have also been shown to correlate with depressive symptoms in individuals diagnosed with schizophrenia spectrum disorders, including individuals in their first-episode (Birchwood, Iqbal, & Upthegrove, 2005; White, McCleery, Gumley, & Mulholland, 2007). In the study by Birchwood and colleagues (2005), this was the case even when controlling for psychotic symptoms. The statistical control of psychotic symptoms in this line of research is beneficial, as it facilitates the conclusion that it is the individual’s appraisal of their circumstances as entrapping that is depressogenic, rather than some direct feature of their psychosis. In a sample of eleven patients with psychotic disorders undergoing a relapse prevention therapy, self-appraised entrapment was correlated with the level of self-reported depression (Clare & Singh, 1994).

It has also been shown that the presence of comorbid anxiety and affective disorders, considered together 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 just 26% of the total sample with co-morbid disorders, further limiting the ability to draw conclusions regarding depression in this study.

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. Instead, the power attributed to voices or thoughts appeared to be the main determinant of depression. This study employed a purpose-built, unvalidated
measure of appraisal. The lack of psychometric information concerning this measure therefore limits the interpretation of these findings.

A subset of cross-sectional studies has focused on the carers 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 on-going, 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 a sample of mothers of children with special educational needs (Willner & Goldstein, 2001). Further analysis suggested that perceptions of defeat and entrapment mediated the relationship between parental stress and depression (Willner & Goldstein, 2001).

Other studies have used measures of entrapment specifically designed for carers, including the Carer’s Entrapment Scale (CES; Martin et al., 2006) and the entrapment subscale of the Caregiver’s Burden Scale (CBS-E; Stommel et al., 1990). Across three studies it has been found that perceived entrapment in caregivers is associated with greater levels of self-reported depression (Martin et al., 2006; Stommel et al., 1990; Yoon, 2003). There is also evidence that this relationship is independent of 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 socio-demographics and caregiver stress variables (LeBlanc, Driscoll, & Pearlin, 2004).

Two studies investigated perceptions of defeat in individuals experiencing acute and chronic pain using the Pain Self Perception Scale (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; Tang et al., 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).

The above results provide strong convergent evidence for the link between defeat, entrapment and depressive symptoms. However, they say little about the hypothesized psychobiological mechanisms underlying this link. A number of studies have attempted to elucidate these mechanisms by studying the IDS directly. These studies have attempted to achieve this 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 post-failure perceptions of defeat were associated with the activation of this IDS variable.

The value of these results depends heavily on the correct specification of the IDS variable. There is reason to challenge this specification. The IDS is defined as a collection of hardwired, submissive-defensive strategies (Gilbert, 2006b; Sloman, 2000; Sloman et al., 2003). Entrapment is usually conceptualized as an external factor which relates to the maintenance of the IDS, 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 re-consideration 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 don’t account for the presence of pre-existing sub-clinical 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 (PBIQ) and depression in psychotic individuals. The first of these followed up the schizophrenia spectrum group from the cross-sectional study by Birchwood and colleagues (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 (e.g., duration of illness, age of onset) and treatment-related (e.g., medication) variables. Of the five domains of the PBIQ, perceived entrapment was
the only one to significantly predict depression at follow-up. This study found that appraisals of entrapment were predicted by the overall number of compulsory admissions to hospital and the number of admissions just 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 has explored the concept of Post Psychotic 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.

A potential limitation of the study investigating the onset of PPD is the use of a dichotomous outcome variable. Where this dichotomous classification reflects a genuine qualitative distinction between two groups, as it could be argued is the case for comorbid disorders determined through diagnostic interview (e.g., Karatzias et al., 2007), this practice is acceptable. 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 operationalising 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). A final point worth noting is that whilst prospective designs help unravel the causal relationships between variables, they still do not confirm a causal relationship. It is possible, for example, that some pre-existing vulnerability factor for depression is present, which also biases an individual’s appraisals of their psychosis (Rooke & Birchwood, 1998).

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, which 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 whilst 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. Further research is therefore required, which directly compares defeat and entrapment and allows for an analysis of the unique impact each of these variables has upon the outcome of interest.

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, 2005). 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 which asked participants to specifically discuss entrapment, following a description of this concept (Gilbert & Gilbert, 2003). This study investigated perceptions and attitudes in four focus groups, which included individuals on an acute psychiatric ward, self-help groups for depression and Bipolar disorder. Scores on the Beck Depression Inventory (BDI; Beck et al., 1961) suggested
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moderate to severe levels of depressive symptoms in the groups. Common sources of entrapment included inter-personal relationships, particularly familial relationships, and low self-esteem or ability to cope. Interestingly, participants also described the perception of being trapped in circumstances of subordinate rank or status, suggesting possible parallels with the concept of defeat. Several accounts also viewed depression itself as entrapping. This issue raises the possibility that entrapment may sometimes be a consequence, rather than cause of depression. This result further emphasizes the importance of prospective research in establishing the temporal qualities of the relationship between entrapment and depression. It is interesting that both studies suggest perceptions of entrapment and defeat are inter-linked to a certain extent, providing support for the claim that these perceptions co-occur in humans.

3.5.3.1. Overview of evidence.

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 non-clinical populations. The extent to which the life-event research is actually tapping perceptions of entrapment, as opposed to other aversive subjective states, remains an important issue requiring clarification, which may impact on the internal validity of these findings. Relationships between defeat, entrapment and depressive symptoms were frequently in the moderate to high range (Defeat: average $r = .72$; Entrapment: average $r = .56^3$), suggesting a robust and 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 are 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, whilst 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.

Interestingly, it was found in a number of studies that entrapment-related appraisals were the most depressogenic of those assessed on the PBIQ. The only study that failed to find a robust association between entrapment and depression was focused upon appraisals of auditory hallucinations and self-critical thoughts in particular (Gilbert et al., 2001). It is possible that auditory hallucinations do not represent the major source of perceived entrapping experiences for those with psychosis, explaining the lack of an effect here. Indeed other research showed that social factors such as compulsory hospitalisation had the largest influence on appraisals of entrapment (Rooke & Birchwood, 1998).

### 3.5.4. Defeat and entrapment in suicidality.

Six cross-sectional studies were identified that assessed the link between defeat, entrapment and suicidality. Two studies have investigated parasuicidal individuals (i.e., those with previous suicide attempts). 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 consequently implies an association between entrapment and suicidal behaviour. 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 just 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 improves on the first by employing the more widely validated defeat and entrapment scales (Rasmussen et al., 2010). This study provides 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, whilst 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 et al., 2010b; Taylor, Wood, Gooding, & Tarrier, in press), following recent recommendations that these variables are better conceptualized as a single factor (Johnson et al., 2008a; 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 et al., 2010b). This result indicates that positive symptoms may be suicidogenic when they contribute to a greater sense of being defeated and trapped. This effect remained whilst controlling for depressive symptoms and hopelessness. In a second study, the latent defeat/entrapment variable mediated the relationship between negative self-appraisals in the domains of social-support and problem-solving, and suicidality, in a sample of students experiencing current or past suicidal ideation (Taylor et al., in press). 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 whilst adjusting for levels of hopelessness.

Two cross-sectional studies have investigated the link between entrapment and suicidal ideation in adolescents. The first of these looked at predictors of suicidal ideation in a large sample \((n = 11,393)\) of Korean school children (Park et al., 2010). Within a structural equation model, perceived entrapment was the single strongest predictor of suicidal ideation, exceeding the effect of depressive and psychosomatic symptoms. This model also estimated indirect effects of trait anger and anger suppression on ideation, mediated through perceptions of entrapment. Tests for the significance of these indirect effects were not calculated for individual mediators, however, making them difficult to interpret.

The second study investigated correlates of suicidal ideation in homeless youths (Kidd, 2006). Once again, structural equation modeling techniques were utilized to simultaneously estimate relationships between several purported risk factors, including a latent ‘trapped experiences’ variable. A model with trapped experiences positioned as the most proximal predictor of suicidal ideation fit the data well. This model estimated trapped experiences as a mediator of the effects loneliness, self-esteem, and past experiences of neglect and abuse, had on suicidal ideation. Although all these variables had a significant relationship with the severity of trapped experiences, no mention was made of how the significance of indirect (mediated) effects was tested. A further limitation of this study is the ‘trapped experiences’ latent variable. This was derived from a very brief (two item) scale of hopelessness, and a composite of three entrapment-related items (e.g., “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.
Across the studies employing measures of both variables, there is little indication of any meaningful difference in the strength of correlations 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 et al., 2010b; Taylor et al., in press). Moreover, two of these studies found high factor loadings and a good model fit when defeat and entrapment were estimated as a single latent variable, supporting a single-factor conceptualization (Taylor et al., 2010b; Taylor et al., in press). The small sample sizes in these two studies (*n* = 78 and *n* = 93) means that parameter estimates may be inaccurate, although statistical adjustments were employed to attain robust fit indices under small sample conditions.

The lack of prospective designs makes it impossible to draw conclusions about the direction of causality in these studies. It is conceivable that unremitting suicidal ideation could in itself be an entrapping experience, whilst recovering from a failed suicide attempt could leave an individual feeling defeated. These possibilities cannot be ruled out until further prospective research is undertaken. Nonetheless, the results of the structural equation model studies imply that perceived defeat and entrapment have a more proximal relationship with suicidality, compared to a range of alternative risk factors, including positive psychotic symptoms, negative self-appraisals of social-support and problem-solving, trait anger, anger suppression, and low self-esteem.

Two qualitative studies were identified, exploring the phenomenology surrounding suicidal thoughts and behaviours, which 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, desiring but being unable to escape from life circumstances, was central to participants’ accounts. Participants’ suicide attempts were interpreted as a means for them to re-gain some control over their lives in the face of their entrapping circumstances. 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 between aversive life experiences, such as substance addiction and social prejudice, and suicidality. This contention has been supported by the quantitative studies described above.

3.5.4.1. Overview of evidence.

In summary there is convergent evidence, across a number of different clinical and non-clinical populations, that perceptions of defeat and entrapment are associated with an increased risk of suicidality (Defeat: average $r = .51$; Entrapment: average $r = .58^3$). Qualitative research further supports the central role of entrapment, although not defeat, in suicidality. Research in this area is less extensive than for depression and anxiety, 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. These findings are in-line with theoretical accounts of suicide, including the COP and SAMS models, which view emergent perceptions of being defeated and trapped as the main impetus underlying the desire for suicide (Johnson et al., 2008a; Williams, 1997).

An unresolved issue is the question of why perceptions of defeat or entrapment would lead to suicidality, rather than just depression. It was theorized that pre-existing beliefs or mental models concerning the use of suicidality as a means of escape would account for why some individuals engage in suicidal ideation and behaviour in response to
perceptions of defeat and entrapment whilst others do not (Figure 3). In effect, a
moderational relationship is implied, whereby the strength and elaboration of suicidogenic
beliefs or schema moderate the relationship between defeat or entrapment and suicidality.
None of the identified studies investigated this possibility.

3.5.5. Defeat and entrapment in anxiety disorders.

Seventeen studies were identified, meeting the inclusion criteria, which
investigated the links between defeat or entrapment and anxiety disorders or symptoms.
Two studies were described previously, which observed effects when using outcomes that
combined anxiety and depressive symptomatology. First, the life-events study conducted
by Kendler and colleagues (2003) found that mixed episodes of depression and anxiety
were more likely in the month following an entrapping life event. However, no relationship
was observed between entrapping life events and pure generalized anxiety episodes.
Second, a study of illness-related appraisals in individuals with schizophrenia-spectrum
disorders found a cross-sectional association between perceived entrapment and the
presence of a co-morbid affective or anxiety disorders (Karatzias et al., 2007). This study
did not report separate analyses for the risk of each type of disorder, although descriptive
statistics did suggest a similarity in the levels of perceived entrapment in the combined co-
morbidity group, and the anxiety disorders-alone group (combined co-morbidity: $M = 11.1,$
$SD = 2.5$; anxiety-alone: $M = 11.2, SD = 2.6$).

Six cross-sectional studies were identified that investigated the relationship that
perceptions of defeat and entrapment have with anxiety symptoms. One study using the
Mood and Anxiety Symptoms Questionnaire (MASQ; Watson & Clark, 1991) found that
perceptions of defeat and external entrapment were positively correlated with anxious
affect and distress, both in a heterogeneous psychiatric inpatient sample and a non-clinical
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 artefact 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 using the Pain Self Perception Scale (PSPS) in chronic pain patients demonstrated a significant relationship between perceptions of pain-related defeat and the severity of anxiety symptoms (Tang et al., 2010; Tang et al., 2007). These effects remained whilst controlling for pain intensity (Tang et al., 2010).

Cross-sectional research using the PBIQ has focused on social anxiety in psychosis as an outcome variable. Social anxiety has been recognized as a common co-morbid problem, alongside depression, in individuals diagnosed with psychotic disorders (Birchwood et al., 2006). Perceptions of defeat and entrapment may increase the likelihood of social anxiety, in particular, by enhancing the extent to which an individual feels trapped in an illness-related identity characterised by inferiority (Birchwood et al., 2006). These studies 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., 2006; Gumley, O'Grady, Power, & Schwannauer, 2004). Perceived entrapment was also related to greater social avoidance, a central feature of social anxiety (Gumley et al., 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 artefactual 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 residualised 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 large subset of the research investigating perceptions of defeat and anxiety disorders has focused on PTSD. These studies can be divided into those which employ cross-sectional or retrospective assessments of past trauma, and those which chart the persistence of PTSD symptoms following trauma via prospective designs. The majority of these studies used the narrative manual-based coding system (see section on measures; Dunmore et al., 1997) to determine the extent of mental defeat implicit in the individual’s descriptions of trauma. Raters were blind to the participant’s 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 to those experiencing trauma without PTSD (Dunmore et al., 1997; Ehlers et al., 2000; Jobson & O’Kearney, 2009). However, one of these studies found this difference only held 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 cultures) where emphasis is on the individual’s dependence on their social environment rather than on personal agency and striving for success, as in independent cultures (e.g., Western European, American; Jobson &
O’Kearney, 2009). This is an important finding and highlights how the effects of defeat are compounded by the individual’s cultural background and beliefs. Narrative-rated defeat has also been associated with the severity of PTSD symptoms in former east-German political prisoners, even when the subjective and objective severity of the trauma was controlled for (Ehlers et al., 2000).

In a sample of women undergoing exposure therapy, following sexual assault, it has been shown that defeat, as rated from session transcripts, is associated with a reduced improvement in PTSD symptoms (Ehlers et al., 1998). This study may seem prospective, as symptom change over time was assessed. However, it was classed as retrospective, as it is not clear in which therapy sessions defeat was rated and because defeat ratings were made retrospectively in relation to the past traumatic experiences. This study also demonstrated that concrete features of the trauma experience were associated with greater levels of perceived defeat, including the duration of the assault and the victim’s relationship with the rapist, with the experience being more personally defeating when the assault lasted longer and when the attacker was previously known to the victim.

One cross-sectional study has employed the Mental Defeat during Trauma Scale (MDTS). Scores on this measure were higher for sexual and physical assault survivors who went on to develop PTSD compared to 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). In this study there was also the suggestion that defeat was higher in those with on-going PTSD, compared to participants whose PTSD symptoms had since subsided (remitted PTSD), but this finding failed to remain significant when adjusting for the assault severity and previous history variables.

Two prospective studies on mental defeat in PTSD have both 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, 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 \( r = .28 \) compared to \( r = .30 \). In light of the small sample size \( (n = 57) \) it is therefore possible that there was just not enough power in the analyses to detect this effect. 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 (Kleim, Ehlers, & Glucksman, 2007). This study did not control for baseline PTSD symptoms directly, but instead looked for a diagnosis of Acute Stress Disorder (ASD) at baseline. ASD comprises PTSD-like symptoms, but these emerge in the first weeks following trauma, unlike PTSD which requires duration of at least one month to be formally diagnosed (DSM-IV; APA, 1994). Due to the diagnostic similarity of ASD and PTSD, by controlling for baseline ASD this study allows some inference of directionality in the variables predicting PTSD. 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 artefact 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 non-significant 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 a predictor in the analyses (Kleim et al., 2007). This rules out one alternative explanation of the results that pre-trauma vulnerability to depression is increasing 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; Dunmore et al., 1999; Dunmore et al., 2001). Consequently, it remains to be confirmed whether or not these results were an artefact of comorbid depression.

Finally, further mention needs to be made of the study by Ehlers and colleagues (2000), mentioned above, 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 to defeat in depression. 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. Depression was marked in the participants with PTSD, but was possibly a consequence of the PTSD symptoms themselves. The non-significant 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.

Two studies were identified which observed perceptions of defeat in anxiety disorders using a qualitative methodology. The first of these compared two groups of women following a traumatic childbirth, one of which had subsequently developed posttraumatic symptoms and the other of which 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 analyse 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 non-symptomatic comparison group. The second 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 semi-structured interview data. One theme that emerged in response to questions surrounding self-identity, which as before seemed to distinguish 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.

3.5.5.1. Overview of evidence.

The evidence for a link between perceptions of defeat, entrapment and anxiety disorders, when excluding the research into PTSD, is sparse. A small number of cross-sectional studies have been conducted across a variety of clinical and non-clinical populations, with mixed results. Although moderately sized bivariate relationships were apparent (Defeat: average $r = .54$; Entrapment: average $r = .49^3$) 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 co-morbid 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.

A stronger case can be made for the role of defeat in PTSD ($average r = .53^3$). The reviewed studies demonstrated strong convergent evidence across both prospective and cross-sectional/retrospective designs, and using both self-report and narrative-based measures, that processing traumatic experiences as psychologically defeating increases a person’s risk of developing PTSD symptoms. Self-appraised defeat also worsened the outcome for rape victims undergoing exposure therapy. A challenge to the validity of these results is the inconsistent control of depressive symptoms, although it should be
acknowledged that the inter-related 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 artefact of depression.

It was theorized that the causal relationship between perceptions of defeat and entrapment and the emergence of anxiety is mediated by biased appraisals of threat-related information (Figure 3). No studies were identified that directly examined these intermediate cognitions, so that the exact mechanisms by which perceived defeat or entrapment are assumed to result in heightened anxiety remain to be tested. Only a single study was identified that included measures of both defeat and entrapment, making a comparison between their separate effects on anxiety difficult. This study reported that, when considered together, perceptions of defeat superseded those of entrapment in explaining levels of anxious arousal (Gilbert et al., 2002).

3.6. General Summary

3.6.1. 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 which 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 \( r = .58^3 \)).

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 outside of the areas of trauma or psychosis is less convincing. Likewise, although evidence concerning the link between defeat, entrapment and suicidality is consistent across a variety of populations, it is still limited by a smaller number studies that used solely cross-sectional designs. 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.

3.6.2. To what extent do defeat and entrapment have a common effect across different 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 aetiology 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 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 et al., in press). Similarly, in the study of PTSD and trauma, the aversive consequences of perceived defeat were observed whilst controlling for the objective and subjective characteristics of the trauma (e.g., Dunmore et al., 1999; Ehlers et al., 2000). It was noted that within individuals with schizophrenia spectrum disorders, appraisals of entrapment frequently had a stronger relationship with co-morbid depression than other cognitive appraisals with themes of 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 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 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, whilst research into PTSD has either taken place using the MDTS or the narrative-coding system for defeat. The content of these measures show a marked degree of overlap and are consistent with the underlying phenomenology of defeat and entrapment suggesting that similar constructs are being investigated in each case. There is also some circumstantial evidence that items derived from different scales do load onto common factors (Tang et al., 2007). Nonetheless, the lack of research investigating the convergence of these different measures leaves open the possibility that there may be key differences in how defeat and
entrapment are operationalised across disorders. One possibility is that defeat in the context of PTSD has been operationalised as a more severe phenomenon than defeat in other contexts. Other studies may also conflate perceptions of defeat and entrapment with related constructs such as hopelessness or helplessness (e.g., Kidd, 2006). Further examination of the degree of convergent validity across these different measures would therefore be beneficial.

A closely related issue is 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 care-giving 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 supports this claim. 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 defeat/entrapment, such as its severity or longevity. Indeed one study showed that culture could moderate the relationship between defeat and PTSD (Jobson & O'Kearney, 2009).

Overall, a case can be made that perceptions of defeat and entrapment are linked with depression, but also play a part in the development of suicidality that cannot be readily accounted for in terms of comorbid depression, or other related psychological and environmental factors. There is some indication that this is also the case for anxiety disorders, especially PTSD, although it remains possible that comorbid depression may partly explain this relationship.
3.6.3. Existing gaps in the literature.

If defeat and entrapment are assumed to play an aetiological role in the development and maintenance of depression, anxiety and suicidality then the question arises as to what determines whether these perceptions lead to one particular disorder over another. It is suggested that perceptions of defeat, when followed by entrapment, are intrinsically depressogenic, due to inherent links with psychobiological stress and affect systems (Gilbert, 2001a; Gilbert et al., 2002; Sloman et al., 2003). Nevertheless, the downstream cognitive consequence of perceived defeat and entrapment may in turn lead to other clinical problems (Figure 3). In the case of social anxiety, for example, a maintained (inescapable) sense of defeat could bias projections of future social situations, resulting in a greater perceived threat and subsequent anxiety. In addition, existing cognitive knowledge structures or beliefs may also determine clinical outcomes following defeat and entrapment. In particular, it has been suggested that suicidal ideation and behaviour may emerge from the combination of a sense of entrapped defeat and the activation of pre-existing beliefs or patterns of cognition concerning the value and acceptability of suicide as an escape strategy (Johnson et al., 2008a; Williams et al., 2005). A better understanding of whether these cognitive factors explain how perceptions of defeat and entrapment translate into particular clinical outcomes would be valuable.

Another issue relevant to the interpretation of the observed relationships between defeat, entrapment and psychopathology is that of temporal precedence. As has been noted throughout this review, the use of prospective designs is necessary in order 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 yet taken place. These include the relationship between defeat and depression, and between defeat, entrapment and suicidality. It is not clear in these cases whether defeat or entrapment precede, are epiphenomenal, or consequences of the psychopathology of interest. There is, indeed,
evidence for the latter possibility. Experimental research has shown that low mood can induce perceptions of defeat and entrapment (Goldstein & Willner, 2002). This is supported by cross-sectional and qualitative studies showing that the onset of depression sometimes precedes, and potential leads to, feelings of being trapped (Gilbert & Gilbert, 2003; Gilbert et al., 2004). It is also possible that a complex reciprocal relationship may exist between defeat, entrapment and different clinical symptoms over time.

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. Specifically, it would be clinically and theoretically useful to know if effective interventions function partly through a reduction in feelings of being defeated and trapped.

No studies were identified in this review which employed an experimental manipulation of perceptions of defeat or entrapment and examined their effects upon the severity of clinical symptomatology. This is not surprising as there would be clear ethical issues in employing any manipulation, particularly in a clinical population, which could induce a worsening of symptoms. Also, there are likely to be concerns about the ecological validity of any form of induced defeat or entrapment produced in a laboratory and its comparability to real-world experiences of defeat and entrapment.

3.6.4. Is there evidence to support the distinction between defeat and entrapment?

One aim of this review was to assess the empirical evidence for the distinction between defeat and entrapment. None of the included studies directly addressed this issue through factor analysis or other investigations of discriminant validity. Two studies did report that scores on the defeat and entrapment scales loaded highly onto a single latent variable (Taylor et al., 2010b; Taylor et al., in press). Other cross-sectional research
reported high inter-correlations between these variables \( (r = .72 - .81; \text{Rasmussen et al., 2010}) \). There was also some indication from qualitative studies that characteristics of both defeat and entrapment tended to cluster together (Chen et al., 2005; Gilbert & Gilbert, 2003). It was suggested that evidence for this distinction could also be provided by results showing the differential impact of defeat and entrapment upon different forms of psychopathology. Evidence of this kind was limited, as only a minority of studies included measures of both defeat and entrapment (Gilbert et al., 2002; Goldstein & Willner, 2002; Troop & Baker, 2008). There was an indication across the studies that perceptions of defeat were more closely linked to depression than those of entrapment. However, the difference in the strength of these associations was small \((\text{average } r = .74 \text{ vs. } .65)\), with no consistent evidence present to suggest that they were statistically or clinically substantial.

A larger difference was apparent when all studies, including those that only employed measures of either defeat or entrapment, were included in the average \((\text{average } r = .72 \text{ vs. } .55)\). These results should be interpreted with caution, as differences in samples may have contributed to these differences. Overall, defeat and entrapment shared similarly high associations with measures of psychopathology. This is in-line with the study by Taylor and colleagues (2009), which suggested that defeat and entrapment both reflect varying aspects of the same mental representation.

A further difficulty in interpreting the overlap in defeat and entrapment is that all the studies employing measures of both concepts have so far been cross-sectional. Theories such as social rank theory or the COP model of suicide, which implicate both concepts in clinical symptomatology, describe a temporal dissociation between these variables (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. It would, therefore, be predicted that entrapment is always preceded by defeat, but that defeat can sometimes occur in isolation. From this perspective, it would still be expected that these two variables will be highly correlated. Cross-sectional studies
may therefore obscure this temporal distinction between defeat and entrapment. Prospective research is necessary to establish the validity of this temporal distinction.

Consequently, the question of whether or not defeat and entrapment would be better conceptualized as a singular construct remains unresolved. Although viewing defeat and entrapment as equivalent or co-occurring mental representations may represent the more parsimonious position, and is consistent with the current cross-sectional evidence, more direct evidence, and in particular, prospective investigation is necessary to clarify this issue.

3.6.5. Clinical implications.

In light of the strong associations perceptions of defeat and entrapment had with depression, suicidality and anxiety, 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., 2008a; Tarrier & Gooding, 2007). This would require the incorporation of such factors into the clinical assessment or case formulation on which intervention would be based (Tarrier, 2006; Tarrier & Calam, 2002). These formulations could centre on the conceptualization of a client’s problems as an understandable response to their core perceptions of defeat and entrapment.

Cognitive-behavioural techniques could then be utilized to help modify appraisals and cognitively restructure the situation so as to reduce the individual’s sensitivity to signals of defeat (Johnson et al., 2008a; Swallow, 2000). These would include the use of Socratic dialogue and guided discovery to challenge the veracity of the client’s beliefs concerning their loss of status or identity. Where defeating events are located in the past, guided re-imagining 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 re-describe the event, drawing on their present knowledge that there was no irreparable loss to their status or identity. It may also
be beneficial to work with clients to build an image of a more positive and dominant identity or status, by emphasizing the ways they have shown resilience in the face of different life events and highlighting other successes they have made (Tarrier, 2010). In other situations, encouraging a shift or re-organization of dominant goals and values could be therapeutic, particularly where initial goals are untenable and liable to leave the individual vulnerable to feelings of defeat (Bird, Mansell, & Tai, 2009; Rhode, 2001; Sloman et al., 2003). 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 position within his 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 centre largely on promoting alternative and positive re-appraisals 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 their psychotic symptoms a therapist could highlight the ways in which they have control and power over these experiences (Chadwick, Sambrooke, Rasch, & Davies, 2000). In addition to work on cognitions and perceptions, more pragmatic exercises and skill acquisition procedures, designed to develop social integration and problem-solving abilities, may be helpful to some individuals (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 (BMAC) procedure, which are designed to widen access to cognitive and behavioural repertoires, may be useful in preventing appraisals becoming overly narrow in their focus on themes of defeat and inescapability (Tarrier, 2010). This technique involves the guided re-imagining 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 open thinking is sought.

3.6.6. Future research.

Research is required to confirm the links between defeat, entrapment and anxiety in non-psychotic populations. This research needs to take into account the potential confounding effect of comorbid depression. More prospective studies are also necessary in this area to establish the direction of effects. Such prospective work is also required to determine the directionality of the link between defeat and entrapment and unipolar depression in non-psychotic populations and the links between defeat, entrapment and suicidality. Prospective designs involving multiple assessment points would be particularly useful in elucidating the temporal characteristics of the relationships between these variables. Methodologies such as experience sampling (Myin-Germeys et al., 2009), which capture moment-to-moment fluctuations in cognition and affect may be particularly suited to this task. This methodology may also be useful in further clarifying whether or not defeat and entrapment are better conceptualized as a single construct.

To confirm causality experimental research is necessary. As mentioned, there are clear ethical and methodological issues in manipulating perceptions of defeat or entrapment in order to induce psychopathological states. One solution would be to induce very minimal short-term states of defeat/entrapment, and then assess low-intensity analogues of psychopathological symptoms, such as temporary low-mood or intrusive thoughts. 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 in reducing psychopathology.

Research is also needed to directly compare the concepts of defeat and entrapment across different measures and different populations. Factor analytic approaches could be
used to determine whether distinct measures are really capturing the same underlying construct, and whether this construct is invariant across different clinical groups. Similarly, it would be beneficial to further explore the extent to which defeat and entrapment represent distinct psychological constructs, and to identify the substratal affective-cognitive components of these states. This would involve further exploration of the phenomenology of defeat and entrapment, alongside testing of the putative underlying cognitive processes, both through the experimental manipulation of these processes and through naturalistic observation. Finally, future research could make use of multivariate designs to investigate other cognitive, environmental, biological and social factors that either mediate or moderate the impact of perceived defeat and entrapment upon human psychopathology, as outlined in Figure 3.

3.6.7. 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, anxiety and suicidality. A review of the existing literature revealed a strong evidentiary 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. These was little direct evidence 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 observed relationships with suicidality and anxiety disorders were of equivalent size and direction for both defeat and entrapment, supporting the putative overlap between these variables. Depression was more strongly associated with defeat than with entrapment, but the size of this difference was small. The supported role of defeat and entrapment within clinical symptomatology make then an important target for therapeutic interventions.
3.7. Notes

1 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 non-entrapping circumstances. However, this argument confuses the subjective perception of being trapped and wishing to escape with the circumstances which engender this state. A person may be unable to escape from a particular situation (e.g. unable to move away from supported housing), but won’t actively experience a sense of being trapped and desiring escape until the situation becomes aversive or defeating.

2 It is recognized that 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), and one beyond the scope of the current review to discuss.

3 Based on significant bivariate relationships where available.
4. Are Defeat and Entrapment Best Defined as a Single Construct?

4.1. Abstract

The concepts of defeat and entrapment have been employed in evolutionary accounts of clinical phenomena such as depression and suicide. Recently theorists have argued that both concepts may be best conceptualised as a single distinct factor. The current study is the first to empirically test this assertion. A sample of 305 students completed measures of defeat and entrapment. Their responses were then analysed via exploratory factor analysis. The results strongly suggest that a single factor underlies both defeat and entrapment. These findings have considerable implications for past studies and theoretical accounts that rely on the distinction between defeat and entrapment.

4.2. Introduction

The concept of defeat has been developed from social-rank accounts of depression in humans (e.g., Price et al., 1994), whilst entrapment has been developed from animal-based arrested flight models of defensive behaviour (e.g., Dixon et al., 1989). Both concepts have since been brought together to form the basis of evolutionary approaches to human depression (Gilbert & Allan, 1998; Gilbert et al., 2002) and suicide (Williams, 1997; Williams et al., 2005). Defeat has been defined as a sense of failed social struggle, loss and reduced social rank (Gilbert & Allan, 1998). This may be directly related to interpersonal conflict, but may also relate to perceptions of failure to attain social resources, including material resources (Gilbert, 2006b). Entrapment, alternatively, has been defined as a desire to escape from the current situation, tied with the perception that all escape routes are blocked (Gilbert & Allan, 1998).

These two concepts have been operationalised in terms of the defeat and entrapment scales developed and validated by Gilbert and Allan (1998). Empirical research using these scales has supported the purported links these two concepts have with anhedonia (Gilbert et al., 2002), depression (Gilbert & Allan, 1998; Willner & Goldstein, 2001) and suicidality (Rasmussen et al., 2010). A strength of the concepts of defeat and entrapment in accounts of depression and suicide is their basis in basic evolutionary processes. However, in applying these concepts to human behaviour, it becomes necessary that they can be accurately defined and measured in a way that is appropriate for humans.

Recently, theorists have suggested that defeat and entrapment are conceptually equivalent and may be better conceptualised as a single factor (Johnson et al., 2008a). For example, definitions of defeat suggest it encompasses a lack of possible solutions or ways forward, elements also strongly associated with the idea of entrapment (Rooke & Birchwood, 1998). Similarly, these concepts share an association with low social rank and loss of aspirations (Gilbert et al., 2002; Rooke & Birchwood, 1998). Qualitative investigations into entrapment have shown that depressed individuals may perceive
themselves as trapped in a subordinate role (Gilbert & Gilbert, 2003). This sense of subordination is also seen as an aspect of defeat (Gilbert & Allan, 1998). Subsequently, it can be argued that a single factor, the perception of failure without a way forward or likelihood of improvement, underlies both defeat and entrapment.

This single factor argument challenges theoretical accounts that view defeat and entrapment as two separate but interacting constructs. The Cry of Pain model of suicide, for example, asserts that perceiving life events as defeating can trigger feelings of entrapment which motivate suicidality (Williams, 1997). The single factor account also brings into question cross-sectional research which has studied the relationship between defeat and entrapment (e.g., O'Connor, 2003; Rasmussen et al., 2010) as such studies may simply be measuring different aspects of the same construct. High inter-correlations between the defeat and entrapment scales, ranging from $r = .72$ to $r = .81$, in the latter of these studies supports this view (Rasmussen et al., 2010).

The question of whether defeat and entrapment represent two distinct constructs has never been empirically tested (Gilbert & Allan, 1998). During the initial development of these scales, the authors report that each scale was factor analysed separately. Considering the conceptual ambiguity surrounding the concepts of defeat and entrapment, their combined roles in previous theoretical frameworks and the lack of any existing empirical investigation concerning the distinctiveness of these two constructs, it is pertinent to investigate their factor structure. It is possible to theorise that there are multiple different solutions regarding the factor structure of the defeat and entrapment scales in addition to those suggested above. As no existing data could be found which supports one particular solution over another, an exploratory factor analysis (EFA) was considered most appropriate as this stage.
4.3. Method

4.3.1. Participants.

The sample consisted of 305 students (238 female; $Mage = 21.4$ years, $SD = 5.9$) from the University of Manchester who took part in the study in exchange for course-related credits. Participants completed the defeat and entrapment scales in a single session. Ethical approval for this research was obtained from a University ethics committee prior to the start of this research.

4.3.2. Defeat and entrapment scales.

The entrapment scale includes 16-items referring to the perception of being trapped and the desire to escape (e.g. “I am in a situation I feel trapped in”), and is rated on a five-point scale ranging from ‘Not at all like me’ to ‘Extremely like me’. Higher scores indicate greater feelings of entrapment. The alpha coefficient for this scale ranges from .86 to .93 (Gilbert & Allan, 1998), and was .95 in the present sample. All items on this scale demonstrated a full range of scores in the current sample.

The defeat scale includes 16-items referring to perceptions of failed struggle and low social rank (e.g., “I feel that I am one of life’s losers”). These are rated for their prevalence in the past week, on a five-point scale ranging from ‘Never to ‘Always/all the time’. Higher scores indicate greater feelings of defeat. The alpha coefficient for this scale ranges from .93 to .94 (Gilbert & Allan, 1998), and was .85 in the present sample. All items on this scale demonstrated a full range of scores in the current sample.

4.4. Results

A principle-axis EFA was conducted using the covariance matrix. The data demonstrated positive skew ($M = 1.66$) and kurtosis ($M = 3.18$), as would be expected in a non-clinical population where the majority of individuals are not feeling particularly trapped or defeated. As the extraction method used does not make assumptions about the distribution of the data there was no need to correct this. Bartlett’s test suggested the data
were suitable for an EFA, $\chi^2 (496) = 7383.96, p < .001$. The sample size met a priori recommendations for EFA ($n > 300$; Tinsley & Tinsley, 1987), with a participant to variable ratio of 9.5 to 1. The Kaiser-Meyer-Olkin (KMO) measure also indicated that the sample size was adequate, $KMO = .96$. Initial standardised communalities ranged from .30 to .88 with an average of .54 ($SD = .15$). The first ten eigenvalues were: 13.62, 1.47, 1.22, 1.04, 0.84, 0.69, 0.64, 0.62, 0.58 and 0.51, respectively accounting for 50.68%, 5.47%, 4.52%, 3.88%, 3.11%, 2.55%, 2.39%, 2.32%, 2.15% and 1.90% of the variance in items. These eigenvalues are presented visually in Figure 4.

The decision about the number of factors to extract was based upon parallel analysis (Preacher & MacCallum, 2003; Zwick & Velicer, 1986). Parallel analysis identifies the number of factors to extract based on the number of factors that have eigenvalues exceeding those expected by chance. These chance values are derived from a large number of randomly generated datasets. Monte Carlo simulations have found this technique to be more accurate in identifying the correct number of factors to extract than a range of other commonly used techniques, including the Kaiser criterion (extract eigenvalues > 1) and scree plots (Zwick & Velicer, 1986). The parallel analysis was conducted using SPSS syntax provided by O’Conner (2000). The first five eigenvalues for 95% of the ten thousand randomly generated datasets were equal or less than 1.75, 1.64, 1.56, 1.50 and 1.44. As only the first eigenvalue of the real dataset exceeded those derived by chance, a single factor solution was supported.

The scree plot displayed in Figure 4 lends further support to this one factor solution, showing an unequivocal distinction between the eigenvalue of first factor and the remaining values. These findings indicate that a single latent variable underlies items pertaining to defeat and entrapment. Once extracted, this factor had an eigenvalue of 15.72 and explained 49.11% of the variance in items. Standardized factor loadings for all items are displayed in Table 4, with the scale they originally came from reported.
Table 4: Standardized Factor loadings for items onto the single factor solution

<table>
<thead>
<tr>
<th>Item</th>
<th>Loading</th>
<th>Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>I feel I'm in a deep hole I can't get out of</td>
<td>0.83</td>
<td>E</td>
</tr>
<tr>
<td>I can see no way out of my current situation</td>
<td>0.82</td>
<td>E</td>
</tr>
<tr>
<td>I have a strong desire to escape from things in my life</td>
<td>0.81</td>
<td>E</td>
</tr>
<tr>
<td>I feel trapped inside myself</td>
<td>0.78</td>
<td>E</td>
</tr>
<tr>
<td>I would like to escape from my thoughts and feelings</td>
<td>0.77</td>
<td>E</td>
</tr>
<tr>
<td>I feel powerless to change things</td>
<td>0.77</td>
<td>E</td>
</tr>
<tr>
<td>I feel that I am one of life's losers</td>
<td>0.77</td>
<td>D</td>
</tr>
<tr>
<td>I feel powerless</td>
<td>0.76</td>
<td>D</td>
</tr>
<tr>
<td>I feel completely knocked out of action</td>
<td>0.75</td>
<td>D</td>
</tr>
<tr>
<td>I often have the feeling that I would just like to run away</td>
<td>0.75</td>
<td>E</td>
</tr>
<tr>
<td>I would like to get away from who I am and start again</td>
<td>0.74</td>
<td>E</td>
</tr>
</tbody>
</table>
I feel I have lost important battles in life 0.74 D
I feel down and out 0.73 D
I feel that there is no fight left in me 0.73 D
I feel trapped by other people 0.73 E
I feel that I have sunk to the bottom of the ladder 0.72 D
I am in a situation I feel trapped in 0.72 E
I feel that I have lost my standing in the world 0.72 D
I feel defeated by life 0.71 D
I want to get away from myself 0.71 E
I feel powerless to change myself 0.69 E
I feel that I have given up 0.69 D
I feel that my confidence has been knocked out of me 0.68 D
I have a strong desire to get away and stay away from where I am now 0.68 E
I feel trapped by my obligations 0.66 E
I feel that life has treated me like a punchbag 0.63 D
I am in a relationship I can't get out of 0.61 E
I would like to get away from other more powerful people in my life 0.61 E
I feel that I have not made it in life 0.61 D
I feel that I am a successful person (reverse) 0.46 D
I feel able to deal with whatever life throws at me (reverse) 0.43 D
I feel that I am basically a winner (reverse) 0.40 D

E = Entrapment scale, D = Defeat scale
4.5. Discussion

This study represents the first formal test of the factor structure underlying the defeat and entrapment scales. The results of the EFA strongly support the conclusion that a single factor underlies items on both scales. Across both scales, the items loading highest onto the factor describe perceptions of failure or loss without any viable solutions allowing for possible improvement (e.g. ‘I feel I’m in a deep hole I can’t get out of’; ‘I feel that I am one of life’s losers’; ‘I can see no way out of my current situation’; ‘I feel powerless’). This supports the contention that the single factor underlying both defeat and entrapment is the perception of failure without a way forward (Rooke & Birchwood, 1998). The item content suggests this psychological construct is not always explicitly tied to an individual’s interpersonal context, but may relate to a number of life circumstances.

These findings conflict with accounts which view defeat and entrapment as two separate but interacting constructs (e.g. Gilbert & Allan, 1998; O’Connor, 2003; Rasmussen et al., 2010; Williams, 1997). Instead, the results lend empirical support to the view that such theories require modification to account for the singular nature of defeat and entrapment. The Schematic Appraisal Model of Suicide (SAMS; Johnson et al., 2008) has already begun this process by providing a modification of the Cry of Pain model of suicide (Williams, 1997) whereby defeat and entrapment are synonymous constructs. The current results consequently have clinical implication in as much as they support clinically-orientated models such as the SAMS, which has recently formed the basis of a therapeutic programme aimed at reducing suicidality (Johnson et al., 2008a; Tarrier & Gooding, 2007).

Findings demonstrating relationships between defeat or entrapment and other clinical phenomena should not be discounted (e.g. Gilbert & Allan, 1998; O’Connor, 2003; Rasmussen et al., 2010; Willner & Goldstein, 2001), as each scale still captures a substantial portion of the underlying factor. However, future research could focus more on the single underlying factor. This could be achieved either by using both scales as
indicators of a latent variable, or by running an EFA as in this study and taking the highest loading items as a single scale.

It should of course be noted that the results of this study alone are not conclusive and defeat and entrapment may be separable in other ways. They may for example have different patterns of correlates. Further investigation is required to investigate this possibility. A number of specific limitations of this study should also be recognised. In the current study a student sample was used. Defeat and entrapment have been studied largely in the context of clinical phenomena such as depression (Gilbert & Allan, 1998; Willner & Goldstein, 2001) and suicide (Rasmussen et al., 2010). Consequently it will be necessary to replicate these findings in clinical samples with a wider range of such experiences. In addition, it could be the case that the failure to identify two distinct defeat and entrapment factors relates to problems in the scales themselves, rather than the concepts they purportedly measure. These are, however, currently the only psychometrically robust scales available which measure these constructs. Future work developing more sensitive measures will be necessary to establish whether the single factor solution identified in this study represents such an artefact.

In conclusion the current study supports the view that defeat and entrapment are better conceptualised as a single factor, capturing a perception of failure without a solution or way forward.
5. Defeat and entrapment form a single factor: A confirmatory test of the distinction between defeat and entrapment

5.1. Abstract

Defeat and entrapment are believed to play an important role in clinical phenomena including depression and suicide. However, there has recently been debate over whether these variables are better conceptualised as two factors or one. The current study aimed to provide a confirmatory test of the distinction between defeat and entrapment. A general community sample (\(n = 271\)) completed measures of defeat, entrapment, affect and eudemonic well-being. Data were analysed through two approaches. First, a Confirmatory Factor Analysis supported a single factor model (after adjusting for methodological bias). Second, defeat and entrapment shared the same pattern of correlates with affect and eudemonic well-being. It was consequently concluded that perceptions of defeat and entrapment co-occur in humans.
5.2. Introduction

Perceptions of defeat are believed to emerge from situations where an individual feels they have fallen irreparably short of important values or goals, experienced a loss in social rank, and see no way forward (Gilbert & Allan, 1998; Rhode, 2001). Perceptions of entrapment are believed to occur when an individual feels trapped or unable to escape from aversive circumstances (Gilbert & Allan, 1998). Both concepts have been developed from distinct evolutionary accounts of depression, but have since been considered together in theories of depression and suicide (Gilbert & Allan, 1998; Williams, 1997). There is a growing body of evidence to support the role of defeat and entrapment in these clinical phenomena (Gilbert & Allan, 1998; Gilbert et al., 2002; O'Connor, 2003). In light of the clear clinical relevance of perceptions of defeat and entrapment, it is important that these concepts are accurately conceptualised. Recently, there has been some debate over the best way to conceptualise defeat and entrapment, centring on whether they represent two distinct concepts, or are in reality varying aspects of the same underlying construct (Johnson et al., 2008a; Taylor et al., 2009). The current study aims to provide a confirmatory test of the distinction between defeat and entrapment.

It has been argued that the concepts of defeat and entrapment share a number of overlapping features, which brings into question their discriminant validity (Johnson et al., 2008). Perceptions of both defeat and entrapment share a sense of not being able to move forward or obtain any improvement in current circumstances and being powerless to effect change (Taylor et al., 2009). Qualitative research also indicates that in depressed individuals perceptions of low social rank or status, which are characteristics of defeat, were associated with a greater sense of entrapment (Gilbert & Gilbert, 2003). Only one study to date has empirically tested the distinction between defeat and entrapment, employing an Exploratory Factor Analysis (EFA) and supporting a single factor model (Taylor et al., 2009). Confirmatory evidence is still required to determine whether defeat and entrapment are best conceptualised as a unitary construct.
The current study aimed to test the distinction between defeat and entrapment through two approaches. First, a Confirmatory Factor Analysis (CFA) was conducted. Three models were specified. The first two of these were the competing one and two factor models. This analysis is likely to be biased towards favouring the two factor model, however, as defeat and entrapment are assessed on different scales which may provide a source of systematic residual variance. Specifically, the defeat scale specifies that responses refer to the past week, whilst the entrapment scale inquires about current feelings. This difference in instructions may provide a source of methodological bias (Green, Goldman, & Salovey, 1993; Marsh, 1996; Wood et al., 2010). In order to compensate for this possibility, the present study will test a third CFA model, specified as a one factor model with correlated residuals amongst the items of the defeat scale. The a priori use of models with correlated error terms has featured in previous CFA research, as a means of avoiding artefactual results in cases where systematic bias is likely, and offers a valid approach to this problem (see Marsh, 1996; Wood et al., 2010). The correlated error terms provide a further integrative force that accounts for shared methodological variance unrelated to the constructs of interest, thus adjusting for methodological bias in the analysis.

A second test of the distinction between defeat and entrapment was provided by comparing defeat and entrapment’s pattern of correlates with two forms of well-being. Differing patterns of correlates suggest the two concepts have some meaningful distinctions, which would count against the hypothesis that defeat and entrapment are a single construct. First, correlations are reported with positive and negative affect, as it has been suggested that defeat and entrapment play an important role in the underlying psychobiological systems of affect (Gilbert et al., 2002). Second, correlations are reported with eudemonic (psychological) well-being, which represents engagement and mastery of the existential challenges of life (Ryff & Keyes, 1995). The link between defeat, entrapment and eudemonic well-being has not currently been studied, but is interesting due
to the conceptual similarity between defeat, entrapment, and aspects of eudemonic well-being such as control over the environment and management of life goals. Affect and eudemonic functioning also load onto separate well-being factors (Linley, Maltby, Wood, Osborne, & Hurling, 2009), suggesting the correlates represent a non-overlapping choice of well-being measures.

5.3. Method

5.3.1. Participants and procedure.

A sample of 271 adults was recruited from the general population (71 male, $M_{age} = 26.93$ years, $SD = 10.39$). The majority of individuals classified themselves as white ($n = 243, 89.7\%$). The remainder classified themselves as Black African ($n = 2, 0.7\%$), Indian ($n = 2, 0.7\%$), or other ($n = 13, 4.8\%$). Eleven participants declined to provide ethnicity information. All scales were completed anonymously in a single session. Ethical approval was obtained from a university ethics committee prior to commencing the research.

5.3.2. Measures.

The defeat scale (Gilbert & Allan, 1998) comprises 16-items assessing the frequency of perceptions of defeat (e.g., ‘I feel down and out’) over the past week on a five point scale ($0 = ‘Rarely’, 4 = ‘Always/ All the time’). This scale had an internal consistency of $\alpha = .85$ in the present sample. The entrapment scale (Gilbert & Allan, 1998) comprises 16-items assessing agreement with perceptions of entrapment (e.g., ‘I want to get away from myself’) on a five point scale ($0 = ‘Not at all like me’, 4 = ‘Extremely like me’). This scale had an internal consistency of $\alpha = .96$ in the present sample.

The Positive And Negative Affect Schedule (PANAS; Watson, Clark, & Ellegen, 1988) consists of two, 10-item scales, assessing positive and negative affect, respectively. Respondents are asked to rate the extent that they currently feel a series of emotions (e.g., ‘Excited’; ‘Upset’) on a five point scale ($1 = ‘Very slightly or not at all’; 5 = ‘Extremely’). These scales are widely used, and have been validated against measures of depressive and
anxiety symptoms (Crawford & Henry, 2004). The positive and negative scales had internal consistencies of $\alpha = .88$, and $\alpha = .90$, respectively, in the present sample.

The Psychological Well-being Scale short-form (Ryff & Keyes, 1995) consists of six 3-item scales measuring the key aspects of eudemonic forms of well-being, including autonomy, environmental mastery, personal growth, positive relations with others, purpose in life and self-acceptance. Agreement with each item (e.g., ‘I have confidence in my opinions, even if they are contrary to the general consensus’) is rated on a six-point scale (1 = ‘Strongly disagree’; 6 = ‘Strongly agree’). These measures have been validated against a range of well-being indices, including happiness, life satisfaction and depressive symptoms (Ryff & Keyes, 1995). Scales had an average internal consistency of $\alpha = .62$ in the present sample.

5.4. Results

5.4.1. Confirmatory Factor Analysis (CFA).

A CFA was conducted on the defeat and entrapment items using LISREL version 8.80 (Joreskog & Sorbom, 1996) to establish whether a one or two factor model best explained the data. As the defeat and entrapment scales require ordinal level responses, robust Maximum Likelihood (ML) estimation of the polychoric correlation matrix was used. This method has been shown in Monte Carlo simulation studies to be robust in the analysis of ordinal data (Lei, 2009). Fit with the data was assessed via the Comparative Fit Index (CFI) and Standardized Root Mean Square Residual (SRMR). Values close to CFI > .95 and SRMR < .09 are recommended as indicating good fit, based on Monte Carlo simulations (Hu & Bentler, 1999). Fit was also assessed via the Satorra-Bentler (S-B) corrected $\chi^2$, provided by robust ML, and the AIC statistic. The AIC statistic adjusts for parsimony. This is important, as it allows a fairer comparison between models by accounting for any differences in their complexity. The AIC has been found to be very effective in this regard (Williams & Holahan, 1994). Smaller values of these statistics
indicate better fit. Three CFA models were estimated, 1) a single factor model, 2) a
two-factor model, and 3) a single factor model with correlated error terms for the defeat
scale items. Ten participants were excluded from the analyses due to missing data. Fit
statistics for each model are reported in Table 5.

Table 5: Fit indices for three models estimated in the CFA

<table>
<thead>
<tr>
<th>Model</th>
<th>Model fit</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$S-B$</td>
</tr>
<tr>
<td>Model</td>
<td>corrected $\chi^2$</td>
</tr>
<tr>
<td>1. 1 Factor</td>
<td>1666.89</td>
</tr>
<tr>
<td>2. 2 Factors</td>
<td>1026.76</td>
</tr>
<tr>
<td>3. Correlated errors</td>
<td>704.67</td>
</tr>
</tbody>
</table>

Although all three models showed good fit, the single factor model with correlated
errors demonstrated the best fit with the data across all indices. This model was directly
compared to the two factor model in terms of the difference in S-B corrected $\chi^2$ and the
AIC statistic. As differences between models in the S-B corrected $\chi^2$ is not distributed as
$\chi^2$, a scaled version of the $\chi^2$ difference test was used which compensates for this (Crawford
& Henry, 2004; Satorra & Bentler, 2001). The single factor model with correlated errors
demonstrated significantly better fit than the two factor model, \(scaled-\Delta\chi^2 (118) = 430.48, p < .01, \Delta AIC = 86.09\). It should also be noted that for the two-factor model, the defeat and
entrapment factors were highly correlated, \(r = .86\), further indicating singularity \((r > .7 \indicates possible multicolinearity; Tabachnick & Fidell, 2001). This was similar to the
correlation observed between summed scales, \(r = .81\). The CFA therefore supported a
single factor model, once adjusting for potential methodological bias.
5.4.2. Correlations with Eudemonic well-being and affect.

Spearman’s correlations were calculated between the defeat and entrapment scales and the measures of eudemonic well-being and affect. All correlations and comparisons are reported in Table 6, along with descriptive statistics. Differences in the magnitude of correlations were extremely small ($\Delta r \leq .13$). Consequently, it can be argued that the observed pattern of correlates did not differ to a meaningful extent between defeat and entrapment.

Table 6: Comparisons of the strength of Spearman’s correlations with affect and well-being between defeat and entrapment

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>SD</th>
<th>Defeat</th>
<th>Entrapment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive affect</td>
<td>29.23</td>
<td>7.78</td>
<td>-.41*</td>
<td>-.32*</td>
</tr>
<tr>
<td>Negative affect</td>
<td>16.76</td>
<td>7.12</td>
<td>.51*</td>
<td>.60*</td>
</tr>
<tr>
<td>Autonomy</td>
<td>12.82</td>
<td>2.50</td>
<td>-.08</td>
<td>-.08</td>
</tr>
<tr>
<td>Environmental mastery</td>
<td>12.39</td>
<td>2.99</td>
<td>-.73*</td>
<td>-.67*</td>
</tr>
<tr>
<td>Personal growth</td>
<td>14.90</td>
<td>2.74</td>
<td>-.28*</td>
<td>-.24*</td>
</tr>
<tr>
<td>Positive relations with others</td>
<td>13.70</td>
<td>3.37</td>
<td>-.53*</td>
<td>-.52*</td>
</tr>
<tr>
<td>Purpose in life</td>
<td>14.11</td>
<td>2.53</td>
<td>-.23*</td>
<td>-.17*</td>
</tr>
<tr>
<td>Self-acceptance</td>
<td>13.22</td>
<td>3.83</td>
<td>-.70*</td>
<td>-.57*</td>
</tr>
<tr>
<td>Mean</td>
<td>16.64</td>
<td></td>
<td></td>
<td>11.75</td>
</tr>
<tr>
<td>SD</td>
<td>11.49</td>
<td></td>
<td></td>
<td>12.61</td>
</tr>
</tbody>
</table>

*Note: Degrees of Freedom vary due to missing data; * $p < .05$

5.5. Discussion

The aim of the present study was to provide a confirmatory test of the distinction between defeat and entrapment. Support for the view that defeat and entrapment are best
conceptualised as a unitary psychological construct was obtained across two separate approaches. First, a CFA showed that a single factor model, when accounting for methodological bias, best fitted the data, and was an improvement when directly compared to a two factor model. Second, defeat and entrapment showed no meaningful differences in their pattern of correlations with measures of affect and eudemonic well-being.

This study contributes to previous empirical evidence and theoretical propositions that defeat and entrapment best represent a singular construct, capturing a sense of failure or loss without possibility of improvement or resolution (Johnson et al., 2008a; Taylor et al., 2009). This body of research conflicts with other accounts that have defined defeat and entrapment as distinct entities (Gilbert & Allan, 1998; Williams, 1997). A key implication is that future clinical psychological research may benefit from assessing defeat and entrapment as a single construct. A particular danger is that research studying models where defeat and entrapment are represented as distinct components may result in spurious results, due to the possible singularity of these variables.

Although secondary to the aims of this study, it is interesting that defeat and entrapment shared moderate to high correlations with affect, and various types of eudemonic well-being (self-acceptance, environmental mastery, positive relations with others). These results support the posited role of perceptions of defeat and entrapment in the psychobiological systems determining affect (Gilbert et al., 2002), but also suggest a more general role of the defeat/entrapment construct as an indicator of eudemonic well-being.

A number of limitations should be noted. The present study employed a non-clinical community sample. This was appropriate as it avoided problems concerning restricted range on measures and potential psychiatric confounds with medication and symptomology. Further, previous research into defeat and entrapment has taken place in non-clinical samples (Gilbert & Allan, 1998; Gilbert et al., 2002). Nonetheless, replication of the current study in clinical groups would be interesting. Second, the sample is not
representative (e.g., small proportion of males). Perceptions of defeat and entrapment rest on universal psychobiological systems (Gilbert & Allen, 1998), so that differences in factor structure across demographics would not be expected. Replication in a more representative sample would still be beneficial, however, in establishing norms for defeat and entrapment. Third, it is possible that the self-report measures used to assess defeat and entrapment may be insensitive to the differences between these concepts, and thus provide an inadequate instrument for determining their singularity. Scale construction was theoretically informed, and items were judged to have face validity by a small sample of depressed patients (Gilbert & Allan, 1998). They are therefore expected to be relatively sensitive measures of these concepts. Furthermore, the results of the current study are similar to those suggested in qualitative investigations of entrapment, which indicated overlaps with defeat (Gilbert & Gilbert, 2003). It should also be recognised that the scales used to assess defeat and entrapment are those most commonly employed in the literature, and as such determining their correct factor structure is valuable in itself.
CHAPTER 6

6. Appraisals and Suicidality: The Mediating Role of Defeat and Entrapment

6.1. Abstract

Objectives: This study tested whether feelings of defeat and entrapment mediated the effects of negative appraisals upon suicidal ideation and behaviour.

Method: A sample of 93 university students who reported some degree of suicidal ideation completed questionnaires of negative appraisals of social-support and problem-solving, defeat, entrapment, hopelessness and suicidality.

Results: The results supported a model whereby defeat and entrapment fully mediated the effect of appraisals of social support and problem-solving ability upon suicidality. Furthermore, controlling for hopelessness had no substantive impact upon this model.

Conclusions: The findings support socio-cognitive models of suicidal behaviour and highlight the key role of defeat and entrapment in suicide. The clinical implications of these findings are discussed.

6.2. Introduction

Suicidality can be seen as a continuum ranging from mild ideation through planning and attempts to completed suicide (Brent et al., 1988; Johnson et al., 2008a; Smith et al., 2006). A recent model of suicidal behaviour, the Schematic Appraisals Model of Suicide (SAMS; Johnson et al., 2008a) aims to account for an individual’s position on this continuum. This model is itself a modification of William’s (1997) Cry of Pain model. One implication of these models is a mediational pathway whereby negative cognitive appraisals contribute to an overwhelming sense of defeat and entrapment, which in turn drive suicidal ideation and behaviour. These negative appraisals may relate to a variety of domains, including self-appraisals of personal and social resources. The current study is the first to test this putative pathway and the role of defeat and entrapment as key mediators of an individual's self-appraisals on suicidality.

Defeat has been defined as a sense of failed struggle or diminished social rank, whilst entrapment has been described as a desire to escape coupled with an awareness that all escape routes are blocked (Gilbert & Allan, 1998). Both variables were originally developed within the context of social rank theory, which provides an evolutionary perspective on mental health problems (Gilbert & Allan, 1998; Gilbert et al., 2002). Theorists have since linked feelings of defeat and entrapment to suicide (e.g., Williams, 1997; Williams et al., 2005). Simply stated, the logic behind such assertions is that within the context of these feelings suicide may come to be seen as the only viable escape route from aversive life circumstances. This links with the general idea that suicide functions as a form of escape (Baumeister, 1990). Despite this theoretical basis, little empirical work has directly tested the role of defeat and entrapment in suicide. Only three studies so far have demonstrated that defeat and entrapment are significantly related to suicidality (O'Connor, 2003; Rasmussen et al., 2010; Taylor et al., 2010b).

More recently the SAMS has argued that defeat and entrapment are best conceptualised as a singular construct which drives suicidality (Johnson et al., 2008). This
argument is grounded in suggestions that defeat and entrapment share a common phenomenology when applied to humans, involving themes of having no way forward or any identifiable solutions, and emerge from common underlying cognitive processes (Johnson et al., 2008a; Taylor et al., 2009). These assertions have since received empirical support via factor analysis (Taylor et al., 2009).

The type of appraisal investigated most extensively in relation to suicidality has been self-appraisal of social problem-solving ability (for review, see Clum & Febbraro, 2002). More negative subjective appraisals of problem-solving ability appear to increase the risk of suicidal thinking and behaviour in both clinical and non-clinical groups (Bonner & Rich, 1988; Chang, 2002; Clum & Febbraro, 1994; Dixon et al., 1991; Esposito & Clum, 2002; Rudd et al., 1994). Appraisals of this nature could understandably influence the extent that an individual feels trapped by aversive experiences. Perceptions of the availability of social support may also contribute to a sense of defeat and entrapment, as social support provides an important source of rescue from aversive situations (Williams, 1997; Williams et al., 2005). Research has shown social support to buffer the impact of aversive life events on suicidality in a range of samples and settings (Clum & Febbraro, 1994; Esposito & Clum, 2002; Thompson et al., 2002). These different appraisals represent primary cognitive judgements of the self and personal circumstances, which can be distinguished from the more affectively-laden concepts of defeat and entrapment they are predicted to feed into.

This study aimed to test a mediational pathway, whereby self-appraisals drive suicidal ideation and behaviour through increased feelings of defeat and entrapment. Within this paper, feelings of defeat and entrapment have been conceptualised as a single latent variable, in line with the theoretical assertions of the SAMS model (Johnson et al., 2008). Evidence suggests individuals with experiences of suicidal ideation, even brief past ideation, may still be distinct from never-suicidal individuals in terms of subsequent risk of recurrence (Kerr, Owen, & Capaldi, 2008; Lau et al., 2004). This study was therefore
conducted in a sample of students who reported some degree of past suicidal ideation or behaviour. To this end, the study was advertised as research looking into suicide, and respondents who did not report previous suicidality were screened from the study.

Structural Equation Modelling (SEM) was used to analyse the data. It was hypothesised that feelings of defeat and entrapment would mediate the effect of self-appraisals of problem-solving ability and social support upon suicidality. There is evidence that hopelessness is another key mediator of cognitive factors on suicidal behaviour (Abramson et al., 2002; Dixon et al., 1991) (Smith et al., 2006). Furthermore, there is strong evidence that hopelessness is a robust predictor of suicidality (Kuo et al., 2004), which also accounts for the relationship between depression and suicide (Beck, Kovacs, & Weissnian, 1975; Bedrosian & Beck, 1979; Dyer & Kreitman, 1984). Since hopelessness also overlaps conceptually with defeat and entrapment (Johnson et al., 2008), it was relevant to control for this variable in the present study. It was therefore further hypothesised that these findings would hold whilst controlling for hopelessness.

6.3. Method

6.3.1. Participants.

Participants were students studying at the University of Manchester, who responded to posters advertising for participants for a study into suicide. The inclusion criteria for the study required participants to demonstrate some degree of current or past suicidality. Consequently participants who answered ‘no’ or ‘never’ to every question the Suicidal Behaviours Questionnaire – Revised (SBQ-R; Osman et al., 2001), and who reported ‘I don’t have any thoughts of killing myself’ for the past two weeks (Taken from Item 9 of the Beck Depression Inventory-II; Beck et al., 1996) were not included in the study. A sample of 93 participants were recruited for the study (17 male, M_{age} = 23.45, SD = 7.06). An additional 62 students responded to advertisements for the study who did not meet the inclusion criteria, and were therefore not included in the study (10 male, M_{age} =
22.79, SD = 6.78). All participants provided informed consent prior to taking part in the study. Scores for this group on the measure of suicidality (SBQ-R) had an inter-quartile range from 4, indicating minimal ideation without risk, to 7, indicating current risk of suicide (Osman et al., 2001). The full range of scores on this measure was 4 to 16, with variability apparent across all items of the scale, indicating that a wide range of suicidal thoughts, feelings and behaviours were present in the sample.

6.3.2. Materials.

**Entrapment scale** (Gilbert & Allan, 1998). This is a 16-item scale assessing feelings of entrapment. Items refer to the perception of being trapped by internal and external events, and a desire to escape from those (e.g., “I want to get away from myself”) and are rated on a five-point scale ranging from ‘Not at all like me’ to ‘Extremely like me’. Higher scores indicate greater feelings of entrapment. The alpha coefficient for the present sample was .95.

**Defeat scale** (Gilbert & Allan, 1998). This is a 16-item scale assessing feelings of social and personal defeat including perceptions of failed struggle and low social rank (e.g., “I feel that I am one of life’s losers”). Items are rated for their prevalence in the past week, on a five-point scale ranging from ‘Never’ to ‘Always/all the time’. Higher scores indicate greater feelings of defeat. The alpha coefficient for the present sample was .83.

**Problem-Solving Inventory** (PSI; Heppner & Petersen, 1982). The 11-item Problem-solving confidence subscale of the PSI was used to assess negative appraisals of problem-solving ability. Items assess self-confidence in various aspects of the problem-solving process (e.g., “I make decisions and am happy with them later”) with each scored on a six-point Likert scale ranging from ‘Really disagree’ to ‘Really agree’. Responses are reverse scored so that higher scores indicate poorer appraisals of problem-solving ability. This subscale demonstrated a test re-test reliability of .85 over two weeks. The alpha coefficient for the present sample was .71.
Social Support Behaviours Scale (SS-B; Vaux et al., 1987). The SS-B provides a measure of the perceived availability of various forms of social support, rather than the frequency with which such behaviours occur. It is therefore consistent with Lazarus and Folkman’s (1984) description of secondary appraisals (i.e. an appraisal of the availability of resources to deal with an aversive situation). Participants are asked to rate the likelihood of friends and family providing each kind of support (e.g., “My friends/family would comfort me if I was upset”) on a five-point Likert scale, ranging from ‘no one would do this’ to ‘most family/friends would certainly do this’. The 10-item Emotional support, 7-item Socializing and 12-item Advice-guidance subscales were used in this study, with alpha coefficients calculated at .95, .93, and .96, respectively, in the current sample. The subscales correlated with each other at between $r = .87$ and .92.

Beck Hopelessness Scale (BHS; Beck et al., 1974). This is a 20-item true or false measure assessing the prevalence of hopelessness in the past week (e.g., “My future seems dark to me”). Higher scores indicate greater hopelessness. The BHS converged with clinician ratings of hopelessness at between $r = .62$ and .74. This measure had a test-retest reliability of .85 over three weeks in undergraduates (Holden & Fekken, 1988). Internal reliability using the KR20 (Kuder-Richardson) was .80 for the present sample.

The Suicidal Behaviours Questionnaire - Revised (SBQ-R; Osman et al., 2001). This scale measures the level of suicidality experienced by the respondent. Four items assess a range of suicidal experiences including past engagement in suicidal thinking and behaviour, recent suicidal ideation, the communication of a suicide attempt, and the predicted likelihood of suicidal behaviour in the future (e.g., “How often have you thought about killing yourself in the past year?”). Total scores thus provide a rough estimate of where an individual lies upon the continuum of suicidality. Attainable scores range from 3 to 18, with higher scores indicating greater levels of suicidality. Suicidal individuals have been found to score significantly higher on this measure than non-suicidal individuals in both clinical and non-clinical groups. When used as a screening tool for suicide risk in
university and high-school students a sensitivity between .83 - .93 and specificity between .95 - .96 was attained (Osman et al., 2001). The alpha coefficient for the present sample was .66.

6.3.3. Procedure.

Ethical approval was obtained from a University ethics committee prior to running the research. Participants completed all measures in a single session with a researcher present. All participants were debriefed following the study and provided with a sheet listing local helplines and counselling services (Appendix III). In addition, participants were given the option of consenting to be referred to the counselling service if their responses were seen as a cause for concern (criteria: SBQ-R item 1 ≥ 3; item 2 ≥ 3; item 3 ≥ 2; item 4 ≥ 4). Those who declined this opportunity but were still identified as a cause for concern were invited to attend a debriefing session with a trained clinical psychologist to discuss sources of support.

6.3.4. Statistical analysis.

The mediational model was tested using Structural Equation Modelling (SEM). Covariances were analysed via AMOS version 7.0 using Maximum-Likelihood estimation (Arbuckle, 2006). Based on recommendations for SEM that sample size at a minimum should exceed five participants per parameter in the model (Kline, 1998), a sample of over 80 was sought (n = 93). Goodness of fit was primarily assessed via the chi-squared statistic, which tests the significance of the difference between the hypothesised model and the observed data. To compensate for potential bias in the chi-squared statistic due to the small sample size (Fouladi, 2000; Nevitt & Hancock, 2004) this statistic was adjusted using a k-factors correction (Bartlett, 1950). The adjusted value is reported as \( \chi^2_k \). This adjusted statistic was found in Monte Carlo simulations to function acceptably in structural equation models with participant to parameter ratios of 5:1 (Nevitt & Hancock, 2004). In addition the Comparative Fit Index (CFI; Bentler, 1990), calculated using the adjusted chi-
squared value, and the Standardized Root Mean squared Residual (SRMR) were employed as further measures of fit based on recommendations by Hu and Bentler (1999). For the chi-squared test a non-significant result \( p > .05 \) indicates better fit. Cut-off scores of \(< .09\) for the SRMR and \(> .95\) for the CFI were chosen to indicate good fit based on recommended combinational rules found to minimise type I and type II error (Hu & Bentler, 1999).

Bootstrapping with 1000 random samples was used to test the significance of the indirect effect of the predictors on suicidality. This method is most appropriate for testing mediation in smaller samples (Preacher & Hayes, 2004). This method utilises a process of random re-sampling from the data to generate confidence intervals.

6.4. Results

6.4.1. Data screening.

The data were initially screened for skewness and multicolinearity. Tolerance statistics for the three social support subscales were low \(< .18\) suggesting substantial multicolinearity. These three subscales were therefore averaged to produce a single social support variable. This single measure had an alpha coefficient of .98. Transformations were applied to the measures of social support, hopelessness, defeat, entrapment and suicidality to correct for skew. Following this all variables demonstrated normal distributions as indexed by non-significant levels of skewness and kurtosis \( z < 1.96 \). Variable means, standard deviations (reported for both untransformed and transformed variables) and Pearson’s correlations are reported in Table 7. All tolerance statistics for subsequent analyses were above .2, suggesting substantial multicolinearity was not a problem (Menard, 1995). Two participants failed to complete the social support measure and were subsequently excluded from the analysis.
Table 7: Means, standard deviation and correlations for variables in model

<table>
<thead>
<tr>
<th></th>
<th>Mean (SD)</th>
<th>Transformed&lt;sup&gt;a&lt;/sup&gt;</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
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<tr>
<td></td>
<td>Un-transformed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Suicidality</td>
<td>6.09 (2.54)</td>
<td>0.15 (0.06)</td>
<td>.49*</td>
<td>.45*</td>
<td>-.41*</td>
<td>.35*</td>
<td>.36*</td>
</tr>
<tr>
<td>2. Defeat</td>
<td>14.68 (9.80)</td>
<td>2.58 (0.59)</td>
<td>.73*</td>
<td>-.31*</td>
<td>.55*</td>
<td>.52*</td>
<td>.52*</td>
</tr>
<tr>
<td>3. Entrapment</td>
<td>10.36 (11.39)</td>
<td>2.02 (0.94)</td>
<td>-.36*</td>
<td>.59*</td>
<td>.60*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Social-support appraisal</td>
<td>75.61 (15.21)</td>
<td>4.79 (2.19)</td>
<td></td>
<td>-.18</td>
<td>-.35*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Problem-solving appraisal</td>
<td>28.36 (7.61)</td>
<td>28.36 (7.61)</td>
<td></td>
<td></td>
<td></td>
<td>.58*</td>
<td></td>
</tr>
<tr>
<td>6. Hopelessness</td>
<td>4.11 (3.49)</td>
<td>0.62 (.28)</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

* P < .05

<sup>a</sup> Correlations only provided for transformed variables
6.4.2. Testing the model.

The hypothesised model is displayed in Figure 5, with associated standardized coefficients and squared multiple correlations reported. This model fit the data well, $\chi^2(4, n = 91) = 6.43, p = .17$, SRMR = .05, CFI = .98. All the pathways depicted were significant, $p < .01$. In this model appraisals accounted for 54% of the variance in perceptions of defeat and entrapment, which in turn explained 32% of the variance in suicidality. The results of the bootstrap suggested the indirect paths from problem-solving appraisals ($95\% CI = 0.23 – 0.47, p = .002$) and social-support appraisals ($95\% CI = -0.32 - -0.06, p = .002$) to suicidality were significant. These findings suggest that feelings of defeat and entrapment mediated the effect of all three predictors on suicidality.

The model outlined in Figure 5 assumes full mediation, that is no significant relationship remains between the two predictors (appraisals of problem-solving and social-support) and suicidality after defeat and entrapment have been accounted for. This model was compared to a second model, which assumed in addition to this indirect (mediated) effect, a direct effect between the two predictors and suicidality, independent of defeat and entrapment. Comparisons were based on the difference in chi-squared statistics and Akaike’s Information Criterion (AIC), calculated using the adjusted chi-squared value. It has been suggested that differences ≤ 2 on the AIC provide substantial support for the more parsimonious model (Burnham & Anderson, 2004). The partial mediation model failed to demonstrate a significant improvement in fit, $\Delta\chi^2(2, n = 91) = 5.17, p = .08$, and $\Delta\text{AIC} = 1.17$. The more parsimonious full mediation model was therefore favoured.
Figure 5: Model depicting full mediation of appraisals on suicidality via defeat and entrapment. Defeat and entrapment are modeled as a single latent variable. Standardized regression weights and squared multiple correlations reported.

Next the model was re-calculated controlling for the effect of hopelessness. This was achieved by modelling a direct effect of hopelessness on defeat and entrapment and on suicidality. Controlling for this variable made no substantive difference to the model. The full mediation model continued to fit the data well $\chi^2 (5, n = 91) = 7.44, p = .19, \text{SRMR} = .04, \text{CFI} = .99$. This model is displayed in Figure 6, with associated standardized coefficients and squared multiple correlations reported. All direct and indirect paths remained significant, and standardized coefficients were altered by $\beta < 0.2$.

6.5. Discussion

The aim of the current study was to test a mediational pathway whereby negative appraisals were associated with increased suicidality through heightened feelings of defeat and entrapment. Structural Equation Modelling (SEM) found that this model fit the data well in a sample of individuals experiencing a range of suicidal thoughts and feelings. The analysis supported the hypotheses that the links, which perceptions of problem-solving ability and social support availability have with suicidality, would be mediated by feelings of defeat and entrapment. A partial mediation model did not provide a significant improvement in fit, suggesting that mediation was full. In addition it was found that controlling for hopelessness had no substantive impact on the model, supporting the
hypothesis that these findings would hold when feelings of hopelessness were taken into account.

Figure 6: Model depicting full mediation of appraisals on suicidality via defeat and entrapment, whilst controlling for hopelessness. Defeat and entrapment are modeled as a single latent variable. Standardized regression weights and squared multiple correlations reported.

This study contributes to growing evidence that feelings of defeat and entrapment play a key role in the development of suicidality (O'Connor, 2003; Rasmussen et al., 2010; Taylor et al., 2010b; Williams, 1997). Furthermore, the results suggest that this effect is not just an artefact of the theorised overlap of defeat and entrapment with hopelessness (Johnson et al., 2008), but that defeat and entrapment have an association with suicidality independent of hopelessness. Overall these results support theoretical models of suicide, including the SAMS (Johnson et al., 2008) and Cry of Pain model (Williams, 1997; Williams et al., 2005), which view perceptions of defeat and entrapment as the proximal psychological processes driving suicidality, and suggest that these perceptions may emerge from specific negative appraisals in domains such as problem-solving and social support. The value of this conceptualisation is that although it fits with findings that appraisals of social support (Clum & Febbraro, 1994; Esposito & Clum, 2002; Thompson et al., 2002) and problem-solving ability (Bonner & Rich, 1988; Chang, 2002; Clum & Febbraro, 1994;
Dixon et al., 1991; Esposito & Clum, 2002; Rudd et al., 1994) are associated with suicide, it also highlights the need for some form of affective motivational component in suicidal behaviour, which mediates the link between these specific appraisals and thoughts of suicide. Defeat and entrapment may provide such a mediator.

It is important to note that the current study investigates defeat and entrapment as a subjective psychological state. This is different to previous research that has operationalised these variables in terms of concrete life events and circumstances (e.g., Brown et al., 1995). Although life events likely have a role in triggering and maintaining a sense of defeat and entrapment, it is suggested that their impact is mediated by psychological processes (Johnson et al., 2008; Rasmussen et al., 2010; Williams, 1997), so that assessing defeat and entrapment within this context remains important. Defeat and entrapment were also conceptualised as a single latent variable, based on the theoretical assertions of the SAMS (Johnson et al., 2008) and supporting research (Taylor et al., 2009). This decision was supported in the current study by the high factor loadings of the defeat and entrapment scales on this latent variable, and the good overall fit of the model.

The focus of the current study was on an individual’s subjective appraisals of their problem-solving ability, as opposed to their objective ability to generate effective solutions, commonly indexed by the Means-Ends Problem-Solving procedure (Platt & Spivack, 1975). Nonetheless, it is likely these two facets of problem-solving are related. Theories of problem-solving assume that an individual’s orientation towards problems, including their appraisals of their abilities, contribute to their overall performance (D’Zurilla, Nezu, & Maydeu-Olivares, 2004). Likewise, personal judgements of problem-solving ability are likely, at least in part, to be influenced by past instances of effective problem-solving. Social support can also be divided into two distinct, but likely interrelated, objective and subjective forms (i.e., perceived availability versus objective instances of received support; Wethington & Kessler, 1986). Consequently, perceptions of defeat and entrapment may also be related to these more objective measures of social
support and problem-solving ability. It would be interesting for future research to explore whether these objective measures have incremental validity in predicting defeat and entrapment once subjective appraisals have been taken into account.

Another recent theory of suicide, the interpersonal-psychological theory suggests that two different variables, perceived burdensomeness and thwarted belongingness, provide the main impetus behind the desire for suicide (Joiner, 2005). These two variables appear conceptually similar to defeat and entrapment, with a shared emphasis on negative perceptions of social rank. However, defeat and entrapment may be more generic constructs, in that they also relate to internal goals and aims (Rhode, 2001). Considering the substantial support for the interpersonal-psychological theory of suicide (e.g., Van Orden et al., 2008), comparison of this model with other accounts, such as the SAMS or Cry of Pain model of suicide would be an interesting goal for future research.

The findings of this study have a number of clinical implications. First, they highlight the clinical relevance of perceptions of defeat and entrapment as an indicator of increased suicide risk. This is potentially something clinicians should investigate, in addition to more established indicators such as depression and hopelessness (Kessing, 2004; Kuo et al., 2004). It may be that such perceptions are sometimes present prior to the manifestation of suicidal ideation allowing them to act as a form of early-warning sign, although this assertion requires further empirical testing. Second, in the context of psychological treatment, these findings support a two-step approach for interventions to prevent suicidal behaviour. By establishing the more specific appraisals that underlie inferences of defeat and entrapment, this study highlights potential targets for a therapist in terms of both the specific underlying cognitions, and the more general emotional states associated with suicide risk, to which they contribute.

A number of limitations of this study require mention. First, this study had a small sample size for use with a statistical technique such as SEM. However, to counter this problem a scaled version of the chi-squared statistic was used, which has been found to
operate effectively, maintaining acceptable power and Type 1 error rates, under smaller participant to parameter ratios than present in this study (Nevitt & Hancock, 2004). Furthermore, the significance of the indirect paths in the model were tested using the bootstrapping method, which again is suitable with more smaller sample sizes as it is not based on large-sample theory (Preacher & Hayes, 2004). Nevertheless, replication of the present results with larger samples would be advantageous in confirming the generalizability of these findings.

A second limitation is the cross-sectional nature of the study. This raises doubts about the direction of causality, and in particular the possibility that the mediations are a result of overlapping variance rather than a causal sequence of events. However, even if findings were attributable to overlapping variance, this would still have theoretical relevance. For example this would still support the assertion that feelings of defeat and entrapment emerge from underlying appraisals, as a large proportion of their variance is accounted for by these specific appraisals. Future longitudinal research could directly test the causal order of events outlined in this study (e.g., Wood, Maltby, Stewart, Linley, & Joseph, 2008).

Third, a student sample was used, albeit one who experienced some degree of suicidality. Although the level of suicidality in this group is less than would be expected in a clinical group, the current study was primarily a model-testing exercise, and the same underlying processes and relationships would be predicted to apply in a group with more severe levels of suicidality. In particular, replicating the current findings in a group with psychotic disorders will be an important next step. Although the SAMS provides a trans-diagnostic account of suicide, it was initially developed in the context of suicide in psychosis.

Fourth, the internal reliability for the measure of suicidality (SBQ-R) did not meet the accepted standard of .7 or over (Field, 2005). Nevertheless, low internal reliability does not increase the likelihood of spurious results, but will instead reduce the strength of the
correlation this variable shares with others (Smith et al., 2003; Zuckerman, Hodgins, Zuckerman, & Rosenthal, 1993). As such the lower internal reliability of the suicidality variable in the present study would only work against the predictions made, resulting in a more conservative test of these predictions.

Finally, depression was not controlled for in the analysis. The study did control for hopelessness, however, which has been theoretically and empirically supported as a robust predictor of suicidality (Abramson et al., 2002; Kuo et al., 2004), and may actually account for the link between depression and suicide (Beck et al., 1975; Bedrosian & Beck, 1979; Dyer & Kreitman, 1984).

In conclusion, the current study suggests that heightened perceptions of defeat and entrapment may emerge from underlying negative appraisals and are associated with suicidal ideation and behaviour. This was found in a sample of students with suicidal ideation. Future research is needed to replicate these findings in clinical samples and test the causal paths of the mediation model prospectively.

6.6. Note

1 This adjustment involves a multiplicative scaling of the original chi-squared test statistic of the form \( c = 1 - \frac{(2p + 4k + 5)}{6(n - 1)} \), where \( p \) = the number of measured variables and \( k \) = the number of latent variables. For the current sample this resulted in \( c = 0.965 \), for the model not including hopelessness and \( c = 0.961 \), for the model including this variable.
CHAPTER 7

7. Defeat and Entrapment in Schizophrenia: The Relationship with Suicidal Ideation and Positive Psychotic Symptoms

7.1. Abstract

The current study tests whether perceptions of defeat and entrapment are the psychological mechanisms underlying the link between positive psychotic symptoms and suicidal ideation in schizophrenia. A sample of 78 patients with schizophrenia spectrum disorders completed self-report measures and a clinical interview. Of this sample, 21.8% reported a single past suicide attempt and 50% reported multiple past attempts. It was found that perceptions of defeat and entrapment, conceptualised as a single variable, accounted for a large proportion (31%) of the variance in suicidal ideation. Defeat and entrapment also mediated the relationship between positive symptom severity and suicidal ideation. This result held whilst controlling for levels of hopelessness and depression. Secondary analyses suggested that suspiciousness in particular was linked to suicidal ideation. The results support a socio-cognitive model (The Schematic Appraisals Model of Suicide: SAMS) of suicide in psychosis.

7.2. Introduction

Suicide is a substantial clinical problem in individuals diagnosed with schizophrenia spectrum disorders. Estimated lifetime rates range between 4.9% and 10%, depending on the methodology used (Caldwell & Gottesman, 1990; Palmer et al., 2005). Rates of non-lethal suicidal behaviour are greater still, with rates of ideation reported at 20.4% over a 15 day period (Kontaxakis et al., 2004) and estimated rates for attempts ranging between 13% and 50% (Bolton et al., 2007; Fenton et al., 1997; Tarrier et al., 2004). Suicide ideation and attempts remain an important focus for research, as both represent substantial risk factors for subsequent suicide attempts and completions (Corcoran et al., 2004; Nimeus et al., 2002; Sidley et al., 1999). The current study is an investigation of the psychological architecture underlying suicidal ideation in individuals with schizophrenia, focussing on the role of perceptions of defeat and entrapment.

A recently developed psychological model of suicidal behaviour in schizophrenia, the Schematic Appraisals Model of Suicide (SAMS), argues that perceptions of defeat and entrapment are a core component of the psychological mechanisms underlying suicidal ideation in this group (Johnson et al., 2008a). This model expands on earlier theoretical accounts regarding the central role of these variables in suicidal behaviour (Williams, 1997). Defeat and entrapment encompass perceptions of failure, or loss without a way forward or means of escape (Gilbert & Allan, 1998; Rooke & Birchwood, 1998). The SAMS builds on past research linking defeat and entrapment-related appraisals about living with schizophrenia to negative outcomes like depression and hopelessness in those with the disorder (Birchwood et al., 1993; Iqbal et al., 2000; Karatzias et al., 2007; Rooke & Birchwood, 1998; White et al., 2007).

Positive symptoms are the main experiential symptoms of psychosis and when experienced as enduring and disruptive, may potentially contribute to perceptions of defeat and entrapment. Positive psychotic symptoms, and in particular experiences of suspiciousness and paranoia, are a well supported risk factor for suicidal ideation and
behaviour in individuals diagnosed with schizophrenia (Fenton et al., 1997; Heilä et al., 1999; Saarinen, Hehtonen, & Umnqvist, 1999; Tarrier et al., 2006), although conflicting findings exist (Hawton et al., 2005; Pompili et al., 2009). Paranoid symptoms were for example present in 35% of a sample of suicides diagnosed with schizophrenia prior to the act, and present in 57% of a sample of recently discharged patients who went on to commit suicide (Heilä et al., 1999; Saarinen et al., 1999). Delusions and command hallucinations may also be risk factors for suicide, although the evidence is more equivocal (Fenton et al., 1997; Harkavy-Friedman et al., 2003; Hawton et al., 2005). It is possible that this relationship between positive symptoms and suicidal ideation is mediated by heightened perceptions of defeat and entrapment. Experiences of paranoia and suspiciousness might be expected to be especially linked to feelings of defeat and entrapment due to the signals of interpersonal struggle and threat conveyed by such experiences (Freeman et al., 2005). The case for negative symptoms is less clear. There is varied evidence to suggest that negative symptoms may actually protect against the risk of suicide (Fenton et al., 1997; Schwartz-Stav, Apter, & Zalsman, 2006; Tarrier et al., 2007a), whilst other research indicates no relationship (Hawton et al., 2005). As the focus of the current paper was on risk, negative symptoms were not investigated.

The aim of the present study was to test the role of defeat and entrapment as mediators of the impact of positive symptom severity upon suicidal ideation in a sample of individuals diagnosed with schizophrenia spectrum disorders. Defeat and entrapment were considered as a single latent variable for the purposes of the analysis for two reasons. First, it has been argued that they are conceptually the same (for a detailed discussion, see Johnson et al., 2008). Second, a factor analytic study has found that the defeat and entrapment scales were best explained by a one-factor solution (Taylor et al., 2009). It was hypothesized that positive symptom severity would have a positive relationship with suicidal ideation, and that this relationship would be fully mediated by perceptions of defeat and entrapment. Furthermore, it was hypothesized that these effects would stand
whilst controlling for hopelessness and depression. In addition, a secondary exploratory analysis was undertaken to investigate which positive symptoms in particular would have the most influence on suicidal ideation and how well these would fit the mediational model.

7.3. Method

7.3.1. Participants and procedure.

Participants were outpatients living in the Greater Manchester area. The inclusion criteria were as follows: 1) A chart diagnosis (ICD-10 criteria) of a schizophrenia spectrum disorder (e.g., schizophrenia, schizoaffective disorder, psychosis not otherwise specified); 2) Drug misuse or organic disorder acceptable only if they were not judged to be the major cause of the psychosis; 3) Aged 18 years or over; 4) Currently not at very high-risk of suicide as judged by their keyworker or other appropriate healthcare professional; 5) English-speaking; 6) Capable of providing informed consent as judged by their keyworker or other appropriate healthcare professional. The study recruited a convenience sample of consecutively referred patients living within the catchment area of the study and meeting the inclusion criteria. Patients were referred by their keyworkers or other appropriate healthcare professional. Participants completed all measures in a single session, except in three cases where the study was completed over two sessions approximately a week apart. Ethical approval was obtained from a national research ethics committee prior to commencing the study.

7.3.2. Measures.

Entrapment. The entrapment scale (Gilbert & Allan, 1998) comprises 16-items assessing feelings of being trapped by internal and external events (e.g., ‘I feel trapped inside myself’). Items are rated on a five-point scale ranging from ‘Not at all like me’ to ‘Extremely like me’. No previous reports of internal consistency for this measure in a psychosis group could be found. The alpha coefficient for the current study was 0.95.
Defeat. The defeat scale (Gilbert and Allan, 1998) comprises 16-items assessing perceptions of defeat including those of failed struggle and low social rank (e.g., “I feel that I am one of life’s losers”). Items are rated for their prevalence in the past week, on a five-point scale ranging from ‘Never’ to ‘Always/all the time’. No previous reports of internal consistency for this measure in a psychosis group could be found. The alpha coefficient for the current study was 0.86.

Hopelessness. The Beck Hopelessness Questionnaire (BHS; Beck et al., 1974) comprises 20 true or false items assessing the prevalence of hopelessness in the past week (e.g., “My future seems dark to me”). This measure has a reported alpha coefficient of 0.93 and a test-retest reliability of \( r = 0.85 \) over three weeks (Holden & Fekken, 1988). This measure has been used extensively in individuals diagnosed with schizophrenia (e.g., Tarrier et al., 2004; White et al., 2007).

Suicidal ideation. The Beck Suicidal Ideation Scale (BSS; Beck & Steer, 1991) is a 21-item scale assessing the prevalence of suicidal ideation, planning and intent in the past week and previous attempt history. For each item, participants choose between three responses of increasing suicidal ideation (e.g., ‘I have no desire to kill myself’; ‘I have a moderate to strong desire to kill myself’). In previous research in a sample with psychotic disorders the BSS has demonstrated an alpha coefficient of 0.96 and test re-test reliability over 1 week of \( r = 0.88 \) (Pinninti, Steer, Rissmiller, Nelson, & Beck, 2002).

Psychotic symptoms. The Brief Psychiatric Rating Scale Expanded version (BPRS-E; Ventura, Green, Shaner, & Liberman, 1994) is a 24-item interviewer-rated assessment of psychopathological symptoms. Each item refers to a particular symptom and is rated for frequency and severity on a seven-point scale ranging from 1 (‘not present’) to 7 (‘Extremely Severe’). For the purposes of the current study, separate positive and depressive symptom total scores were calculated by summing scores on the relevant item (i.e., Positive symptoms = Unusual thought content, Suspiciousness, Bizarre behaviour, Grandiosity, Hallucinations, Hostility; Depression = Depression; Anxiety, Guilt, Self-
neglect, Somatic concern), based on empirically identified components (Dinglemans et al., 1995). The suicide subscale was excluded from the depressive symptoms total score to avoid confounding depression with suicidal ideation. The positive and depressive symptom components were found to have alpha coefficients of 0.74, and 0.75, respectively. Ratings were made by one of two doctoral-level students or a trainee clinical psychologist. Intra-class correlation coefficients between the three raters for a subset of interviews (n = 19) ranged between 0.87 and 0.92, suggesting good inter-rater reliability.

7.3.3. Statistical analysis.

The hypothesized mediational model was tested via Structural Equation Modelling (SEM). Covariances were analysed via AMOS version 7.0 using Maximum-Likelihood estimation (Arbuckle, 2006). In this model defeat and entrapment were represented as a single latent variable (referred to as defeat/entrapment hereafter). The chi-squared goodness-of-fit statistic was scaled to compensate for the small sample using a formula by Bartlett (1950)\(^1\). Monte Carlo simulations have found this scaled chi-square to function acceptably in models with sample sizes to parameter ratios of 5:1 (Nevitt & Hancock, 2004). A significant value (\(P < 0.05\)) of this statistic suggests poor fit. Model fit was also assessed via combinational rules found to minimise type I and type II errors suggesting cut-off scores of < 0.09 for the Standardized Root Mean squared Residual (SRMR) and > 0.95 for the Comparative Fit Index (CFI) as indicants of good fit (Hu & Bentler, 1999).

Mediation was formally tested via bootstrapping with 1000 random samples. This method involves generating confidence intervals through a process of random re-sampling. Bootstrapping provides an alternative test of mediation to the commonly used Sobel’s test, which is suitable for smaller samples (Preacher & Hayes, 2004).
7.4. Results

7.4.1. Sample characteristics.

A sample of 90 participants was initially recruited for the study. Of these, six failed to meet diagnostic criteria and six had substantial missing data, and were therefore excluded. This resulted in a final sample of 78 participants (23 female; $M_{\text{age}} = 42.5$ years, $SD = 11.8$) with diagnoses of schizophrenia ($n = 71$, 91.0%), schizoaffective disorder ($n = 4$, 5.1%), psychosis not otherwise specified ($n = 2$, 2.6%), and atypical psychosis ($n = 1$, 1.3%), in accordance with ICD-10 criteria. The majority of participants were white ($n = 63$, 80.8%), then mixed British ($n = 6$, 7.7%), Asian ($n = 3$, 3.8%), Afro-Caribbean ($n = 1$, 1.3%) and other ($n = 4$, 5.1%). Ethnicity data was missing for one participant. Participants had an average duration of illness of 17.5 years ($SD = 11.0$). Age, gender and duration of illness were not significantly associated with suicidal ideation ($P > 0.05$). Only 22 (28.2%) participants reported no history of suicide attempts, with 17 (21.8%) reporting a single attempt and 39 (50.0%) reporting multiple past attempts, ranging in number from 2 to 11. No record was taken of the nature or severity of these attempts. Descriptive statistics and correlations for the measures used are reported in Table 8. Multicollinearity was not a problem in the data (tolerance $> 0.2$; Menard, 1995), although defeat and entrapment were highly correlated ($r = 0.85$), supporting the decision to analyse these as a single latent variable.
Table 8: *Means, standard deviation and correlations for variables in model*

<table>
<thead>
<tr>
<th></th>
<th>Un-transformed</th>
<th>Transformed&lt;sup&gt;a&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>1. Suicidal ideation</td>
<td>5.64</td>
<td>6.67</td>
</tr>
<tr>
<td>2. Defeat</td>
<td>28.56</td>
<td>16.02</td>
</tr>
<tr>
<td>3. Entrapment</td>
<td>24.67</td>
<td>18.55</td>
</tr>
<tr>
<td>4. Positive symptoms</td>
<td>13.10</td>
<td>5.95</td>
</tr>
<tr>
<td>5. Hopelessness</td>
<td>7.41</td>
<td>5.51</td>
</tr>
<tr>
<td>6. Depression</td>
<td>12.18</td>
<td>4.91</td>
</tr>
</tbody>
</table>

<sup>a</sup>The variables Suicidal ideation, Positive symptoms and Hopelessness were square-root transformed and Depression logarithmically transformed to correct for positive skew. This resulted in skew that was acceptably low ($Z < 1.96$). Correlations are only provided for transformed versions of variables.

* $p < 0.05$
**7.4.2. Testing the model.**

The hypothesised mediation model with associated fit indices, standardized regression weights and multiple squared correlations is displayed in Figure 7. This model fit the data well and all direct paths were significant \((p < 0.05)\). The results of the bootstrap analysis suggested that the indirect effect of positive symptoms on suicidal ideation was also significant, \(p = 0.002\) \((95\% CI = 0.14 - 0.39)\). The above model assumed full mediation, where no direct effect of positive symptoms upon suicidal ideation remained after accounting for perceptions of defeat/entrapment. In order to test this assumption, a second partial mediation model was calculated and compared to the full mediation model. The models were compared in terms of improvement in the scaled chi-squared statistic and Akaike’s Information Criterion (AIC). It has been suggested that differences of \(< 2\) on the AIC provide substantial support for the more parsimonious model (Burnham & Anderson, 2004). The partial mediation model failed to demonstrate a significant improvement in fit, \(\Delta x^2_K (1) = 0.02, n.s., \Delta AIC = 1.98\), providing support for the more parsimonious full mediation model.

In order to test the robustness of the mediation model, the analysis was repeated controlling for the effect of hopelessness (BHS) and depressive symptoms (BPRS-E). The model continued to demonstrate good fit, \(x^2_K (4, n = 78) = 5.54, p = 0.24, SRMR = 0.02, CFI = 0.99\). All direct and indirect paths remained significant and standardized coefficients differed by \(\beta \leq 0.30\).

**7.4.3. Secondary analysis.**

A secondary exploratory analysis was undertaken to examine the individual positive symptoms that contributed most to suicidal ideation. Correlations between individual positive symptoms and suicidal ideation are reported in Table 9.
Figure 7: Model depicting full mediation of positive symptoms on suicidal ideation via defeat/entrapment. Rectangles represent observed variables in the model. Defeat and entrapment have been used as indicators of a single latent variable, represented by an oval. Associated fit indices, standardized regression weights and squared multiple correlations reported. All paths were significant ($p < 0.05$).

Table 9: Correlations between individual positive symptoms as rated on the BPRS-E and suicidal ideation

<table>
<thead>
<tr>
<th>Symptoms</th>
<th>Correlation ($r_s$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hostility</td>
<td>0.15</td>
</tr>
<tr>
<td>Grandiosity</td>
<td>-0.14</td>
</tr>
<tr>
<td>Suspiciousness</td>
<td>0.42*</td>
</tr>
<tr>
<td>Hallucinations</td>
<td>0.23*</td>
</tr>
<tr>
<td>Delusions</td>
<td>0.15</td>
</tr>
<tr>
<td>Bizarre behaviour</td>
<td>0.11</td>
</tr>
</tbody>
</table>

* $p < 0.05$

Only suspiciousness and hallucinations were significantly associated with suicidal ideation. In order to investigate whether the link between these individual symptoms and
suicidal ideation was mediated by perceptions of defeat and entrapment, a SEM was calculated with suspiciousness and hallucinations as predictors, defeat/entrapment as a mediator and suicidal ideation as an outcome variable. Suspiciousness and hallucinations had means of 2.72 ($SD = 1.76$) and 3.00 ($SD = 2.14$), respectively. Prior to the analysis the variable suspiciousness was square-root transformed to correct for mild positive skew, resulting in a mean of 1.56 ($SD = 0.53$). This model with associated fit indices, standardized regression weights and multiple squared correlations is displayed in Figure 8. The model fit the data well, and all direct paths were significant, with the exception of the direct effect of hallucinations on defeat/entrapment. The indirect effect of suspiciousness on suicidal ideation was also significant, $p = 0.002$, ($95\% CI = 0.18 – 0.46$), but not the indirect effect of hallucinations on suicidal ideation, $p = 0.28$, ($95\% CI = -0.05 – 0.20$).

7.5. Discussion

It was found that perceptions of defeat and entrapment, conceptualised as a single variable, accounted for a large proportion (31%) of the variance in suicidal ideation. As hypothesised, defeat and entrapment fully mediated the association between positive symptom severity and suicidal ideation. This result held whilst controlling for levels of hopelessness and depression suggesting it was robust, and not simply an artefact of the conceptual overlap between variables. An additional exploratory analysis revealed that suspiciousness in particular was related to suicidal ideation and that this effect was also fully mediated by defeat and entrapment.

These results support the SAMS model, which argues that negative appraisals result in perceptions of defeat and entrapment in psychotic disorders. These in turn lead to suicidal ideation (Johnson et al., 2008b). Defeat and entrapment, defined as perceptions of loss or rejection without escape or likelihood of improvement (Gilbert & Allan, 1998), may represent one particularly maladaptive psychological response to the difficulties posed by living with psychosis, which may provoke suicidal ideation and behaviour as a means of escape or protest (Williams, 1997).
Figure 8: Model depicting full mediation of suspiciousness and hallucinations on suicidal ideation via defeat/entrapment. Rectangles represent observed variables in the model. Defeat and entrapment have been used as indicators of a single latent variable, represented by an oval. Associated fit indices, standardized regression weights and squared multiple correlations reported. All paths were significant ($p < 0.05$) except for effect of hallucinations on defeat/entrapment, indicated by dashed arrow.

The current study supports the link between the severity of positive psychotic symptoms, in particular experiences of suspiciousness or paranoia, and suicidal ideation (Fenton et al., 1997; Heilä et al., 1999; Saarinen et al., 1999). Moreover, it was found that this relationship was explained by perceptions of defeat and entrapment, which were amplified as symptoms became increasingly distressing and enduring. Suspiciousness may be particularly entrapping and defeating as such experiences can carry a sense of on-going personal threat and negative implications concerning social rank (Freeman et al., 2005). It is possible that paranoia represents a psychosis-specific risk factor for suicide that functions along-side other trans-diagnostic factors such as depression (Bolton et al., 2007). This possibility requires further investigation.

It could be that the current results concerning defeat and entrapment are simply an artefact of the demoralisation syndrome identified in some individuals diagnosed with
schizophrenia. This syndrome, which follows an individual’s negative awareness of the impact of the illness on their goals and future aspirations has also been associated with suicide (Drake & Cotton, 1986; Restifo et al., 2009), and shares some conceptual similarities with defeat and entrapment. However, this explanation is unlikely, since hopelessness and depression are proposed as key symptomatic features of the demoralisation syndrome in schizophrenia (Drake and Cotton, 1986; Restifo et al., 2009) and both of these variables were controlled for in the current analyses.

The results of this study raise the possibility that perceptions of defeat and entrapment could be used alongside more established indicators of suicide such as depression and hopelessness (Bolton et al., 2007; Montross et al., 2005; Pompili et al., 2009; Schwartz-Stav et al., 2006; Siris, 2001; Tarrier et al., 2004) to identify patients diagnosed with schizophrenia who are at heightened risk of suicide. Further investigation of the utility of defeat and entrapment in predicting suicidal behaviour is therefore warranted. The results also suggest that psychological therapies aimed at reducing suicidal ideation in individuals diagnosed with schizophrenia could focus specifically on reducing perceptions of defeat and entrapment, alongside interventions aimed more directly at alleviating clients’ symptoms. Psychosocial interventions, including psychotherapy have been suggested as one important approach in the prevention of suicide in individuals diagnosed with schizophrenia (Pompili, Ruberto, Girardi, & Tatarelli, 2004). A recent meta-analysis has also supported the overall efficacy of Cognitive-Behavioural Therapy (CBT) in suicide prevention (Tarrier, Taylor, & Gooding, 2008). CBT may therefore provide one useful framework within which perceptions of defeat and entrapment could be targeted (Swallow, 2000). A more detailed discussion of therapeutic approaches to dealing with defeat and entrapment in psychosis is described elsewhere (Johnson et al., 2008).

A caveat of this study is the relatively small sample size. However, the models depicted in Figures 1 and 2 met recommendations of over five participants per parameter being estimated (Bentler & Chou, 1987; Kline, 1998). Furthermore, an adjusted version of
the chi-squared goodness-of-fit statistic was employed which has been found to function adequately, delivering acceptable type I error rates, at sample size to parameter ratios below 5:1 (Nevitt and Hancock, 2004). Finally, the significance of mediation was tested using bootstrapping, which is a suitable method to use with smaller sample sizes (Preacher and Hayes, 2004). Replication of the present results in a larger sample would still be beneficial for strengthening the generalizability of these results. A second caveat is the cross-sectional design, which limits the ability to draw causal inferences. As such, the reported results may simply reflect overlapping variance in the constructs of interest. Even if this were the case, the results would continue to be of theoretical interest. The redundancy of the association between positive symptoms and suicidal ideation when defeat and entrapment are considered remains an important result irrespective of whether causality is clearly demonstrated.

Future research would benefit from the further refinement and exploration of the defeat and entrapment construct in relation to psychosis. This should involve additional investigation of the phenomenology of this construct and its operationalisation within the context of psychosis. The use of a case-control methodology to further investigate defeat and entrapment in relation to suicide would also be of interest. Such research would be beneficial in confirming the present findings and determining whether they extend to completed suicide.

To conclude, the current study highlights the importance of perceptions of defeat and entrapment in understanding suicidal ideation and behaviour in those with schizophrenia spectrum disorders. The results imply that the severity of positive psychotic symptoms is only associated with suicidal ideation to the extent that it contributes to maladaptive perceptions of defeat and entrapment.

7.6. Note

1 This adjustment involves a multiplicative scaling of the original chi-squared test statistic of the form $c = 1 - [(2p + 4k + 5)/6(n - 1)]$, where $p$ = the number of measured
variables and $k = \text{the number of latent variables. This resulted in } c = 0.963 \text{ for the model displayed in Figure 7, and } c = 0.959 \text{ for the model displayed in Figure 8.}$
8. Prospective predictors of Suicidality: Defeat and Entrapment Lead to Changes in Suicidal Ideation over Time

8.1. Abstract

Theoretical perspectives into suicidality have suggested that heightened perceptions of defeat and entrapment lead to suicidality. However, all previous empirical work has been cross-sectional. We provide the first longitudinal test of the theoretical predictions, with a sample of 127 students completing self-report measures of suicidal ideation, depression, defeat and entrapment at two time-points, approximately 12 months apart. People higher in defeat and entrapment became more suicidal over time ($\beta = .29$), with baseline levels of suicidality and depressive symptoms controlled. The current results support the posited role of perceived defeat and entrapment in driving suicidal ideation.
8.2. Introduction

Suicidal ideation is highly prevalent, with recent epidemiological data suggesting a two-week prevalence of almost 10% in Europe (Casey et al., 2008). This constitutes a major health concern because suicidal ideation at one time-point is a known predictor of further suicidal ideation and behaviour at subsequent time-points (Reinherz et al., 2006; Williams et al., 2006c). In considering the psychological mechanisms underlying suicidality, several theorists have focused on perceptions of defeat and entrapment (e.g., Johnson et al., 2008a; Williams, 1997). Defeat is characterised by perceptions of failed struggle related to the loss of status or identity, whilst entrapment describes an overlapping construct characterised by the perceived inability to move forward or escape (Gilbert & Allan, 1998; Taylor et al., 2009). Defeat and entrapment may lead to suicidal thinking as a possible escape route from these seemingly irreparable and unbearable circumstances (Baumeister, 1990). The current study is the first to investigate the relationship between these variables and changes in suicidal ideation over time.

Perceptions of defeat and entrapment have been cross-sectionally linked with a heightened risk of suicidality in parasuicidal participants, suicidal ideating students, adolescents and individuals diagnosed with schizophrenia spectrum disorders (O'Connor, 2003; Park et al., 2010; Rasmussen et al., 2010; Taylor et al., 2010b; Taylor et al., in press). Moreover, these perceptions have been shown to be separable from hopelessness, another notable psychological risk factor for suicide (Gilbert & Allan, 1998; Taylor et al., in press). Hopelessness is a cognition focused on the likelihood of future events, and does not capture the motivation to escape or sense of diminished status that is important to defeat and entrapment (Gilbert & Allan, 1998).

A fundamental problem with the existing literature exploring defeat, entrapment and suicidality is the absence of prospective designs. Without such studies it is not possible to make inferences concerning the direction of causality. This is problematic because, whilst it is plausible that heightened perceptions of defeat and entrapment would provoke
suicidal ideation, it is also conceivable that experiencing suicidal ideation is in itself an entrapping and defeating experience.

The aim of the current study was to test whether perceptions of defeat and entrapment predicted change in suicidal ideation in a sample of students over a 12 month period. The high stability of suicidal ideation over time (Williams et al., 2006) means that the power to detect change in ideation is likely to be limited. The 12 month follow-up period was therefore chosen to maximise the likelihood of observing such an effect. It was hypothesised that perceived defeat and entrapment would lead to greater suicidal ideation over time, providing the first evidence of temporal precedence in this relationship. It has been suggested that perceptions of defeat and entrapment in humans are best conceptualised as a single underlying construct, on the grounds that they share common phenomenological features and emerge from the same cognitive processes (Johnson et al., 2008a). This claim has since been empirically supported in students (Taylor et al., 2009). Consequently, the current study employs a composite measure of the defeat and entrapment, as well as using these variables as separate predictors.

8.3. Method

8.3.1. Participants & procedure.

The sample consisted of 127 students from the University of Manchester recruited in exchange for course-related credits (18 male; $M_{age} = 19.31$ years, $SD = 3.62$). Participants completed all measures at two time points, spaced approximately 12 months apart ($M = 374.37$ days, $SD = 10.87$). A further 23 participants (6 male; $M_{age} = 19.68$, $SD = 4.43$) failed to complete the measures at follow-up and were excluded from the study. This group did not differ from the main sample in terms of age, gender, depressive symptoms, suicidal ideation, defeat or entrapment at baseline (all $p > .05$). A favourable review was obtained from a University ethics committee for this study prior to recruitment.
8.3.2. Measures.

The defeat scale (Gilbert & Allan, 1998) is a 16-item self-report instrument, assessing perceptions of failed struggle and low social rank over the previous week (‘I feel that I have given up’). Ratings are made on a five-point scale, scored from 0 to 4, with higher scores indicating greater defeat. Internal consistency for this measure was $\alpha = .87$ in the current sample. The entrapment scale (Gilbert & Allan, 1998) is a 16-item self-report instrument, assessing perceptions of psychological entrapment (‘I feel powerless to change things’). Ratings are made on a five-point scale, scored from 0 to 4, with higher scores indicating greater entrapment. Internal consistency for this measure was $\alpha = .95$. Consistent with recommendations made by Taylor and colleagues (2009), a composite score was calculated by summing scores across both these measures. This composite measure yielded an internal consistency of $\alpha = .96$. Analyses were also repeated with the defeat and entrapment scales individually in order to determine whether effects were consistent across measures, as a lack of consistency might suggest the use of a composite variable was inappropriate in this instance.

Suicidal ideation over the past 12 months was assessed using the second item of the revised Suicide Behaviours Questionnaire (SBQ-R; Osman et al., 2001). The second item is phrased, “How often have you thought about killing yourself in the past year?”, with responses scored on a 5-point scale from 1 (‘never’) to 5 (‘very often (5 or more times)’). This item was used as it matched the duration of the present study and provided a brief and readily interpretable index of suicidal ideation over this period.

Depressive symptoms were measured via the Beck Depression Inventory second edition (BDI-II; Beck et al., 1996). This is a 21-item self-report measure assessing a range of depressive symptoms. Symptoms are rated for their severity over the past two weeks on a 3-point scale, with higher scores indicating greater depression. For the purposes of the present study one item referring to suicidal ideation was removed from the total score to avoid confounding the measures of depression and suicidal ideation, resulting in $\alpha = .90$. 
8.3.3. Statistical analysis.

The data were analysed using multiple hierarchical regression. The measure of suicidal ideation was positively skewed in the present study (skew = 2.52 at follow-up) as would be expected in a non-clinical population, where the majority of participants will experience minimal or no suicidal ideation for a given year. Such skew can violate the assumptions of normal parametric inferential testing. Consequently, a non-parametric approach to inferential testing was undertaken in the current study, using bootstrapping to generate 95% confidence intervals (CI) for regression coefficients and the squared semi-partial correlation coefficients (\(\Delta R^2\)). These CI indicate significance when values do not cross zero. Bootstrapping generates CI through a process of re-sampling at random from the original dataset (1000 times in the present study following recommendations by Mooney & Duval, 1993). Bootstrapping has been recommended as the method of choice in situations where normal parametric assumptions may not hold, including situations where the data is skewed (Mooney & Duval, 1993).

CI for the regression coefficients were generated using STATA version 10 (\textit{bootstrap} \_\textit{b} command; Stata Corporation, College Park, Texas, USA). CI for the squared semi-partial correlation coefficients were based upon the modified bootstrap method suggested by Algina, Keselman and Penfield (2007) and generated using the programme developed by the same authors. This method has been found to be more accurate than the standard bootstrap method (Algina et al., 2007), although no substantial discrepancies between the two methods were observed in the current study.

8.4. Results

Descriptive statistics and Spearman’s correlations for all variables are reported in Table 10. The composite defeat/entrapment variable had a test re-test reliability of \(r = .63\). Twenty-six participants (20.63\%) reported one or more instance of suicidal ideation at follow-up (score \(\geq 2\) on ideation measure), and 12 of these reported multiple instances (9.52\%).
Table 10: *Descriptive statistics and Spearman’s correlations for variables in the study*

<table>
<thead>
<tr>
<th>Variable</th>
<th>M</th>
<th>SD</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Suicidal ideation (baseline)</td>
<td>1.33</td>
<td>0.80</td>
<td>.62*</td>
<td>.53*</td>
<td>.51*</td>
<td>.52*</td>
<td>.33*</td>
<td>.33*</td>
<td>.31*</td>
<td>.51*</td>
</tr>
<tr>
<td>2. Suicidal ideation (follow-up)</td>
<td>1.34</td>
<td>0.77</td>
<td>.41*</td>
<td>.41*</td>
<td>.40*</td>
<td>.46*</td>
<td>.45*</td>
<td>.48*</td>
<td>.36*</td>
<td></td>
</tr>
<tr>
<td>3. Defeat/entrapment composite (baseline)</td>
<td>22.63</td>
<td>23.93</td>
<td>.92*</td>
<td>.94*</td>
<td>.63*</td>
<td>.59*</td>
<td>.62*</td>
<td>.71*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Defeat (baseline)</td>
<td>13.46</td>
<td>10.58</td>
<td>.77*</td>
<td>.62*</td>
<td>.59*</td>
<td>.61*</td>
<td>.65*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Entrapment (baseline)</td>
<td>10.17</td>
<td>13.19</td>
<td>.59*</td>
<td>.55*</td>
<td>.59*</td>
<td>.71*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Defeat/entrapment composite (follow-up)</td>
<td>21.20</td>
<td>21.27</td>
<td>.96*</td>
<td>.94*</td>
<td>.56*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Defeat (follow-up)</td>
<td>12.76</td>
<td>9.91</td>
<td>.82*</td>
<td>.55*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Entrapment (follow-up)</td>
<td>8.43</td>
<td>12.16</td>
<td></td>
<td></td>
<td>.52*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Depression (baseline)</td>
<td>9.20</td>
<td>8.35</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p < .05.*
A multiple hierarchical regression was conducted with suicidal ideation at follow-up as the outcome. Suicidal ideation and depression at baseline were included as covariates in the first step, and defeat/entrapment was then entered in the second step. Thus the depression and defeat/entrapment variables are predicting the variance in suicidal ideation at follow-up that is not shared with suicidal ideation at baseline (i.e., the residualized changes in the variable over time). One participant failed to complete the suicidal ideation measure at baseline and was excluded from this analysis. The first step, including suicidal ideation and depression at baseline resulted in $f(2, 125) = 54.20, p < .01$, $R^2 = .47$. In the second step, composite defeat/entrapment was included in the model, resulting in a significant improvement in the variance explained in suicidal ideation, $\Delta R^2 = .03$ (95% $CI_{bootstrap} = .0003 – .1143$). The regression coefficients and associated CI for all variables in the regression are reported in Table 11. Greater defeat/entrapment was significantly associated with greater suicidal ideation at follow-up covarying for baseline ideation and depression.

Table 11: Regression coefficients and bootstrapped 95% CI for variables in the analysis

<table>
<thead>
<tr>
<th>Step</th>
<th>Variable</th>
<th>$B$</th>
<th>Lower</th>
<th>Upper</th>
<th>$\beta$</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Depression</td>
<td>.01</td>
<td>-.0118</td>
<td>.0231</td>
<td>.06</td>
</tr>
<tr>
<td></td>
<td>Suicidal ideation</td>
<td>.62</td>
<td>.3857</td>
<td>.8900</td>
<td>.64*</td>
</tr>
<tr>
<td>2</td>
<td>Depression</td>
<td>-.01</td>
<td>-.0385</td>
<td>.0078</td>
<td>-.14</td>
</tr>
<tr>
<td></td>
<td>Suicidal ideation</td>
<td>.57</td>
<td>.3077</td>
<td>.8214</td>
<td>.59*</td>
</tr>
<tr>
<td></td>
<td>Defeat/entrapment</td>
<td>.01</td>
<td>.0003</td>
<td>.0211</td>
<td>.29*</td>
</tr>
</tbody>
</table>

Note: Significant effects the same when standard parametric analysis used.

$p < .05$, $^a$ = Percentile CI reported. No differences were observed between these and bias-corrected CI.
The same effect was observed when composite defeat/entrapment was replaced with the single defeat variable, $\Delta R^2 = .05$ (95% CI bootstrap = .0013 – .1353), $B = .03$ (95% CI bootstrap = .0026 – .0480), $\beta = .35$, although this effect was only apparent as a trend for entrapment, $\Delta R^2 = .02$ (90% CI bootstrap = .0001 – .0675), $B = .01$ (95% CI bootstrap = -.0052 – .0274), $\beta = .19$.

8.5. Discussion

The current study was the first to test whether a disposition towards perceptions of defeat and entrapment would prospectively predict suicidal ideation. It was found that perceived defeat and entrapment at baseline, considered as a single composite variable, predicted the change in frequency of suicidal ideation over the following 12 months, adjusting for depressive symptoms. When defeat and entrapment were considered separately, similar results were apparent, although this effect was less pronounced in the case of entrapment.

These results compliment cross-sectional research showing an association of perceptions of defeat and entrapment with suicidality (O'Connor, 2003; Rasmussen et al., 2010; Taylor et al., 2010b; Taylor et al., in press), by clarifying the direction of causality in this relationship. The present study demonstrates that perceived defeat and entrapment may lead to subsequent changes in suicidality, rather than solely being a consequence of the experience of suicidality. The results therefore support psychological models of suicide which posit a central role for perceived defeat and entrapment in suicidality (Johnson et al., 2008a; Williams, 1997). Within a clinical context, heightened perceptions of defeat and entrapment may provide an effective indicator of individuals liable to be at heightened risk of suicidal ideation, who may consequently benefit from interventions directed at these cognitions.

The effect size for the relationship between defeat/entrapment and the change in suicidal ideation was large enough to be considered meaningful (Rosenthal, 1990), especially considering the relative stability of suicidal ideation over the study period. The
stability of suicidal ideation over time is in line with previous research findings (Williams et al., 2006c).

A number of limitations should be noted in the current study. First, a student sample was used where suicidal ideation was a relatively rare phenomenon. It could be argued that it is more appropriate to investigate suicidality in clinical populations where suicide represents a more substantial problem. However, the current study aimed primarily to provide an initial test of the prospective relationship between defeat, entrapment and suicidal ideation. A student sample is likely to be free from many of the psychiatric and illness-related confounds pertinent to a clinical group, and so represents a useful population to initially demonstrate this relationship within. An additional limit of the current sample is the small number of male participants. Whilst this is representative of undergraduate psychological courses in the UK, replication of these findings in a more demographically diverse sample is desirable.

Second, suicidal ideation was measured on a single 5-point scale, which may have restricted the variability available for analyses. This measure was selected for its brevity, ease of completion and fit with the 12 month study period. Furthermore, similar 1-item measures of ideation have been used effectively in other areas of suicide research (e.g., Casey et al., 2008; Fialko et al., 2006). Future research could, however, benefit from using broader, more detailed measures of suicidal ideation. Third, the present study investigated ideation only, and not more serious levels of suicidality, such as attempts or completions. Ideation is an appropriate outcome to investigate in a non-clinical group, where more serious behaviour is extremely rare. Further research could employ alternative methodologies such as case-control and psychological autopsy designs in order to explore how defeat and entrapment relate to more serious forms of suicidality.

Fourth, it should be recognised that whilst the present study adjusted for depressive symptoms, other important psychological predictors, for example hopelessness, were not included in the analyses. It could be argued that as this study aimed primarily to establish
that a prospective relationship between defeat, entrapment and suicidal ideation
existed, controlling for multiple related psychological constructs may have been overly
conservative. Nonetheless, future prospective studies looking at defeat and entrapment
should account for the confounding effects of these other constructs.
9. Memory Specificity as a Risk-Factor for Suicidality in Non-Affective Psychosis:

The Ability to Recall Specific Autobiographical Memories is Related to Greater Suicidality

9.1. Abstract

A difficulty in recalling specific autobiographical memories has been noted as a risk factor for suicidal behaviour. However, the relationship between memory specificity and suicide has not previously been investigated in those with non-affective psychosis. It was predicted that in this group, more specific memory recall would be associated with an increased risk of suicide. This is because such specific memories are likely to be associated with greater levels of distress and negative affect than less specific memories. This prediction contradicts the prevailing belief that lower memory specificity is associated with greater suicidality. Sixty participants with schizophrenia spectrum disorders were recruited, 40 of whom reported past suicide attempts. Analyses showed suicide attempters recalled a greater proportion of specific memories, whilst controlling for trait anxiety and depressive symptoms. These results supported the main hypothesis, and suggest non-specific memory may have adaptive qualities in individuals with psychosis.

9.2. Introduction

Specific autobiographical memories have been defined as memories of personal events or experiences located within a particular time and place and lasting less than a day (e.g., recalling a particular conversation with a friend) and can be distinguished from overgeneral types of memory (i.e., Memories summarising repeated events or extended periods of time)(Williams et al., 2007). The ability to recall such memories, rather than overgeneral responses in cued-recall tasks (i.e., the Autobiographical Memory Task, AMT; Williams & Broadbent, 1986) has been shown to be a robust indicator of depressive and emotional disorders (see review by Williams, et al., 2007). Memory specificity may also be related to borderline personality disorder (Renneberg, Theobald, Nobs, & Weisbrod, 2005). Non-specific, or overgeneral memory has also been noted in parasuicidal individuals (Kaviani et al., 2005; Williams & Broadbent, 1986) and does not seem attributable to co-morbid depression alone (Leibetseder et al., 2006). Individuals with non-affective psychosis are at high risk of suicidal ideation and behaviour (Palmer et al., 2005). Memory specificity in psychosis has already been studied (e.g., Neumann et al., 2007; Wood et al., 2006). However, no research to date has tested whether memory specificity is associated with suicidality in this population. The current study represents the first investigation of this possibility.

The typical finding has been that overgeneral memory is a risk factor for suicidality. However, this result has largely emerged from studies comparing parasuicidal groups to non-psychiatric controls (e.g., Kaviani et al., 2005; Williams & Broadbent, 1986). Other studies exploring memory specificity within particular clinical groups have demonstrated the opposite result, with those individuals recalling more specific memories having greater levels of suicidality, self-harm and depression. This pattern of results has been reported in clinical groups of adolescents, borderline personality patients and formerly abused adults (Burnside, Startup, Byatt, Rollinson, & Hill, 2004; Startup et al., 2001; Swales et al., 2001). It is possible therefore that within particular clinical groups
reduced memory specificity may serve an adaptive function. One empirically supported function of reduced memory specificity is to limit access to the negative affect and distress that can be associated with more specific autobiographical memories (Raes et al., 2006; Williams et al., 2007). Memories of traumatic and unpleasant experiences are especially likely to be associated with negative affect, accounting for the finding that overgeneral memory has been associated with a history of trauma and abuse (Williams, et al., 2007).

Thus, within clinical groups exposed to higher levels of distressing experiences and trauma, a more overgeneral style of memory retrieval may be associated with a reduced suicide risk, as it blocks access to distressing mnemonic material. Simultaneously memory should be more overgeneral in these clinical groups when compared to non-psychiatric control groups (Swales et al., 2001). Overgeneral memory is less likely to serve any adaptive role within the non-psychiatric control groups, and so is less likely to be routinely employed as a retrieval style.

Consequently, a case can be made that greater memory specificity would also be predictive of suicidality within the non-affective psychosis population. Traumatic and aversive experiences are common in psychosis (Morrison et al., 2003). Overall poorer memory specificity would therefore be expected in individuals with psychosis compared to non-psychotic controls, as has been demonstrated (Neumann et al., 2007; Wood et al., 2006). However, it can also be predicted that individuals with psychosis who are less able to maintain an overgeneral style of memory retrieval may be more prone to recalling specific distressing memories, which may contribute to a heightened risk of suicide in such individuals.

Perceptions of being psychologically defeated and trapped have also been associated with suicidality in individuals with psychosis (Iqbal & Birchwood, 2006; Taylor et al., 2010b). Autobiographical memories associated with themes of defeat and entrapment may therefore be especially accessible in individuals with psychosis who are also suicidal. Thus, it can be predicted in this group that within a cued-recall paradigm,
suicidal participants would show an improved recall of specific memories to cues related to themes of defeat and entrapment, compared to standard positive and negative cues. This effect would not, however, be expected in non-suicidal participants as they have fewer entrapment-related memories for the cues to map onto.

The aim of the current study was to investigate the link between autobiographical memory specificity, assessed via a cued-recall paradigm (AMT), and suicidality within a sample of individuals with non-affective psychosis. It was hypothesised that suicidal behaviour would be associated with greater memory specificity in this group, and furthermore, that this effect would be especially pronounced for defeat and entrapment-related cues. As both depressive symptoms and trait anxiety could confound the relationship between suicidal behaviour and performance on the AMT task, they were controlled for in the analyses. Finally, as it is assumed that it is the ability to avoid distressing specific memories that makes overgeneral memory adaptive in some situations, an exploratory analysis was undertaken investigating the numbers of specific memories recalled in the AMT that were associated with current distress.

9.3. Method

9.3.1. Participants and procedure.

Participants were outpatients living in the Greater Manchester area referred to the studies by their keyworkers or other appropriate healthcare professional. All participants were required to meet the following inclusion criteria: 1) a clinical diagnosis based on ICD-10 criteria of a schizophrenia spectrum disorders (e.g., schizophrenia, schizoaffective disorder, psychosis not otherwise specified); 2) aged 18 years or over; 3) currently not at very high-risk of suicide as judged by their keyworker or other appropriate healthcare professional; 4) English-speaking; 5) capable of providing informed consent as judged by their keyworker or other appropriate healthcare professional.
Suicide risk was determined by community mental health teams using standardised risk assessment tools and procedures. These include a clinical risk assessment form completed through structured interview, which assesses multiple forms of self-harm and suicidality and provides an overall likelihood rating, and the Manchester Care Assessment Schedule (ManCAS), which rates the severity of risk to self (Firth, 1999). Use of these tools is supported by training and manual guidance. Clients identified as being at high-risk through these procedures were not referred to the study.

The sample consisted of 60 outpatients (12 female; $M_{\text{age}} = 43.4; SD = 11.4$). The majority had a diagnosis of schizophrenia ($n = 53; 88.3\%$), then schizoaffective disorder ($n = 4; 6.7\%$), atypical psychosis ($n = 1, 1.7\%$) and psychosis not otherwise specified ($n = 2; 3.33\%$). Participants were predominantly white ($n = 51; 85.0\%$), the remainder being mixed British ($n = 4; 6.7\%$), Asian ($n = 2; 3.3\%$) and other ($n = 3; 5.0\%$). Participants completed all tasks and measures in a single session. Ethical approval was obtained from a national research ethics committee prior to commencing the study.

### 9.3.2. Measures.

**Suicidal behaviour.** Past suicidal behaviour was assessed using a question derived from the Revised Suicidal Behaviours Questionnaire (Osman et al., 2001). In response to the question, ‘Have you ever thought about, or attempted to kill yourself?’ participants were asked to select one of six possible answers, covering no previous suicidality, mild ideation, planning and suicide attempts. Past suicidal behaviour was recorded where participants stated that they had previously attempted to kill themselves. It was, therefore, the behaviour (engagement in an act designed to result in death) rather than the intent (strength of desire to die) that was the focus in the present study. Participant’s reporting past attempts were asked to indicate the exact number of previous attempts.

**Depressive symptoms.** The Beck Depression Inventory second edition (BDI; Beck et al., 1996) is a widely used 21-item self-report measure assessing depressive symptoms over the past two-weeks. This measure had an alpha coefficient of .88 in a population
diagnosed with schizophrenia and has been associated with clinician-rated depression in this group (Chemerinski, Bowie, Anderson, & Harvey, 2008).

Trait anxiety. The trait scale of the State-Trait Anxiety Inventory (STAI-T; Spielberger, Gorsuch, & Lushene, 1970) is a 20-item self-report measure assessing generalised experiences of anxious emotion and cognition. This measure was found to have an alpha coefficient of .91 in individuals diagnosed with schizophrenia spectrum disorders (Docherty, St-Hilaire, Aakre, & Seghers, 2009).

Autobiographical memory specificity. The Autobiographical Memory Test (AMT; Williams & Broadbent, 1986; see Appendix IV) assesses the ability to recall specific autobiographical memories in response to a series of cue words. This task has been widely used to assess autobiographical memory specificity and has been found to be relatively robust across variations in the cueing procedure (Williams, et al., 2007). For each word, participants are asked to describe a related, specific memory, occurring anytime in their lives except the last week.

In the current study participants were first provided with up to three practice words to ensure they understood the task (Rain, Milk, Newspaper). Cue words were presented verbally and included five positive (Tender, Excited, Friendly, Peaceful, Pleasant), five negative (Tragic, Upset, Hurt, Bad, Fault) and five defeat/entrapment-related words (Trapped, Escape, Loser, Get-away, Given-up) in a fixed alternating order. The positive and negative words were taken from previous research using the AMT (Brittlebank, Scott, Williams, & Ferrier, 1993). The defeat/entrapment related words were derived from high loading items (> .75) on the defeat and entrapment self-report scales (Gilbert & Allan, 1998). Consistent with previous research sampling those with psychosis, participants were allowed up to 30 seconds to respond to each cue (Wood, et al., 2006). If initial responses were non-specific, a single prompt was provided by the researcher (e.g., ‘can you think of a specific instance/a particular moment?’).
Responses were audio recorded with participant’s consent in order to facilitate the coding of responses. All responses were classified either as specific (e.g., ‘meeting an old friend for a drink’), extended (e.g., ‘A weekend away’), categoric (e.g., ‘going shopping’), a semantic associate (associated ideas or concepts not linked to a particular memory, e.g., ‘my brother is friendly’) or no response. All coding was undertaken by the first author. A second, independent judge coded responses for a subset of participants ($n = 21; 35.0\%$), showing high inter-rater agreement, $\kappa = .72$. Illustrative examples of participant responses on the AMT falling into each category are presented in Table 12. An additional feature of the AMT in the current study was that for each specific memory recalled, participants were asked to rate the degree of distress currently associated with that memory on a scale from 0 (‘no distress’) to 3 (‘very distressing’).

The main outcome of interest was the proportion of specific responses recalled. Although previous studies have focussed on other indices of performance in the AMT, such as the number of overgeneral or categoric responses (e.g., Hermans et al., 2005; Startup et al., 2001), it was felt such responses were too infrequent to use in the current study (see Table 14), and would likely have resulted in floor effects. It is likely that the number of overgeneral responses was higher in the studies by Hermans and colleagues (2005), and Startup and colleagues (2001), as these authors based AMT scores on participant’s first responses only. In the current study, in line with previous research in this population (Wood, et al., 2006), no such restriction was made so that responses made following prompts were included. This likely reduced the level of overgeneral responding in the present study. The proportion of specific responses included instances where participants made no response within the time limit in the denominator. The reasoning for this is that non-responding may have been due to participants recalling only inappropriately general memories and being unwilling to report these due to the instructions of the task to recall only specific responses. A number of participants
anecdotally reported this reason for non-responses. As such, removing non-responses from the denominator may have inappropriately inflated the proportion of specific responses.

Table 12: Illustrative examples of participant responses on the AMT

<table>
<thead>
<tr>
<th>Classification</th>
<th>Cue</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specific</td>
<td>Peaceful</td>
<td>C: About a month ago, near the crematorium, me and me family at me Grandma’s plot, and it was nice and peaceful.</td>
</tr>
<tr>
<td>Categoric</td>
<td>Tender</td>
<td>C: When I looked after my mother I was tender towards her.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>prompt</em></td>
</tr>
<tr>
<td></td>
<td></td>
<td>C: God, looking after her basically, looking after her basically, she needed help like cleaning clothes, she was paralysed neck downwards.</td>
</tr>
<tr>
<td>Extended</td>
<td>Excited</td>
<td>C: Yeah I’ve been excited, last, last two week, last couple of week.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>prompt</em></td>
</tr>
<tr>
<td></td>
<td></td>
<td>C: Yeah, just going to …(location) and spending time with me father and me family.</td>
</tr>
</tbody>
</table>

9.4. Results

9.4.1. Participant characteristics.

Twenty participants (33.3%) reported no previous suicide attempts. Of the remaining 40, 12 (20.0%) reported one previous attempt and 25 (41.7%) reported multiple previous attempts, ranging in number between two to five. A further three participants
engaged in at least one suicide attempt, but data on the exact number was missing, due
to error on the part of the researcher (frequency of attempts were not recorded). Attempters
and non-attempters were compared on demographics (age, gender), illness-related
variables (medication, previous ECT, duration of illness) and self-reported
psychopathology (depressive symptoms, trait anxiety). The results of these comparisons
and associated descriptive statistics are reported in Table 13. As can be seen, there were no
significant differences between attempters and non-attempters, except for trait anxiety and
depressive symptoms. Participants with past suicide attempts reported significantly higher
levels of both depressive symptoms and trait anxiety. A break-down of the average
proportions of different memories recalled for each type of cue-word are reported in Table
14.

9.4.2. Memory specificity across cue-type.

An analysis was undertaken to test whether suicide attempters would be more likely
to recall specific autobiographical memories than non-attempters, and test whether this
relationship varied across the three different cue-types. The outcome variable in this
analysis was the proportion of specific autobiographical memories recalled in the AMT,
with a larger value indicating greater specificity. All variables were standardized to
improve interpretability.

A 2 (parasuicide: attempter vs. non-attempter) x 3 (Cue-word: Positive, negative,
entrapment) random-effects linear regression was conducted using Maximum-Likelihood
estimation with STATA version 10 (xi: xreg command; Stata Corporation, College Park,
Texas, USA). Depressive symptoms and trait anxiety were included in this analysis as
covariates, controlling for their relationship with memory specificity.
Table 13: *Comparison between suicide attempters and non-attempters on demographics, illness-related variables and psychopathology*

<table>
<thead>
<tr>
<th>Total sample</th>
<th>Attempters</th>
<th>Non-attempters</th>
<th>Comparison statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>(n = 60)</td>
<td>(n = 40)</td>
<td>(n = 20)</td>
<td></td>
</tr>
<tr>
<td>(M)</td>
<td>(SD)</td>
<td>(M)</td>
<td>(SD)</td>
</tr>
<tr>
<td>Age</td>
<td>43.42</td>
<td>11.41</td>
<td>44.20</td>
</tr>
<tr>
<td>Trait Anxiety</td>
<td>46.05</td>
<td>9.16</td>
<td>48.18</td>
</tr>
<tr>
<td>Depression</td>
<td>10.90</td>
<td>7.38</td>
<td>12.15</td>
</tr>
<tr>
<td>DOI(^a)</td>
<td>18.7</td>
<td>10.9</td>
<td>19.83</td>
</tr>
<tr>
<td>Gender (female)</td>
<td>12</td>
<td>20.0</td>
<td>6</td>
</tr>
<tr>
<td>Anti-psychotics(^b)</td>
<td>53</td>
<td>93.0</td>
<td>35</td>
</tr>
<tr>
<td>Anti-depressants(^b)</td>
<td>25</td>
<td>44.6</td>
<td>17</td>
</tr>
<tr>
<td>Tranquilisers(^b)</td>
<td>5</td>
<td>8.9</td>
<td>5</td>
</tr>
<tr>
<td>Mood-stabilisers(^b)</td>
<td>8</td>
<td>14.3</td>
<td>5</td>
</tr>
<tr>
<td>Previous ECT(^b)</td>
<td>13</td>
<td>21.7</td>
<td>11</td>
</tr>
</tbody>
</table>

*Note:* Some percentages for medication variables adjusted to take into account missing data (\(n = 3\) for anti-psychotic; \(n = 4\) for anti-depressants, tranquilisers and mood stabilisers). \(^a\)DOI = Duration of Illness (years). \(^b\)Medication and previous ECT were recorded as the number of participants receiving that particular treatment.
Table 14: Descriptive statistics for responses on the AMT

<table>
<thead>
<tr>
<th>Responses on AMT</th>
<th>Total sample</th>
<th>Attempters</th>
<th>Non-attempters (n = 20)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(n = 60)</td>
<td>(n = 40)</td>
<td></td>
</tr>
<tr>
<td>1. Positive specific</td>
<td>0.53 0.27</td>
<td>0.57 0.27</td>
<td>0.45 0.28</td>
</tr>
<tr>
<td>2. Positive categoric</td>
<td>0.19 0.21</td>
<td>0.18 0.20</td>
<td>0.23 0.22</td>
</tr>
<tr>
<td>3. Positive extended</td>
<td>0.07 0.14</td>
<td>0.08 0.13</td>
<td>0.05 0.16</td>
</tr>
<tr>
<td>4. Negative specific</td>
<td>0.59 0.28</td>
<td>0.62 0.30</td>
<td>0.53 0.23</td>
</tr>
<tr>
<td>5. Negative categoric</td>
<td>0.12 0.17</td>
<td>0.13 0.18</td>
<td>0.09 0.15</td>
</tr>
<tr>
<td>6. Negative extended</td>
<td>0.09 0.14</td>
<td>0.08 0.15</td>
<td>0.11 0.12</td>
</tr>
<tr>
<td>7. Entrapment specific</td>
<td>0.48 0.28</td>
<td>0.53 0.28</td>
<td>0.39 0.27</td>
</tr>
<tr>
<td>8. Entrapment categoric</td>
<td>0.12 0.15</td>
<td>0.11 0.14</td>
<td>0.14 0.16</td>
</tr>
<tr>
<td>9. Entrapment extended</td>
<td>0.11 0.14</td>
<td>0.10 0.13</td>
<td>0.15 0.17</td>
</tr>
</tbody>
</table>

*AMT responses reported as proportions of total responses for the particular cue type.

This analysis was used instead of a standard repeated-measures ANCOVA, as ANCOVA can be inappropriate in cases where covariates and factors are related (Miller & Chapman, 2001), as is the case in the current study (i.e., depressive symptoms and trait anxiety are associated with suicide attempts). The results can, however, be interpreted in a similar way to ANCOVA.

A main effect of suicide attempt was observed, $\beta = .54$, $p = .04$. However, the interactions between suicide attempt and cue-type were non-significant, $\beta = -.09$, $p = .76$, $\beta = .07$, $p = .79$, suggesting the relationship between suicide attempt and memory specificity did not vary across cue-type. Trait anxiety, $\beta = -.38$, $p = .01$, was significantly related to memory specificity, as were depressive symptoms, $\beta = .28$, $p = .04$, supporting the decision to control for their effects. In summary, suicide attempters were more likely to recall...
specific autobiographical memories, and this effect was equivalent across the three
different cue-types.

In this analysis all variables were standardized around the grand-mean (i.e., the
mean memory specificity across all individuals and cue-types). It has been suggested that
when looking for cross-level interactions in random-effects regression models, group-mean
centering (i.e., centering around the mean memory specificity across cue-types for that
particular individual) may be more appropriate (Enders & Tofighi, 2007). The analysis was
repeated with group-mean centering, but the interaction effects remained non-significant.

9.4.3. Memory distress.

An exploratory analysis was undertaken looking at the proportion of specific
memories recalled by participants in the AMT that were associated with current distress.
Memories were classified as distressing if rated by participants as either ‘somewhat
distressing’ or ‘very distressing’. It was found that participants with previous suicide
attempts rated a substantially larger proportion of specific memories as currently
distressing ($M = .29, SD = .21$), compared to non-attempters ($M = .07, SD = .10$). This
difference was significant, Mann-Whitney $U = 141.50$, $p < .001$, with a large effect size, $d$
$= 1.34$. Negative cue-words were associated with the highest proportion of distressing
memories ($M = .36, SD = .36$), followed by entrapment words ($M = .22, SD = .33$) and
positive words ($M = .07, SD = .18$). These differences between the three types of cue-word
were significant using a Friedman’s test, $\chi^2 = 30.45$, $p < .001$, and pairwise Wilcoxon tests
($p < .05$).

9.5. Discussion

The current study is the first to investigate the link between autobiographical
memory specificity and suicidality within a sample of individuals with non-affective
psychosis. The results showed that greater memory specificity was positively associated
with suicidal behaviour in this group, supporting the main hypothesis. This was observed
whilst adjusting for the effect of depressive symptoms and trait anxiety. This effect was not more pronounced for entrapment-related cue-words, however, disconfirming the second hypothesis.

The results suggest that for individuals with non-affective psychosis, a less specific style of retrieval for autobiographical memories may be associated with a reduced risk of suicidal behaviour. It is suggested this is because such a retrieval style blocks access to potentially distressing specific memories, including those of traumatic and aversive experiences, and their associated negative affect. Traumatic and aversive events and experiences are common in individuals with psychosis (Morrison, et al., 2003), so that such a retrieval style may have adaptive qualities for these individuals. The present study supports similar results in other clinical groups, including clinical samples of adolescents, borderline personality patients and adults with a history of abuse (Burnside, et al., 2004; Startup, et al., 2001; Swales, et al., 2001). An additional finding in the current study was that suicide attempters also reported that a greater proportion of specific memories were currently distressing, compared to non-attempters. This result is further in-line with the view that overgeneral memory in the non-attempters may serve to block out such distressing memories.

Negative and entrapment-related cue words were associated with higher proportions of currently distressing memories than positive cue-words, suggesting that these different cue-words were priming different types of memories. There was no indication that the association between memory specificity and suicidal behaviour was moderated by cue-type, though, suggesting that overgeneral memory may develop as a generalised retrieval style, rather than a tailored approach to avoiding certain distressing memories.

These results could be interpreted in terms of the Self-memory system model (Conway & Pleydell-Pearce, 2000). This model emphasises how access to mnemonic information is closely tied up with an individual’s personal goals and self-identity. This
model implies that the memory system may disrupt access to memories that are particularly aversive or ego-dystonic, so that only general mnemonic information is available. This premature termination of memory retrieval may be adaptive in some circumstances, by avoiding a major de-stabilisation of personal goals and identity (Conway & Pleydell-Pearce, 2000). Consequently, individuals less able to avoid the retrieval of these specific distressing memories may be more prone to the aversive consequences associated with the disruption of the self-memory system. Williams and colleagues (2007) have argued that the repeated truncation of memory retrieval may develop into a more entrenched and generalised, overgeneral retrieval style.

The present study may appear to conflict with the results of case-control studies, which show lower memory specificity in parasuicidal groups, compared to controls (e.g., Kaviani, et al., 2005; Williams & Broadbent, 1986). However, in these studies the control groups frequently consist of individuals free of any marked psychopathology (e.g., individuals mostly hospitalised for physical conditions in Williams & Broadbent, 1986), for whom avoiding specific memories is less likely to have any systematic adaptive consequences. It should be noted that overgeneral memory has also been shown to lead to downstream impairments in social problem-solving, which are known to increase suicide risk (Williams et al., 2007). Clearly, more research is required to untangle the potential adaptive and maladaptive consequences of overgeneral memory. One suggestion has been that whilst recalling fewer specific memories may be adaptive (this was the outcome in the present study), increases in particular types of overgeneral responses, namely categoric memories could have more maladaptive consequences (Raes et al., 2006).

Trait anxiety seemed to be acting as a suppressor variable in the current study, considering the negative relationship between trait anxiety and memory specificity alongside the positive relationship between trait anxiety and parasuicide (Table 13). Failing to include trait anxiety as a covariate in the model may have therefore resulted in an underestimation of the relationship between suicidal behaviour and memory specificity. It
is understandable that trait anxiety would interfere with performance in the AMT task as it is known to bias attention and memory recall around current worry related themes (Harvey, Watkins, Mansell, & Shafron, 2004).

The results of this study have implications for clinical practice. It may be beneficial for therapists and psychiatrists to be aware that for some psychotic patients reduced memory specificity may have adaptive qualities, and interventions that serve to improve memory specificity should be undertaken with caution. Further, the presence of readily accessible, distressing specific memories could indicate heightened suicide risk in some individuals with non-affective psychosis. It is possible that therapeutic approaches developed in the context of post-traumatic stress disorder, which emphasise the integration of intrusive trauma memories into the autobiographical memory base would be useful in these cases (e.g., Ehlers & Clark, 2000). Therapeutic techniques designed to enhance access to positive and life-affirming autobiographical memories may also be beneficial (e.g., Tarrier, 2010). It would be interesting in future research to examine how the association between memory specificity and suicidality in individuals with psychosis compares to other clinical groups where suicide represents a substantial problem, such as individuals with borderline personality disorder (Startup et al., 2001). Such research would help to determine whether these results are disorder specific or generalise across clinical phenomenon.

The conclusions that can be drawn from the current study are restricted by a number of limitations. First, it should be noted that numerous alternate causes of overgeneral memory have been suggested, which imply other explanations of the present results. For example, memory specificity has been associated with difficulties in executive processing (e.g., Williams, et al., 2007). Impaired executive processing may also reduce suicide risk (Kim, Jayathilake, & Meltzer, 2003), thus accounting for the association between memory specificity and suicidality observed in the current study. The absence of a comprehensive assessment of executive functioning in the present study is therefore a
limitation. This explanation does not account, however, for the result that suicidal participants in the current study also recalled a greater proportion of distressing specific memories.

Second, the study featured a cross-sectional design, and as such it is not possible to make inferences about the direction of causality. That is, although it is suggested that memory specificity leads to heightened suicide risk, it is equally possible that earlier suicide attempts result in more specific memory retrieval. In particular, a confounded relationship might be expected between previous suicide attempts and the recall of distressing specific memories, as the attempt itself might feature as one of these memories. In the current study only three memories explicitly involved a past attempt, so this confound seems unlikely to have had a substantial effect. A reciprocal relationship can be also be conceived of, whereby early attempts sensitise an individual to specific memory recall, which then increases the risk of future suicidal behaviour. Prospective research is necessary to resolve these issues.

Third, the study had a small sample size, which may have minimised the power to find differences between the parasuicidal and non-suicidal participants. However, such a loss of power would have worked against the results observed in the current study. It should also be noted the current sample size was typical of that in other studies investigating autobiographical memory in psychosis (e.g., Neumann, et al., 2007; Wood, et al., 2006).

Fourth, no attempt was made to check the veracity of self-reported suicide attempts against participant medical records or mental health teams. The measure of suicidal behaviour may therefore be affected by respondent bias. The attempter group did report greater depressive symptoms, which may have biased self-reports, for example. However, it has been noted that medical records can also be inaccurate, and so do not necessarily represent an ideal standard against which to compare self-reports (Cradock, Young, & Sullivan, 2001). Moreover, recent qualitative research has highlighted how participant’s
perceptions of clinical, treatment-related environments may hamper the quality of information obtained in these contexts, but may pose less of a problem in research contexts (Taylor et al., 2010a).

9.6. Note

1 The analysis of AMT performance in the present study was repeated with the proportion of categoric, rather than specific responses as the dependent variable. No significant results were identified.
CHAPTER 10

10. The Subjective Experience of Participation in Schizophrenia Research: A

Practical and Ethical Issue

10.1. Abstract

Mental health research may pose a risk to those who participate in it, especially for potentially vulnerable groups such as those diagnosed with schizophrenia. The current study aimed to investigate the subjective experience of research participation in this group. Seventy-nine individuals with diagnoses of schizophrenia spectrum-disorders who had taken part in research looking at suicide were asked to provide feedback about their experiences. Responses were analysed using qualitative and quantitative methods. Results indicate that negative feedback concerning participation was rare, occurring in 2.5% to 15.2% of responses. Positive feedback was more frequent, occurring in 45.6% to 60.8% of responses. Qualitative thematic analysis identified five key themes in participants’ responses: Altruism, Value of being involved in research, Therapeutic effect, Enjoyable experience and Negative experiences. The results support the view that mental health research in this group can be ethically-viable.

10.2. Introduction

The common purpose of mental health research is to explore and understand mental health difficulties, and to improve the lives of those who use mental health services. There are ethical concerns though, that the process of investigating these issues may expose those being studied to potential harm (National Commission for the Protection of Human Subjects, 1979). Despite this, empirical research assessing participant distress is limited. Of the studies that have been conducted, findings have been encouraging, with a recent systematic review suggesting negative reactions to research participation are rare, occurring in 10% or fewer of cases (Jorm et al., 2007).

Concerns about harm are heightened in cases of potentially vulnerable participants, including those with mental health disorders (Wilson & Stanley, 2006). Such misgivings are substantiated by evidence that individuals with higher levels of psychopathology are more prone to experience distress in research (Boothroyd, 2000; Jorm et al., 2007; Reynolds, Lindenboim, Comtois, Murray, & Linehan, 2006). In particular, there are reservations about research amongst individuals diagnosed with schizophrenia (Wilson & Stanley, 2006), which have been endorsed by both psychiatrists and service users alike (Roberts, Warner, & Brody, 2000). These participants may be at further risk from experiencing distress when the research concerns sensitive subjects such as trauma or suicide (Jorm et al., 2007). Despite this, few studies have looked directly at the experience of research participation within this group. Further investigation of the experience of participants diagnosed with schizophrenia-spectrum disorders in suicide research is therefore warranted.

In addition to ethical issues, a number of related pragmatic concerns surround the question of the risk posed to clinical participants by research. Difficulties in the development and recruitment stages of a project may stem from individuals’ assumptions about the degree of risk. In particular, the number of clients who are referred to clinical research projects may be restricted due to the reservations of clinicians and potential
participants about the risk involved in taking part. These misgivings may also create a selection bias whereby particular subsets of clinical groups are excluded from research, such as those who are suicidal (Wilson & Stanley, 2006). Similarly, ethical committees may restrict or even veto clinical research because it is felt that such research will be unduly distressing. Such concerns may be unfounded and ultimately prevent research that is clinically necessary.

Investigations of participant distress have commonly employed basic Likert-type measures of negative outcomes (e.g., Boothroyd, 2000; Jorm et al., 2007). However, it has been argued that participants’ reactions to research may be highly variable, arising from idiosyncratic sensitivities to particular aspects of the study (Hutchinson, Wilson, & Wilson, 1994). A more qualitative, open-ended methodology will therefore have the advantage of enabling participants to more fully describe the complexities of their experience. This approach was employed by the current study.

The present study sought to investigate the subjective experiences of research participation in individuals with a diagnosis of a psychotic disorder. Focus was on the experiences of participants taking part in a clinical study researching psychosis and suicide. A qualitative, open-ended methodology was employed to explore the nature and variety of the negative and positive experiences reported by participants.

10.3. Method

10.3.1. Participants.

The sample consisted of 79 outpatients from the Greater Manchester area who consented to take part in a larger study investigating psychological factors predicting vulnerability to suicide ($M_{age} = 42.3$, $SD = 11.7$; 23 female). All participants met the following inclusion criteria: 1) a chart diagnosis (ICD-10) of a schizophrenia-spectrum disorder, 2) being over the age of 18, 3) psychosis not caused primarily by drug misuse or organic disorder, 4) currently not at very high-risk of suicide as judged by their keyworker
or other appropriate healthcare professional and 5) capable of providing informed consent as judged by their keyworker or other appropriate healthcare professional. The majority of participants had a diagnosis of schizophrenia (n = 72, 91.1%). The remainder had received diagnoses of other schizophrenia-spectrum disorders (e.g. Schizoaffective disorder, Atypical psychosis, Psychosis-not-otherwise-specified). The majority of participants were white British (n = 63; 79.7%), with the remainder being either mixed British (n = 6; 7.6%), Asian (n = 3; 3.8%), Afro-Caribbean (n = 1, 1.3%), or Other (n = 4; 5.1%). Ethnicity data was missing for two participants.

10.3.2. Measures.

A Feedback form (Appendix V) was provided to allow written feedback about the experience of taking part in the study. This form included three open questions, beneath which there was space for participants to respond: Question 1, How did you find it talking about the issues raised in the study? Question 2, What was your general experience like, taking part in this study? Question 3, How do you feel about research in this area? Questions 1 and 2 both assessed participants’ personal experiences of the research. The focus of the first question was on participants’ reactions to the content of the research, whilst the second question looked at the overall experience of the research process. The third question assessed general views and attitudes towards clinical psychological research. There was also room for participants to provide any additional comments. The question number is displayed in parenthesis next to all quotes cited in this paper. The form was completed by the participant with a researcher present to provide support and answer questions.

10.3.3. Procedure.

The larger study was the first in a planned series looking at factors conferring vulnerability to suicidality in schizophrenia. This research was reviewed and approved by an NHS research ethics committee. Informed consent was obtained from all participants
prior to taking part in the study. Participants were informed that their responses would be kept confidential except in circumstances where they suggested they were going to harm themselves or somebody else, in which case a relevant member of their care team would be informed. The study lasted between an hour and an hour and a half with a researcher present throughout. The study involved completing a range of self-report measures, tasks and a clinical interview assessing negative cognitions, attitudes and psychopathology, including depression and suicidality.

At the end of the study each participant was asked to provide feedback about their experience during the study on the form provided, in particular noting down anything they liked, disliked or found distressing about the study.

10.3.4. Qualitative thematic analysis.

The use of qualitative thematic analysis has been advocated within psychology as an analytic tool due to its inherent methodological and theoretical flexibility (Bowling, 2000; Braun & Clarke, 2006). Thematic analysis allows the identification and interpretation of central themes emerging from the data. The main aim of this analysis was to uncover key themes reflecting participants’ opinions, motivations and experiences of taking part in the research. In this instance an inductive, exploratory approach was employed. A realist stance underlined this analysis, whereby participants’ responses were assumed to reflect genuine aspects of their experience, motivations and views.

The qualitative analysis was initially conducted by two members of the research team: a service-user with personal experience of having a severe and enduring mental health condition, currently working as an Honorary Research Fellow within the Division of Clinical Psychology (University of Manchester) and a Doctoral student in clinical psychology. Responses to each question on the feedback form were studied separately in turn, with responses re-read multiple times to identify key features. Data were then hand sorted and responses with similar content were gathered together into categories which were then divided into emerging themes. Questions raised in Polit & Hungler’s (1997; e.g.
‘What is going on here?’, ‘What is this?’, ‘What does this mean?’) qualitative content analysis framework were applied to each item of data to aid the process of coding and analysis. Themes were then studied and interpretations applied. Themes were based upon the prevalence of particular patterns within the data, but also in terms of relevance and importance of these patterns to the research aims (Braun & Clarke, 2006). Further examination, checking and group discussion were carried out by the remaining members of the research team. A single item of data contributed to more than one theme in some cases.

The results were also discussed with the Service-User-Research-Group (SURG) based at the University of Manchester. SURG is a body of service-users who aid in the development and conduct of mental health research both through providing consultation and feedback and actively conducting research themselves. Consultation of this group provided a form of member checking of the interpretations made by the research team, as advocated by Glaser and Strauss (1967), to assure qualitative validity and rigour.

10.4. Results

10.4.1. Descriptive statistics.

Six (7.6%) participants failed to provide any feedback. Reasons for this were not formally recorded, but anecdotally the most common reason cited was that participants had nothing they wanted to say. A further three participants completed the feedback form for questions 1 and 2, but left the third question blank and a single participant did not respond to question 1 alone. Responses to each question were rated for the presence of negative and positively valenced content. Table 15 reports the frequency of positive and negative content in responses to each question. It should be noted that some responses included both positive and negative content (e.g., ‘I found it interesting although difficult at times (Q1)’, ‘Quite depressing, overall positive (Q1)’) and were subsequently rated separately for both positive and negative content. This was only apparent in three cases for the first question and one for the second question. If a conservative approach is taken, whereby these mixed
responses are classified just as negative, then for the first question 33 responses (41.8%) were positive, and 12 responses (15.2%) negative, whilst for the second question, 36 responses (45.6%) were positive and 7 responses (8.9%) negative. These results are very similar to those obtained when positive and negative elements were considered separately (Table 1). A second independent judge rated a subset of the responses (n = 47; 59.5%). Inter-rater agreement between judges was good, with kappa scores averaging at $\kappa = .92$. These are reported by question and valence in Table 1. The remainder of responses were neutral in content (e.g., ‘Okay (Q1)’, ‘Alright (Q1)’, ‘I didn’t mind, it was fine (Q1)’).

Table 15: Frequencies and percentages of positive and negative content associated with each question

<table>
<thead>
<tr>
<th>Question</th>
<th>Positive (%)</th>
<th>Inter-rater agreement (κ)</th>
<th>Negative (%)</th>
<th>Inter-rater agreement (κ)</th>
</tr>
</thead>
<tbody>
<tr>
<td>How did you find it talking about the issues raised in the study?</td>
<td>36 (45.6%)</td>
<td>.90</td>
<td>12 (15.2%)</td>
<td>.88</td>
</tr>
<tr>
<td>What was your general experience like, taking part in this study?</td>
<td>38 (48.1%)</td>
<td>.90</td>
<td>7 (8.9%)</td>
<td>1.00</td>
</tr>
<tr>
<td>How do you feel about research in this area?</td>
<td>48 (60.8%)</td>
<td>.85</td>
<td>2 (2.5%)</td>
<td>1.00</td>
</tr>
</tbody>
</table>
10.4.2. Thematic analysis.

Five key themes were identified through the qualitative analysis of the feedback data. These themes were reviewed and validated by members of SURG. A summary of these themes and associated responses is displayed in Table 16.

Table 16: Themes and associated responses

<table>
<thead>
<tr>
<th>Themes</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Altruism</strong></td>
<td>Overall positive, enjoyed helping. It was okay, glad that they did it (Q2)</td>
</tr>
<tr>
<td></td>
<td>If it helps people with illness I am all for research (Q3)</td>
</tr>
<tr>
<td></td>
<td>Good, how else will the helpers help people without understanding (Q3)</td>
</tr>
<tr>
<td></td>
<td>Very interesting and helpful for other sufferers (Q3)</td>
</tr>
<tr>
<td></td>
<td>Little bit more help for people like me (Q3)</td>
</tr>
<tr>
<td></td>
<td>If it helps other people in the long run then it's worth it (Q3)</td>
</tr>
<tr>
<td></td>
<td>Happy to help others (additional comments)</td>
</tr>
<tr>
<td></td>
<td>I hope it(s) benefitiol (beneficial) to mental health</td>
</tr>
<tr>
<td></td>
<td>Good idea to maybe think one day you could stop these problems for people (Q3)</td>
</tr>
<tr>
<td></td>
<td>Good because people need help (Q3)</td>
</tr>
<tr>
<td></td>
<td>I feel like it is helping other’s if it stop’s somebody from comiting (Committing) suicide. It’s a good thing (Q3)</td>
</tr>
<tr>
<td></td>
<td>I was glad to help (Q3)</td>
</tr>
<tr>
<td></td>
<td>Helpful on both sides (Q3)</td>
</tr>
<tr>
<td><strong>The value</strong></td>
<td>Necessary and needed (Q3)</td>
</tr>
<tr>
<td><strong>of research</strong></td>
<td>Very important (Q3 x3)</td>
</tr>
</tbody>
</table>
Worthwhile (Q3)

Think it’s a good thing (Q3)

Think it’s great (Q3)

Good thing (Q3)

It’s something that needs to be done. Psychology is in it’s infancy (Q3)

Very good idea (Q3)

Very useful (Q3)

Should be more research (Q3)

Could be quite useful (Q3)

About time (additional comments)

More research should be done (additional comments)

Positive and promising (Q3)

Important (Q3)

The research is necessary and ongoing (Q3)

It’s one way of finding out about things (Q3)

Not enough of it (Q3)

Worthwhile (Q3)

I agree (Q3)

**Therapeutic**

It helps me with my problems when discussing issues with my health (Q1)

Comfortable, makes me aware of myself (Q1)

Helpful (Q1)

Released (Q1)

The interview reminded me of some of my problems in the past, but I found it helpful to talk about them (Q1)

Didn't bother me, glad to get it out of my system (Q1)

Very good, it helps me gain clarity (Q2)
Made me think (Q2)

I felt released and calm (Q2)

Helped me (Q2)

Very helpful (Q2)

I really enjoyed it, remembered a lot of things in my life (Q2)

Said things I’ve not said to my psychiatrist, because it’s confidential it was a bit of a release (Q2)

I felt quite comfortable talking about my issues. The suicide attempt was a few months ago, but being asked these question(s) makes me realise I’m not alone and my thought and emotion are quite common (Q1)

Great. The talking did me good (Q2)

Great, I feel much better now I can open up about things that have happened in my life. Before, I couldn’t let it out and that made me depressed (Q1)

Very easy. Especially feeling you can confide. To tell the truth (Q1)

Brilliant. Good therapy (Q1)

I found it quite therapeutic (Q1)

Therapeutic (Q2)

Relaxing (Q2)

Enjoyable experiences

Alright, enjoyed doing it (Q2)

Fun (Q2)

I enjoyed it (Q2)

I am enjoying myself thoroughly all question and find that good think with one and another (Q3)

I enjoyed the session with Judith & Peter (additional comments)

Enjoyed the experience (Q1)
I enjoyed the first part of the course (Q1)
I found it quite enjoyable (Q3)
Enjoyed it (Q1)

Negative experiences
Alright. Asking questions about the Devil were distressing (Q1)

Quite depressing (Q1)
Distressing to some degree (Q1)
I found it interesting although difficult at times (Q1)
Always difficult to talk about, overall okay (Q1)
I was scared at first, but alright during the study (Q2)
Not good to some degree (Q2)
Anxious, didn't like cards or words (Q2)
Felt a bit nervous (Q1)
It was a bit difficult for me to talk about my issues but I had no problems with it (Q1)
I was a bit nervous but the researcher was friendly and explained the research process to me (Q2)
Fine, a little difficult when asked to talk about my “breakdown” (Q1)
I got very tired (Q2)
Difficult (Q1, Q3)
A little bit difficult, but on the whole OK (Q1)
Uneasy (Q1)
Hard, OK (Q1)
On the whole alright, but I had some difficulty thinking of the memories (Q2)
Find it hard to bother with (Q3)
Note: Words and letters in parenthesis provided for clarification, to indicate multiple responses or report question number; Q1 = ‘How did you find it talking about the issues raised in the study?’, Q2 = ‘What was your general experience like, taking part in this study?’, Q3 = ‘How do you feel about research in this area?’

Altruism. This theme included comments which revealed a desire to participate in the research not particularly for personal gain, but rather for ‘the greater good’ of others in the future (‘Happy to help others (additional comment)’, ‘If it helps other people in the long run then it’s worth it (Q3)’, ‘I was glad to help (Q3)’). Sometimes this included a particular desire to help those with similar experiences and mental-health problems to the participants themselves (‘Very interesting and helpful for other sufferers (Q3)’, ‘If this helps people with illness I am all for research (Q3)’, ‘A little bit more help for people like me (Q3)’, ‘Good, how else will the helpers help people without understanding (Q3)’).

Value of being involved in research. This theme captured positive comments related to the value and benefits of research in general. This theme is distinct from the previous one in that responses were not linked to a specific motive for participating in research. Responses reflected the belief that clinical research was a worthwhile and valuable pursuit (‘Worthwhile (Q3)’, ‘Very important (Q3)’), was necessary (‘Necessary and needed (Q3)’, ‘It’s something that needs to be done, psychology is in its infancy (Q3)’, ‘The research is necessary and ongoing (Q3)’), and of which more is required (‘More research should be done (additional comment)’, ‘Should be more research (Q3)’, ‘Not enough of it (Q3)’).

Therapeutic effect. Many service users described a personal therapeutic effect that they associated with taking part the research (‘It helps me with my problems when discussing issues with my health (Q1)’, ‘I felt quite comfortable talking about my issues. The suicide attempt was a few months ago, but being asked these question(s) makes me realise I’m not alone and my thought and emotion are quite common (Q1)’, ‘Brilliant.'
Good therapy (Q1)’, ‘Therapeutic (Q2)’. In particular, a subset of participants suggested the interview had cathartic properties, expressing a feeling of relief and release related to talking to the researcher about their mental health problems and experiences (‘Didn’t bother me, glad to get it out of my system (Q1)’, ‘I felt released and calm (Q2)’, ‘Very easy. Especially feeling you can confide. To tell the truth (Q1)’). In one instance, awareness of the confidentiality of the research was highlighted as an important factor in allowing the participant to talk openly and experience catharsis (‘I said things that I have not said to my psychiatrist, because it’s confidential it was a bit of a release (Q2)’). Therapeutic gains were linked to other psychological domains, including enhanced awareness of past problems (‘The interview reminded me of some of my problems in the past, but I found it helpful to talk about them (Q1)’ and increased self-awareness (‘Makes me aware of myself (Q1)’, ‘Very good, it helps me gain clarity (Q2)’).

Enjoyable experience. A number of participants simply reported that they enjoyed taking part in the study (‘Alright, enjoyed doing it (Q2)’, ‘Fun (Q2)’, ‘I enjoyed the session with Judith & Peter (the researchers)(additional comment)’, ‘I found it quite enjoyable (Q3)’).

Negative experiences. Seventeen participants raised points which reflected negatively on their experience of being involved in the study (‘Quite depressing (Q1)’, ‘Distressing to some degree (Q1)’, ‘I got very tired (Q2)’). Participant’s negative experiences included difficulty and distress associated with disclosure and discussion of their mental-health difficulties (‘It was a bit difficult for me to talk about my issues, but I had no problems with it (Q1)’, ‘Fine, a little difficult when asked to talk about my “breakdown” (Q1)’, ‘Always difficult to talk about, overall okay (Q1)’). It should be noted in the above responses that despite the instances of distress, participants asserted that they found this questioning and the research generally acceptable. In one instance this distress was linked in particular to a discussion about the participant’s auditory hallucinations where they would see the Devil, suggesting a particular sensitivity to this topic (‘Asking
questions about the devil were distressing (Q1’). Negative experiences also included anxiety and nervousness (‘Felt a bit nervous (Q1)’, ‘Anxious, didn’t like cards or words (Q2)’), although two participants also suggested these feelings could be successfully allayed (‘I was a bit nervous but the researcher was friendly and explained the research process to me (Q2)’, ‘I was scared at first, but alright during the study (Q2)’).

Three responses suggested a sixth theme, which was the need to be heard, whereby participants indicated that their involvement in the research process gave them ‘a voice’ or an opportunity to talk openly about their experiences (‘It gave me a chance to tell my story (Q2)’, ‘It’s about time we were asked (Q3)’, ‘It enabled me to talk about something I know a little about (Q1)’). This theme was underrepresented in the data, but was considered interesting and could be an area of focus for future research.

10.5. Discussion

The current study aimed to investigate the subjective experiences of taking part in research for participants with a diagnosis of a psychotic disorder. The findings of this study are largely positive. Negative content was apparent in only a minority of responses, with prevalence ranging between 2.5% and 15.2% across questions. In contrast, positive content was more frequent, with prevalence ranging between 45.6% and 60.8% across questions. These findings are in line with a recent review suggesting a similar prevalence of negative and positive reactions to research in patient samples (Jorm et al., 2007).

The qualitative analysis of feedback responses allowed an investigation into the nature and range of individuals’ experiences during the study. This analysis supports previous qualitative findings that research can have a number of benefits for those who participate. These include a sense of catharsis and therapeutic gain and a perception of helping others (Dyregrov, 2004; Hutchinson et al., 1994). It should be clarified that the therapeutic effect reported by participants reflects their subjective experiences. Whether or not this therapeutic effect endures after the study and translates into a genuine improvement in wellbeing requires further investigation.
The theme of therapeutic effect may stem in part from the unique interpersonal context of the research. The research environment may provide a context where issues pertaining to mental health and suicide can be discussed in a confidential, open and non-judgmental way. Fear of treatment and involuntary hospitalisation may prevent some service-users from discussing aspects of their mental health with healthcare professionals (Hahm & Segal, 2005; Sussman, Robins, & Earls, 1987), whilst for others certain issues may not be raised in routine assessments (Jobes et al., 2004). The research environment may differ in that the focus is not primarily on treatment, and confidentiality is emphasised along with the boundaries of this confidentiality. Consequently, some participants may see research as an additional forum to voice their problems, which lies outside of the usual context of care and treatment. Of course, research cannot be seen to provide any form of alternative to participants’ standard care.

The current study also supports past findings that patients with a diagnosis of schizophrenia predominantly express positive views about mental health research, viewing it as an important and valuable endeavour (Roberts et al., 2000), and rating the possible benefit to others as an important reason for participating (Roberts, Warner, Anderson, Smithpeter, & Rogers, 2004; Roberts et al., 2000). This motivation for participation in mental health research has also been endorsed by other populations, such as bereaved parents (Dyregrov, 2004).

Anxiety and nervousness surrounding participation was also reported. However, it seems that for a few participants at least, these feelings were only present at the beginning of the study, and were successfully reduced once the study began. It seems likely that the researcher may play an important role in quelling such anxieties, through careful explanation of the study procedure and identification of any particular concerns. Other negative experiences included distress and difficulty linked with the disclosure and discussion of personal mental-health problems. The specific features of the study content that lead to distress may be idiosyncratic, reflecting personal sensitivities to certain topics
Consequently, it may not always be possible to ascertain who will or will not be distressed by a particular feature of the study and this therefore raises the importance of having adequate procedures in place for dealing with instances of participant distress. Such procedures need to be flexible enough to deal with the potential variation in the nature and degree of distress experienced.

In the study from which the current feedback was taken, these procedures involved concluding the study with a detailed and interactive debriefing. This included a brief task designed to restore positive mood through encouraging a focus on the participants’ favoured activities and positive characteristics (see Appendix VI). This study also made use of multiple follow-up calls to assess individuals’ well-being following the study. In two instances these calls lead to concerns about a participant’s wellbeing. In these cases, these concerns were passed on to the participant’s keyworker or other relevant healthcare professional with the participant’s consent. Maintaining strong links with a participant’s care team was therefore another important factor in managing participant distress.

Interestingly, negative responses were more frequent for the first two questions, which assessed personal experiences of the research, compared to the third, which assessed more general views towards clinical psychological research. This suggests participants may experience distress related to particular aspects of the study, but still maintain the overall value of such research. This possibility is supported by the observation that a number of participants reporting distress also stated in the same response that they found the study acceptable. It is therefore relevant for future research of this nature to recognise that participants may hold mixed and dissonant views of this nature.

These results may have implications for how informed consent is obtained. It is important for a potential participant to be fully aware of the nature and content of the study, particularly where the focus is on personal mental-health issues, as this is an area some may find distressing. An awareness of this content will allow individuals to predict the degree of distress the study may cause them and subsequently whether or not to
participate. In the current study, participants were provided with information sheets at least 24 hours before consent was sought. These outlined the study procedure and content, and provided examples of the questions participants would be asked. Unfortunately, it was beyond the scope of the current study to assess participant satisfaction with the informed consent process, although this is an important issue, which has received attention elsewhere (e.g., Anderson & Mukherjee, 2006).

Adequate debriefing procedures are important following research, including encouragement of participant feedback, so that negative experiences can be identified and discussed with the researcher. Such debriefings may also have an educational or informative value to participants (Brody, Gluck, & Aragon, 2000). Considering the finding that many participants may engage in research with altruistic motives, a reiteration of the purpose and aims of the research may also be beneficial, allowing participants to determine whether their involvement has been worthwhile. As a final point, researchers should show caution in describing the possible benefits of research participation. Although positive experiences are frequent, they cannot be guaranteed and research should not be viewed in any way a substitute for clinical therapeutic interventions.

Several limitations of the present study need to be recognised. First, it is possible that some participants may have been uncomfortable or in other ways unwilling to report on the negative aspects of their experience. This may partly account for the low rates of such experiences apparent in the feedback responses. In such cases participants may have provided neutral responses, rather than describe their true negative experiences. Similarly, negative responses that were intermixed with neutral content (e.g., ‘Always difficult to talk about, overall okay (Q1)’) may simply reflect participants trying to ameliorate the impact of their negative comments (or soften the blow). Still, such acquiescent or deferential responding seems less likely to account for the substantial numbers of positive responses identified in the study. Second, the written feedback format resulted in often quite terse responses from participants. It is likely a semi-structured interview methodology would
have provided a deeper and more detailed exploration of participants’ experiences. However, participants had already endured 1 to 1.5 hours of questions and an additional detailed interview may have overburdened some individuals. Future research investigating participant distress could employ semi-structured interviews conducted a few days following the study, so as to assess the on-going impact of participation on the individual.

In conclusion, the present study suggests that individuals diagnosed with schizophrenia endorse a variety of positive views concerning mental health and suicide research. The research was seen by many as a valuable and positive endeavour, which could be an enjoyable, therapeutic and cathartic experience. Nevertheless, a relevant subset of participants did find this type of research difficult, distressing or anxiety-provoking. The present study suggests such negative experiences were rare, although further larger-scale research will be necessary to confirm the proportion of individuals likely to have such negative experiences. Consequently, these findings support the view that research investigating schizophrenia and suicide can be ethically-viable, although researchers need to be mindful of the possibility of negative reactions in some participants.
CHAPTER 11

11. General Discussion

11.1. Overview

The overarching aim of this thesis was to investigate the concepts of defeat and entrapment and their role in the psychological mechanisms underlying suicide. To this end, the chapters featured in this thesis make a number of advancements in the current conceptualisation of defeat and entrapment, and their relationship with suicidality. In particular: a) a new conceptualisation of defeat and entrapment, as a unitary psychological construct, was outlined and supported; b) this defeat and entrapment construct was found to predict suicidality in a student population and in individuals diagnosed with psychotic disorders; c) these relationships remained even whilst adjusting for other notable psychological risk factors; d) evidence was obtained that perceptions of defeat and entrapment emerge from maladaptive self-appraisals and in reaction to positive psychotic symptoms. It was also observed that autobiographical memory specificity was associated with suicidality in individuals with psychosis, although this effect was not enhanced for defeat and entrapment themed memories as was predicted. A final study established that conducting research of this nature in individuals diagnosed with psychotic disorders carries minimal risk of distress. This final chapter will summarise these findings, discuss the theoretical and clinical implications that can be drawn from this body of research, and consider future avenues of investigation.

11.1.1. Chapter summary.

It was noted that no systematic review of the literature concerning the link between defeat, entrapment and psychopathology had previously been made. Nevertheless, the concepts of defeat and entrapment have been adopted to account for a variety of clinical phenomena, including unipolar depression, social anxiety and PTSD as well as suicide. A substantive review in this area was therefore important in clarifying the theoretical
suppositions and assumptions underlying the concepts of defeat and entrapment and untangling the associations these variables have with depression, anxiety and suicide. A review of this nature was pursued in Chapter 3. A comprehensive search strategy was utilised covering multiple online databases. This resulted in the identification of 51 empirical studies investigating depression, anxiety, including PTSD, and suicidality in relation to defeat or entrapment. Across these studies there was convergent evidence that perceived defeat and entrapment predicted psychopathology. Evidence was strongest in the case of depressive symptoms, social anxiety (in psychosis) and PTSD. Weaker evidence was apparent for anxiety symptoms in general and suicidality. This lack of empirical evidence concerning suicidality provides a strong justification for the main aim of this thesis, to investigate the link between defeat, entrapment and suicidality. The review process also identified a lack of evidence supporting a distinction between the concepts of defeat and entrapment.

This question of the validity of the distinction between defeat and entrapment was one of the key issues raised in this thesis. The conceptualisation of these concepts proposed in the SAMS, and expanded on in Chapter 3, suggests that perceptions of defeat and entrapment co-occur, and so represent a unitary psychological construct. However, defeat and entrapment have traditionally been defined as two inter-related but distinct constructs (Gilbert, 2006b; Gilbert & Allan, 1998; Sloman et al., 2003). Chapter 4 provided the first empirical test of the factor structure of these variables, employing an Exploratory Factor Analysis (EFA) of responses made by a student sample on the defeat and entrapment scales (Gilbert & Allan, 1998). Results strongly supported a single factor solution and so suggested that defeat and entrapment represent a unitary construct.

As noted in Chapter 4, the results of this study are not conclusive, and additional research is necessary to confirm whether or not defeat and entrapment are best conceptualised as a unitary construct. The goal of Chapter 5 was, therefore, to provide additional confirmatory evidence to support the singular nature of perceptions of defeat
and entrapment. This was achieved through two separate analyses. First, a
Confirmatory Factor Analysis (CFA) demonstrated that a one factor model best fitted the
data, once adjusting for potential methodological bias in the measures (following
procedures described by Marsh, 1996). Second, examination of the pattern of correlations
with affect and eudemonic (psychological) well-being revealed no substantive differences
between defeat and entrapment. These two particular outcomes were selected due to their
broad coverage of positive and negative functioning and non-overlapping nature (Crawford
& Henry, 2004; Linley et al., 2009; Ryff, 1989). It was therefore concluded that defeat and
entrapment are best conceptualised as a single psychological construct. The consistency of
results across different methodologies lends weight to the strength of this conclusion.

A second question raised in this thesis was whether perceptions of defeat and
entrapment acted as the psychological mechanisms underlying suicidality. Consequently, it
was important to determine whether the defeat/entrapment construct was associated with
suicidality. However, it was also predicted, based on the SAMS, that defeat/entrapment
would mediate the impact of negative self-appraisals on suicidality. That is, within the
SAMS (although similar ideas are implicit in the COP model, Williams, 1997) maladaptive
appraisals in domains such as social support and problem-solving ability are believed only
to be suicidogenic in as much as they generate and exacerbate perceptions of being
defeated and trapped. These predictions were first tested in Chapter 6, via a cross-sectional
study of students who were experiencing some degree of suicidal ideation. Structural
Equation Modelling (SEM) supported a full mediation model, whereby defeat and
entrapment (estimated as a singular construct) mediated the impact of maladaptive self-
appraisals on suicidality. Further, these results held whilst adjusting for hopelessness.

Chapter 7 provided a further cross-sectional test of the association between defeat,
entrapment and suicidality. This study focused on a different population, namely
individuals receiving diagnoses of schizophrenia spectrum disorders. No previous work
has explored the link between defeat, entrapment and suicide in this group, despite illness-
related appraisals of entrapment being identified as a predictor of depression and anxiety in these individuals (Birchwood et al., 2005; Gumley et al., 2004; Iqbal et al., 2000; Karatzias et al., 2007; Rooke & Birchwood, 1998). This study also focused on a particular class of psychotic experiences, namely positive psychotic symptoms (e.g., hallucinations, delusions), as these have been identified as a risk factor for suicidality (Fenton et al., 1997). Results were consistent with the previous chapter, supporting a mediational pathway whereby more severe positive symptoms were positively associated with a latent defeat/entrapment variable, which in turn mediated their association with levels of suicidal ideation. Secondary analyses suggested that of the positive symptoms assessed, suspiciousness (paranoia), in particular, was involved in this mediational pathway. These results held whilst adjusting for both depressive symptoms and hopelessness.

The results of chapters 6 and 7 remain limited by their cross-sectional nature, however. Indeed, all existing research exploring the link between defeat, entrapment and suicide has employed cross-sectional designs, as highlighted in the systematic review (Chapter 3). In the absence of longitudinal designs, conclusions cannot be drawn about the direction of causality. This is problematic since it is plausible that experiences of suicidal ideation and behaviour (where unsuccessful) could themselves lead an individual to feel trapped and defeated. In light of these concerns, Chapter 8 reported on a prospective study, assessing levels of defeat, entrapment and suicidal ideation in students at two time-points, approximately 12 months apart. Defeat and entrapment (considered as a singular composite variable) predicted subsequent changes in ideation, even whilst adjusting for depressive symptoms. These results bolster the position that perceived defeat and entrapment is a causal driver of suicidality.

Research into the aetiology of suicide has identified a number of cognitive processes that when impaired or biased can contribute to suicide risk (Ellis & Rutherford, 2008). One notable factor has been autobiographical memory specificity (Williams et al.,
Chapter 9 reports on a study designed to determine a) whether autobiographical memory specificity was associated with suicidal behaviour in individuals diagnosed with schizophrenia spectrum disorders using a cued recall paradigm, and b) whether this effect would be increased for defeat and entrapment themed memories, as indexed via defeat and entrapment related cue-words. No previous research has explored the link between memory specificity and suicidal behaviour in this population. However, previous research within other clinical groups, who are exposed to a high level of distress or trauma, has found that greater memory specificity predicts an increased risk of suicidality (Burnside et al., 2004; Startup et al., 2001; Swales et al., 2001). This same effect emerged in the current study, with those individuals reporting previous suicide attempts recalling greater numbers of specific memories, after controlling for trait anxiety and depressive symptoms. The relationship emerged irrespective of cue-type, however, therefore disconfirming the second prediction that this effect would be stronger for defeat and entrapment related cue-words. It was suggested that overgeneral or non-specific autobiographical memory may manifest as a general retrieval style, rather than as a tailored strategy, explaining the lack of an effect of cue type.

Two of the studies so far conducted within this thesis had recruited individuals diagnosed with a schizophrenia spectrum disorder. There has been debate over the ethics of involving such individuals in research (Wilson & Stanley, 2006). One major concern is the possible risk of distress, in terms of anxiety, worry or lowered mood, posed by some clinical research to those who take part (Jorm et al., 2007). This concern is likely to have particular precedence in the current body of research, as the topic of suicide is one that may be inherently upsetting to some individuals. No prior research could be identified that had looked at research-related experiences in individuals with schizophrenia spectrum disorders where the research topic was suicide. This issue was therefore approached directly in Chapter 10, with a study that explored participants’ subjective experience of taking part in the research. A qualitative methodology was employed, so as not to constrain
individuals’ potential repertoire of responses, but instead obtain the full range of experiences in the study. The results of this study were largely positive, with the majority of participants providing positive feedback on their experiences. Particular benefits included a perceived therapeutic effect, a sense of altruism, and enjoyment. Many participants also saw psychological research as a valuable undertaking. Negative experiences were also noted, but were rare, commonly involving either distress concerning particular topics or feelings of anxiety. Overall it was concluded that suicide research within schizophrenia spectrum patients could be done in an ethically viable manner.

11.2. Theoretical Implications

11.2.1. The conceptualisation of defeat and entrapment.

11.2.1.1. Defeat and entrapment represent a unitary construct.

The studies included in this thesis make a number of substantive theoretical advances in how the concepts of defeat and entrapment are conceptualised. Firstly, a tentative conclusion can be made that defeat and entrapment represent a unitary psychological construct. Direct evidence for this claim comes from the results of an EFA (Chapter 4) and CFA (Chapter 5) in separate non-clinical samples, in addition to the lack of meaningful differences between the two concepts in terms of their correlations with affect and eudemonic well-being. Evidence also comes from the SEM studies (Chapters 6 and 7), which found high factor loadings for both scales onto a single factor. Indirect evidence comes from the systematic review (Chapter 3), which failed to identify any consistent evidence in the existing literature which might imply a distinction between these variables. It was suggested that there may still be a temporal distinction between defeat and entrapment (Chapter 3), with defeat preceding perceptions of entrapment, as is implied by the social rank theory of depression and the COP model. This is an area where further investigation is needed.
A case was put forward in Chapter 3, as to how these variables might be understood as a single factor, building on the ideas developed by Johnson and colleagues (2008). It was stated that the core phenomenological features of defeat were a sense of failed struggle. The irreparability and powerlessness encapsulated by the ‘failed’ component of this definition already implies a level of entrapment. Consequently, it was suggested that defeat and entrapment describe a single mental representation, but different cognitive processes may contribute to this experience. An initial awareness of failure or loss of a valued status or resources might trigger feelings of defeat, with additional self-appraisals concerning escape potential and rescue factors contributing to the exacerbation of this initial feeling.

If defeat and entrapment are best viewed as a unitary construct, a question arises as to why they were ever viewed as separate mental phenomena in the first place. It is likely this is due to the heritage of these concepts in animal-based research. Within such studies it is impossible to make claims about the subjective experience of the animals involved, and so defeat and entrapment have been defined in terms of objective environmental events and circumstances. Defeat is seen to reflect the results of agonistic social conflict (Becker et al., 2008; Keeney et al., 2006; Rygula et al., 2005) whilst entrapment is inferred from the capacity to escape, contingent on the immediate environment (Dixon, 1998). The two concepts are readily distinguishable in this context. These distinctions have been carried over with the application of these concepts to human psychology, where they may be less relevant.

11.2.1.2. Conceptual arguments for the distinction between defeat and entrapment.

During the development of this thesis, the author has become aware of a number of conceptual arguments against the unitary nature of defeat and entrapment. These have been made by both anonymous journal reviewers and colleagues at the University of Manchester. These arguments follow a common format, being based on hypothetical
situations where an individual may experience defeat but not entrapment (and vice versa). One example is the case of an individual who is exposed to repeated failures, for example during undergraduate course assignments, yet continues to attempt to succeed, and has faith that eventually he or she will succeed. It is argued that the individual is experiencing many episodes of defeat, yet has not given-up and so is not trapped. This particular argument is flawed, based on the conflation of defeat with failure in general. The individual in this example has clearly failed multiple times in the assignments. However, defeat is defined in the literature, phenomenologically, as a sense of failed struggle (Gilbert & Allan, 1998). Key is the idea that the individual has given up and does not see a way forward or capacity for improvement (Ehlers et al., 2000; Rooke & Birchwood, 1998). The hypothetical individual who remains optimistic in the face of these failures, and continues to try to succeed clearly does not feel this way, and consequently cannot be said to be defeated or entrapped, in the psychological sense.

An alternative perspective on the above hypothetical scenario comes from conditional goal-setting theory (Hadley & MacLeod, 2009). This theory suggests that some individuals may be prone to viewing certain aspects of their psychological well-being (e.g., happiness, self-worth) as being overly contingent on the success of particular lower-order goals. These individuals will continue to pursue this particular goal despite viewing their likelihood of success as minimal, a situation termed ‘painful engagement’ (Hadley & MacLeod, 2009). The student in the scenario may therefore view their chances of achieving their goal of success in their assignments as low, but due to their over-investment in the idea that to be happy they must achieve this particular goal, they cannot disengage from it. In this instance the individual feels both trapped, as they cannot let go of the goal and do not see a likelihood of succeeding in the task, and defeated, because they view themselves as continually struggling and failing at this important and self-defining goal. That such overly rigid goal systems are problematic is documented in the research on conditional goal-setting (Hadley & MacLeod, 2009), goal disengagement (O'Connor,
Fraser, Whyte, MacHale, & Masterton, 2009) and perfectionism (O'Connor, 2007). However, no research has yet tested whether these dispositions are associated with increased sensitivity to defeat and entrapment. This would be predicted, and would make an interesting topic for future research.

A second argument that has been made is the idea that an individual may feel trapped by their circumstance (e.g., trapped by chronic pain) but still continue to fight or endure these circumstances, seeking to maintain their status or identity, and so not give-in and become defeated. It is telling that this argument carries the same logic as the previous one, with the places of defeat and entrapment simply reversed. That such a reversal is possible in the way people reason about these concepts further highlights their co-occurring nature. Once again this argument is flawed. If the individual is successful in their attempts to lead their life in spite of their on-going pain, then it is unlikely they feel entrapped. It could be argued in an external sense they are trapped, that the individual with chronic pain may never recover. In a psychological sense, though, the individual still has freedom in that they are unwilling to accept these constraints, and so they are neither trapped, nor defeated.

A final point that needs to be recognised in regards to these arguments is that they make claims that require empirical validation. Evidence is needed to support the suggestions that these particular scenarios exist where people are defeated but not trapped (or trapped but not defeated). As distinguishing between defeat and entrapment presents a less parsimonious argument than hypothesising that they exist as a single factor, the burden of evidence lies with the individuals who suggest such a distinction exists.

11.2.1.3. Further developments in the understanding of defeat/entrapment.

A second theoretical supposition supported by the current thesis concerned the origins of perceived defeat and entrapment. It was hypothesised that defeat/entrapment emerged in response to particular environmental stressors, as a consequence of an individual’s appraisals of the situation and self-appraisals of their available resources,
personal resilience and coping ability. This idea is implicit in the COP, which emphasises the important of escape potential and rescue factors as substratal components of entrapment. The SAMS subsequently builds on these ideas by viewing defeat and entrapment as a combined psychological condition emerging out of these specific underlying appraisals. Two studies supported this claim, by showing that negative self-appraisals and positive psychotic symptoms were associated with more extreme perceptions of defeat/entrapment (Chapters 6 and 7).

In addition to these two main points, a number of additional, novel implications concerning the conceptualisation of defeat and entrapment can be drawn from this thesis. First, it was observed that perceptions of defeat/entrapment were relatively stable ($r = .63$) over a 12 month period in students (Chapter 8). No prior data exists regarding the stability of these variables. This stability may simply reflect a lack of change in circumstances. That is, if a student’s perceptions of defeat and entrapment are related to inadequate academic performance and struggle, then correlated levels of defeat and entrapment 12 months later may be due to the same situation remaining unresolved. Alternatively, this result may also imply that defeat and entrapment are not purely reactive or state-like phenomena, but may have dispositional qualities, so that some individuals may have an inherent tendency or sensitivity to perceive their situations in terms of defeat and entrapment. This sensitivity may in turn derive from dispositions in how that individual appraises and processes information, a possibility that is accommodated within the SAMS model (Johnson et al., 2008).

Second, it was found in Chapter 5 that defeat and entrapment were correlated with various aspects of eudemonic (psychological) well-being. The facets of psychological well-being describe positive human functioning at its most abstract level (Ryff, 1989), and as such these correlations provide further insight into the nature of defeat and entrapment. In particular, both defeat and entrapment were highly negatively correlated with environmental mastery, highlighting the importance of personal agency and the ability to
bring about desired change in the environment to the defeat/entrapment construct. High correlations were also observed with self-acceptance, indicating how the sense of occupying an undesirable and personally unacceptable status or identity is central to defeat/entrapment.

11.2.2. Mechanisms underlying suicidal ideation and behaviour.

11.2.2.1. Defeat/entrapment as a psychological driver of suicidality.

The studies included in this thesis lend considerable support to the theorised role of defeat/entrapment as part of the mechanisms underlying suicidal ideation and behaviour. Greater perceived defeat/entrapment predicted more severe levels of suicidal ideation and behaviour, both cross-sectionally and prospectively (Chapters 6, 7 and 8). The current results add to the existing literature that has demonstrated an association between defeat, entrapment and suicidality in parasuicidal patients and in Korean adolescents, and extend these results to student and psychotic populations (O'Connor, 2003; Park et al., 2010; Rasmussen et al., 2010). Together these results support theoretical models of suicide that view perceptions of defeat and entrapment as an important psychological component of the mechanism driving suicidal ideation and behaviour, namely the COP model and the SAMS (Johnson et al., 2008a; Williams, 1997). The finding that defeat and entrapment also mediated the impact of self-appraisals in the domains of social support and problem-solving ability on suicidality lends further support to both these models (Chapter 6).

Suicide may be seen as a viable or even desirable response to a sense of defeat/entrapment because it provides a permanent solution to, or an escape from, this situation. Moreover, whilst an aspect of the defeated/entrapped condition is that the situation cannot be improved through the agency of the self or others, suicide may lie outside the repertoire of normal coping responses, and be seen as an inviolable last resort. This latter suggestion is consistent with personal accounts, where suicide has been held in positive regard as a final recourse or safety net (Shneidman, 1996; Walen, 2002).
Perceptions of defeat and entrapment are therefore likely to have relevance to cases where the desire for suicide is motivated by a desire to escape (Johnson et al., 2008a). Many suicidal acts bear this motivation (Baumeister, 1990; Shneidman, 1996), as has been found in investigations of parasuicidal patients’ self-reports (Bancroft et al., 1976) and in the mental imagery surrounding suicidality (Holmes et al., 2007).

An issue that is not readily resolvable based on the studies encompassed in this thesis is why a defeat/entrapment driven desire for suicide would translate into ideation in some cases and result in suicide attempts or completions in others. The degree of suicidality to result may partly depend on the severity and chronicity of perceptions of defeat/entrapment. In the first instances of feeling defeated and trapped, ideating about suicide alone may be adequate to allay these aversive perceptions, disrupting them by highlighting the possibility of escape through suicide (Shneidman, 1996; Walen, 2002). Suicidal ideation may, however, become less effective at undermining perceptions of defeat/entrapment where these perceptions continue for extended periods or are particularly severe. In these cases an individual may resort to more extreme suicidal behaviours. This suggestion of a fluid transition between different levels of suicidality is congruous with the assumption of a suicidality continuum.

The SAMS also emphasises the role of latent belief structures or ‘suicide schema’ in determining suicidal behaviour (Johnson et al., 2008a), an idea that has also been put forward by a number of other theorists (Lau et al., 2004; Rudd, 2006; Williams et al., 2005). It was suggested that the presence of such latent beliefs may explain the availability of suicidality as a response to perceived defeat/entrapment in some individuals (Chapter 3). These belief structures may also account for increases in the severity of suicidality. As such belief structures become increasingly elaborated, more severe elements of suicidality, including particular plans or methods and behavioural repertoires for self-destructive behaviour, will become incorporated into this system of latent suicidogenic cognition. Elaboration of these belief structures is believed to occur through repeated instances of
activation, occurring with each episode of suicidality (Lau et al., 2004; Tarrier et al., 2007a; Williams et al., 2005). Thus it would be expected that reacting to early periods of defeat/entrapment with even mild suicidal ideation would facilitate more severe suicidality to subsequent or sustained periods of defeat/entrapment.

Other theorists have emphasised how particular classes of life experiences, including those associated with personal injury, pain and self-harm, desensitise an individual to the behavioural aspects of committing suicide (Joiner, 2005). From this perspective, whilst defeat and entrapment may provide the desire for suicide, other factors may determine an individual’s capability to act on this desire.

11.2.2.2. Effects are independent of hopelessness and depression.

The current thesis makes a stronger case for the role of defeat and entrapment in driving suicidality by providing evidence that these effects are not purely artefacts of hopelessness or depressive symptoms. It was noted that establishing effects over and above what could be explained by hopelessness was important (Chapter 1), since hopelessness was likely related to perceptions of escapability and failure and so may be conceptually related to defeat and entrapment. Theoretical accounts, including the hopelessness theory of suicide and diathesis-stress model also assert that hopelessness operates as a proximal sufficient cause of suicidality (Clum & Febbraro, 1994; Clum et al., 1979; Cornette et al., 2000). A large body of evidence supports this putative link between hopelessness and suicidality in the general population (Dean & Range, 1999; Elliott & Frude, 2001; Kuo et al., 2004; O’conner et al., 2006) and specifically in individuals diagnosed with psychotic disorders (Hawton et al., 2005; Tarrier et al., 2004). Consequently, if the effects defeat/entrapment exert upon suicidality can be explained purely in terms of hopelessness, the former construct would be of little value in understanding suicide. Two of the studies featured in the present thesis suggest this was not the case, by identifying a significant relationship between defeat/entrapment and suicidality even whilst controlling for levels of hopelessness (Chapters 6 and 7).
Defeat and entrapment originated in theories of depression and, as was recognised in Chapter 3, there exists an extensive evidence base to support the link between these concepts and depressive symptomatology. Consequently, depressive symptoms may provide another alternative explanation for the relationship between defeat/entrapment and suicidality. Suicidal ideation may, for example, not be a direct reaction to perceptions of defeat and entrapment, as proposed above, but instead be a result of co-occurring depressed mood. Two studies in the present thesis found that observed relationships between defeat/entrapment and suicidality held whilst controlling for depressive symptoms, indicating this was not the case (Chapters 7 and 8).

11.2.2.3. Psychological mechanisms for suicidality in psychosis.

In addition to elucidating the mechanisms underlying suicidality in the student population, the present thesis also provides evidence that the same mechanisms are operating in individuals diagnosed with schizophrenia spectrum disorders (Chapter 7). Finding a link between defeat/entrapment and suicidal ideation in this population is particularly important in validating the SAMS, which was initially developed to account for the problem of suicide in schizophrenia (Johnson et al., 2008). Considered alongside studies showing a relationship between defeat, entrapment and suicidality in other populations (e.g., parasuicidal patients; O’Connor, 2003; Rasmussen et al., 2010), this research supports the view that defeat and entrapment operate across populations and disorders, as a trans-diagnostic mechanism in the development of suicidality (Bolton et al., 2007). Average scores on the defeat and entrapment scales were notably higher for the schizophrenia spectrum patients (Chapter 7; Defeat = 28.56, Entrapment = 24.67) compared to suicidal ideating students (Chapter 6, Defeat = 14.09, Entrapment = 10.48), indicating that it may be the heightened severity of these perceptions that accounts for high suicide risk observed in individuals with psychosis (e.g., Palmer et al., 2005).

This view is in contrast to the perspective that suicide in psychotic groups is a consequence of psychosis-specific factors (Bolton et al., 2007), for example, command
hallucinations (Barrowcliff & Haddock, 2006). Instead, it is likely that various psychosis-specific risk factors operate by exacerbating an individual’s perception of being defeated and trapped. Within Chapter 7, positive psychotic symptoms, in particularly suspiciousness or paranoia, were found to fit this pattern. Various other common characteristics of psychosis offer plausible candidates for variables likely to contribute to a more severe sense of defeat and entrapment. These include the exposure to stigma and discrimination (Thornicroft et al., 2009), reduced likelihood of employment (Marwaha & Johnson, 2004) and an increased risk of potentially traumatic experiences such as involuntary hospitalisation (Jackson et al., 2004; Morrison et al., 2003).

Finally, research undertaken within this thesis provides further insight into how autobiographical memory specificity effects suicidal behaviour. It was suggested that overgeneral memory recall may serve an adaptive function in individuals diagnosed with schizophrenia spectrum disorders, by blocking access to distressing specific memories and so reducing the risk of suicidal behaviour. This explanation is consistent with prior research in other clinical groups (Burnside et al., 2004; Startup et al., 2001; Swales et al., 2001), and also fits with theoretical perspectives that suggest an overgeneral autobiographical memory retrieval style may develop with the purpose of avoiding such memories (Conway, 2005; Williams, 2006). This conclusion still remains speculative as no prior research could be identified that has examined the relationship between autobiographical memory specificity and suicide, specifically in individuals diagnosed with schizophrenia or other psychotic disorders. It may be that the adaptive consequences of overgeneral memory observed in Chapter 9 only apply to particular clinical groups, such as those with psychosis, or those with borderline personality disorder (e.g., Startup et al., 2001). Such an effect would be expected to occur in those individuals where the recall of specific distressing memories is an important driver of suicide risk.
11.3. Limitations

The particular limitations of the research in this thesis are already described in the discussion sections of the corresponding chapters. Nonetheless, there are a number of overarching limitations, which run across a number of studies and therefore require further attention. These can be divided into those related to the sample and the measures used.

11.3.1. Sample.

The samples recruited for this research were often socio-demographically homogenous, a factor that may impair the external validity in these findings. Within the student samples that were recruited (Chapters 4, 6 and 8) the majority of participants were aged between 18-20 years and female. Although this is representative of undergraduate psychology courses in the UK, it means these results may be less applicable to the wider population. Another problem is that ethnicity status was not recorded in these studies. Chapter 5 took place in a more varied community sample where ethnicity data were taken. Ethnicity data were also taken in the studies employing samples with schizophrenia spectrum disorders (Chapters 7, 9 and 10). The percentage of participants classifying themselves as white in these studies (80.8% - 89.7%) were higher than the percentage reported in the estimated resident population (> 15 years olds) of Manchester (77%; Manchester City Council, 2007), indicating an under-recruitment of individuals in ethnic minority groups. This was likely a consequence of the opportunistic sampling methods employed (e.g., recruiting through community mental health teams), which did not provide a true random representative sample. Once again this may limit the generalizability of results. Recording cultural identity may also be important in studying defeat and entrapment, as research in the context of PTSD has shown that the negative impact of perceived defeat may only apply to those from independent (typically Western) societies (Jobson & O’Kearney, 2009). As much of the current research was preliminary in nature, this was not a priority, but future investigations could benefit from including cultural status as a variable of interest.
The samples with schizophrenia spectrum disorders on average were in their forties and had a long duration of illness (> 17 years). This was likely due, again, to the sampling method, as the community mental health teams referring patients would likely have favoured individuals with a more stable course of illness and fewer acute symptoms. However, individuals diagnosed with schizophrenia are known to be at the highest risk of suicide during the early stages of the illness (Montross et al., 2005; Siris, 2001). This would therefore be an ideal time to conduct research trying to understand suicide risk in this population. As the first studies to explore variables such as defeat, entrapment and autobiographical memory as predictors of suicidality in this population, the current research is still valid, and understanding suicide risk in chronic psychosis is still a worthwhile aim. Nonetheless, future research studying perceptions of defeat and entrapment in individuals following their first psychotic episode would be useful.

11.3.2. Measures.

11.3.2.1. Measurement of defeat and entrapment.

Throughout this thesis, a single set of measures, the defeat and entrapment scales developed by Gilbert and Allen (1998), were used to assess perceptions of defeat and entrapment. Consequently, the conclusions drawn in this thesis, including the unitary nature of defeat and entrapment and their association with suicidality, depend on the validity of these scales. It was noted in Chapter 3, that of all the existing measures developed to assess feelings of defeat or entrapment, the scales developed by Gilbert and Allen (1998) are the most widely and robustly validated. These scales were developed from patient transcripts, which ensured content validity, with further input from another depressed patient group to ensure face validity (Gilbert & Allan, 1998). Reliability for these scales is also high. There is currently, therefore, little basis upon which to suggest that the results reported in the present thesis are attributable to measurement artefacts.
A further potential limitation is that these measures use a self-report format. Self-report measures have been criticised for their vulnerability to respondent bias, including distortions in how experiences are recalled and summarised, demand characteristics and socially desirable responding (Stone, 2000). However, defeat and entrapment are an inherently subjective psychological construct, and as such are not readily available to external observation. Alternate assessment strategies such as interviewer-ratings or third-person ratings made by significant others would likely suffer from many of the same biases associated with self-report measures. Indeed, it would be expected that such methodologies would simply add a further source of bias to the assessments, by relying on another individual’s subjective interpretations of a participant’s experiences. There is no reason to assume that a researcher or interviewer is capable of being any more ‘objective’ in their judgements than the individual they are interviewing or observing than the individual themselves (Velmins, 2009). The concepts of defeat and entrapment are defined as being available to introspection (Gilbert & Allan, 1998; Gilbert & Gilbert, 2003), and as such a self-report methodology appears to be a valid approach (Lazarus & Folkman, 1984).

11.3.2.1. Measurement of suicidality.

Self-report measures of suicidality were also used throughout this study. Suicidal thinking and feelings are, once again, an intrinsically private phenomenon, making self-report an appropriate means of assessment. It could be argued that self-reported past suicide attempts could at least be subject to verification, based on medical records or statements from medical professionals responsible for the individual. However, even in this instance there remains the problem of what to do in cases of disagreement between self-report and these other sources of information. Medical records are also prone to bias (Cradock et al., 2001; see also Chapter 9), and results from Chapter 10 further indicate how the quality of information obtained from participants in treatment-related environments may be impaired due to concerns over confidentiality or impact on care.
A final measurement issue concerns the level of suicidality assessed. In the present thesis, focus was on non-lethal suicidal behaviours, with measures being employed that assessed suicidal ideation, intent, planning and past attempts (e.g., Beck Scale for Suicidal ideation (BSS); Beck & Steer, 1991; Suicidal Behaviours Questionnaire - Revised (SBQ-R); Osman et al., 2001). A focus on non-lethal suicidality was deemed appropriate due to a) such suicidality being indicative of substantial distress, and a valid target for clinical intervention in itself (Tarrier & Gooding, 2007), and b) non-lethal suicidality being associated with a heightened risk of attempted and completed suicide in the future (Corcoran et al., 2004; Nimeus et al., 2002; Reinherz et al., 2006; Sidley et al., 1999). Some suicide researchers do, however, assert that completed suicides are a different, albeit overlapping, population of individuals to attempters (Beautrais, 2001). It would therefore be valuable to study the role of perceived defeat and entrapment in completed suicide. There are methodological approaches to achieving this, including psychological autopsy methods, which obtain information pertaining to the deceased individuals from significant others (Cavanagh et al., 2003), and large-scale long-term longitudinal designs. These methodologies are complex and resource-expensive, especially in the case of longitudinal designs, which may struggle to obtain adequate statistical power to identify predictors of an event as rare as completed suicide. It is hoped the studies encompassed in the present thesis will encourage future investment in these methodologies, to further elucidate the relationship between defeat, entrapment and suicide.

11.4. Clinical Implications

The clinical implications that can be drawn from this thesis fall into two main categories, namely prediction/risk-assessment and treatment.

11.4.1. Prediction.

It has been noted that the prediction of future suicides is notoriously difficult. This is a consequence of the low base-rate of suicide, and the lack of specificity inherent in
many established risk-factors (Goldney, 2005; Hawton & Heeringen, 2009; Paris, 2006). The current research has shown that defeat and entrapment share variance with suicidality that is not captured by other notable psychological risk factors for suicide, including depressive symptoms and hopelessness. As defeat and entrapment encompass the proximal psychological mechanism that drives suicidality, these variables may provide better indicators of risk than more distal environmental or symptomatological factors. Consequently, the incorporation of perceived defeat and entrapment into standard risk-assessments may enhance the capacity of such instruments to identify at-risk individuals. Risk-assessments focussing on these psychological mechanisms may be particularly effective when employed in populations that are already at a heightened risk of suicide, including individuals diagnosed with psychotic disorders and individuals with a previous history of suicide attempts. Within clinical practice, measures of defeat/entrapment could be used to single out individuals from these high-risk groups where heightened perceptions of defeat and entrapment indicate further risk. These ultra-high-risk individuals may then benefit from more focussed intervention or additional monitoring.

11.4.2. Intervention.

11.4.2.1. The importance of focussing on psychological mechanisms.

A number of implications can be drawn from the present thesis concerning the development of interventions for suicide prevention. A perennial theme throughout this thesis has been the suggestion that suicide cannot be understood purely as a component of a wider syndrome, such as depression or psychosis, but needs to be a viewed as a distinct clinical phenomenon with its own psychological drivers. For example, positive psychotic symptoms were only related to suicidal ideation in as much as they contributed to perceptions of defeat and entrapment (Chapter 7). It might therefore be expected that any intervention which targeted positive psychotic symptoms alone and failed to effect the individual’s interpretation and understanding of these symptoms as defeating and
entrapping, would be ineffective in reducing suicidal thinking. Consequently, therapeutic interventions for suicidality need to focus on these underlying psychological mechanisms, rather than on associated symptoms or comorbid disorders. Evidence for the efficacy of this approach comes from a meta-analysis of randomised-controlled trials of Cognitive Behavioural Therapy (CBT) for suicidality (Tarrier et al., 2008). This study found a significant therapeutic effect for CBT only where therapies directly targeted suicidality as an outcome, rather than other associated factors, such as comorbid syndromes.

An implication that stems from viewing suicidality primarily in terms of mediating psychological processes concerns the mode of therapy. Pharmacological therapies typically target particular clusters of symptoms, but do not deal with underlying causes or psychological mechanisms (Andrews & Thomson, 2009; Ellis & Ellis, 2006; Van Praag, 2005). Antidepressants might be expected to reduce suicidality, if suicidality were simply an aspect of depression, but recent rises in prescribing have not been reliably linked to reductions in suicide rates (Gunnell & Ashby, 2004; Van Praag, 2005). There is also evidence, albeit limited, that Selective Serotonin Re-uptake Inhibitors (SSRIs) may even increase suicide risk in some individuals, such as depressed adolescents (Gunnell & Ashby, 2004; Van Praag, 2005). Similarly, there is little evidence of a protective effect of antipsychotic medication on suicidality, with the possible exception of Clozapine (Aguilar, Siris, & Leal, 2008). In light of these considerations, psychosocial interventions directed at the putative mechanisms underlying suicidality, namely defeat and entrapment, may be a more effective way of reducing suicidality.

**11.4.2.2. Implications for formulation.**

The way in which suicidal thinking and behaviour is conceptualised may also be clinically relevant, to the extent that this conceptualisation is shared and discussed with patients, because it can influence the way in which patients understand their suicidal feelings. Within the theoretical framework put forward in this thesis, based on the SAMS
and COP models, the desire for suicide can be seen as an understandable reaction to the core perceptions of defeat and entrapment. The strength of these perceptions of defeat and entrapment can themselves be understood in terms of the evolved sensitivity to signals of status and agency in humans. This account may be deemed more plausible and acceptable to patients than one which views their suicidality as a symptom of some wider syndrome.

Moreover, the concepts of defeat and entrapment may have additional value in normalising a client’s experiences. Conceptualising their problems in this way may help clients to frame their experiences as lying on a continuum with ‘normal’ functioning and so reduce feelings of isolations and disconnection. This is important because suicidality can be an isolating experience, leading individuals to feel abnormal and separate from the rest of society (Shneidman, 1996). This isolation may serve to exacerbate initial feelings of defeat and entrapment and so increase suicide risk. Within the context of therapy, this conceptualisation of suicide would be built into the case formulation where appropriate.

11.4.2.3. Implications for psychosocial therapies.

Efficacy has already been demonstrated for psychosocial therapies as a treatment for suicidality, particularly in the case of CBT. The meta-analysis conducted by Tarrier and colleagues (2008) of CBT randomised-controlled trials found an overall positive therapeutic effect on suicidality. CBT was also found to have an improved effect compared to other active therapies, such as supportive counselling, once all trials including such comparison groups were considered together in the analysis. The review failed to find any therapeutic effect for adolescent suicidality, however. The only study featured in this review to recruit individuals diagnosed with schizophrenia also struggled to identify a significant effect of treatment upon suicidality (Tarrier et al., 2006). It is likely that CBT interventions that are more closely tailored to the psychological mechanisms underlying suicide within different populations may be more effective and reverse these null effects. A CBT-based intervention designed specifically for preventing suicide in individuals with psychosis has recently been developed, based directly on the SAMS (Tarrier & Gooding,
A trial assessing the feasibility and efficacy of this particular intervention for individuals diagnosed with schizophrenia spectrum disorders is currently on-going.

It is possible to formulate a number of particular psychosocial therapeutic strategies and techniques that could reduce perceptions of defeat and entrapment. These have already been outlined in Chapter 3. These recommendations focussed on the various underlying facets of the defeat/entrapment construct. Suggestions therefore included: 1) challenging and restructuring a client’s sense of a loss of status or identity; 2) attempting to build alternative, more positive self-identity; 3) shifting focus away from untenable or unrealistic standards and goals, which may leave an individual vulnerable to perceived defeat/entrapment in the future; 4) develop more positive self-appraisals related to an individual’s ability to cope, manage or escape from stressful circumstances (this would include an emphasis on building more positive perceptions of social resources and problem-solving ability).

11.5. Proposals for Future Research

General recommendations for future research investigating defeat and entrapment were outlined in the General Summary of Chapter 3 and the discussion sections of subsequent chapters. Rather than reiterating these general recommendations, a number of specific research proposals will be outlined in this section that build on the evidence obtained in this thesis and fill important gaps in the existing literature.

11.5.1. A Multiple-wave prospective study of perceived defeat and entrapment in psychosis.

A recurrent caveat in this thesis was the use of cross-sectional designs. This was partly remedied by Chapter 8, which provided a prospective investigation of the relationship defeat and entrapment have upon suicidal ideation. However, this study only took place in a non-clinical student sample. Consequently, prospective research is still required to demonstrate that perceived defeat/entrapment can lead to changes in suicidality.
in individuals diagnosed with schizophrenia spectrum disorders. Furthermore, the single follow-up point in Chapter 8 precludes an examination of more complex causal relationships, including mediation effects, over time. A multiple-wave (i.e., several follow-up assessments) prospective study in individuals diagnosed with schizophrenia spectrum disorders would therefore make a significant addition to the literature.

This study could examine the extent to which factors in participants’ day-to-day lives, including symptoms, stigma, social interactions and stressful life events, contribute to fluctuations in perceptions of defeat and entrapment, and whether these fluctuations lead to increases in suicidal thinking and behaviour. Within this research design, it would be beneficial to focus on a period in patients’ lives where suicide risk is known to be elevated, and therefore where the degree of change in levels of suicidality is likely to be maximised. Not only does this strategy increase the power to identify significant effects and so reduce the risk of type II error, but it also helps to establish the key predictors of suicidality at the time when such knowledge is likely, from a clinical perspective, to be most important. Within psychosis, it has been noted that suicide risk is high early in the course of the illness (Montross et al., 2005). Risk is especially high during the first year of the disorder, and within the first five days following discharge from hospital (Rossau & Mortensen, 1997). This study could therefore aim to recruit individuals within the first year of receiving a diagnosis of a schizophrenia spectrum disorder, following discharge from hospital.

Mediation effects, similar to those identified in the present thesis would be hypothesised. Aversive life events, experiences of stigma and psychotic symptoms would be expected to contribute to heightened levels of suicidal ideation and behaviour to the extent that they engender more severe perceptions of defeat and entrapment. These effects would be predicted to remain when controlling for comorbid depressive symptoms and hopelessness. Whilst studies employing single follow-up points are limited to studying the intensity or severity of variables, the multiple follow-up points of the proposed design
would allow estimations of additional variable dimensions, including duration and variability. These could be important to study, since other research has found that variability in constructs such as suicidal ideation and self-esteem can have effects in addition to those related to the intensity of these variables (de Man & Gutierrez, 2002; Witte, Fitzpatrick, Joiner, & Schmidt, 2005). Multiple-wave longitudinal data of this nature can be analysed through multi-level modelling techniques, which can also readily accommodate missing data and even variable follow-up durations, both probable occurrences within this research design (Singer & Willett, 2003).

11.5.2. An experience sampling study of the underlying socio-cognitive components of defeat/entrapment.

Within the SAMS, the defeat/entrapment construct is conceptualised as an emergent property of a pluralistic system of cognitive appraisals. This claim was partially supported in the present thesis, in terms of the relationship between self-appraisals and defeat/entrapment. However, further investigation into the underlying components of the defeat/entrapment construct is required. Cognitive appraisals are rapid valuation judgements that can often occur in an automatic fashion and which interact with each other as part of the on-going interpretation of a particular stressor (Lazarus & Folkman, 1984). Cross-sectional methodologies may fail to capture these more dynamic and ‘in the moment’ features of appraisals and instead may only pick up the general dispositional features of an individual’s appraisals. An experience sampling methodology was therefore suggested as a means of better understanding the intricate inter-relationships between particular judgments that contribute to feeling defeated/trapped (see Chapter 3). Experience sampling methods involve taking multiple diary-like assessments of an individual’s experiences within the context of their daily life, and has been recommended as a means of examining the phenomenology and aetiology of psychopathology (Myin-Germeyns et al., 2009). This method substitutes detailed assessment for greater temporal
and contextual sensitivity (Myin-Germeys et al., 2009), and so is ideal for the study of appraisal processes.

A study could therefore be conducted using the experience sampling method in a sample of individuals with a history of suicide attempts or recurrent ideation, where perceptions of defeat/entrapment are likely to be elevated. Assessments would focus on appraisals likely to be relevant to defeat/entrapment, including: a) judgements of desired status, personal importance and social resources; b) associated goals and perceived success in achieving these; c) judgements of powerlessness and agency over the situation. This study could investigate the relationships between these cognitions, made in the moment, and more generalised measures of defeat/entrapment. It would be hypothesised that the variance in defeat/entrapment could be largely accounted for by these momentary cognitions. This study would also be able to examine the particular context within which these cognitions occurred (e.g., alone vs. social situations).

11.5.3. An exploration of the psychological pathways through which autobiographical memory processes affect suicidality.

In Chapter 9, no moderating effect of memory content, specifically defeat/entrapment-themed memories, upon the link between memory specificity and suicidal behaviour was found. It is possible that other relationships may exist between autobiographical memory and perceived defeat/entrapment that were not explored in this study. One possibility is that autobiographical memory processes, including retrieval style, contribute to perceptions of defeat/entrapment, which mediate their effect upon suicidality. The possibility could be tested by studying correlational relationships between the defeat and entrapment scales, scores on the autobiographical memory test (AMT), and levels of suicidality.

If an individual has suffered experiences that signalled that they were defeated and trapped, recurrent specific memories of that event may be an important factor in maintaining an on-going sense of defeat/entrapment. Alternatively, the COP model
suggests that overgeneral autobiographical memory impairs problem-solving and so contributes to feelings of entrapment (Williams, 1997). It was noted that the results of Chapter 9, which support a protective effect of overgeneral autobiographical memory, though consistent with research in certain clinical groups (Burnside et al., 2004; Startup et al., 2001; Swales et al., 2001), conflict with other studies that have found a detrimental effect of overgeneral memory on suicidality (Arie, Apter, Orbach, Yefet, & Zalzman, 2008; Kaviani et al., 2005; Williams & Broadbent, 1986). A further study employing the AMT amongst a number of different clinical groups, including those where a protective effect of memory specificity has previously been observed (e.g., borderline personality disorder, psychosis) and a matched non-clinical control group would be useful. Such a study could establish whether the protective effect observed in Chapter 9, is replicable, and is specific to certain clinical groups or generalises across individuals with similar experiences of distress and trauma.

11.6. Conclusions

The concepts of defeat and entrapment have been important variables in the understanding of depression from an evolutionary perspective. These variables have since been highlighted as important psychological drivers of suicidal ideation and behaviour. The role of these variables in suicide has been outlined in the COP model, and further developed within the SAMS. Despite this theoretical basis for the importance of perceived defeat and entrapment in suicidal ideation and behaviour, little empirical investigation had taken place prior to this thesis. The current thesis makes a number of important advancements to the current understanding of defeat, entrapment and suicidality. Multiple sources of evidence were presented to suggest that defeat and entrapment may be best conceptualised as a unitary psychological construct. Cross-sectional and prospective evidence was presented in student samples supporting a predictive relationship between defeat/entrapment and suicidality, and supporting the claim that defeat/entrapment are the psychological mechanism that mediate the effect of negative self-appraisals upon
suicidality. Research in a sample diagnosed with schizophrenia spectrum disorders demonstrated that perceived defeat/entrapment is also positively associated with suicidal ideation in this population, and mediates the suicidogenic effect of positive psychotic symptoms. Finally, two further studies in individuals diagnosed with schizophrenia spectrum disorders found the first evidence that autobiographical memory specificity may also operate as a risk factor for suicidal behaviour in this group, and that research into suicide is ethically viable in these individuals.

11.7. Note

The differences between these two samples on levels of defeat and entrapment were significant covarying age and gender within a logistic regression, Defeat: Wald (1) = 4.68, $p = .03$; Entrapment: Wald (1) = 9.76, $p < .01$. 
REFERENCES


Kidd, S. (2004). "The walls were closing in, and we were trapped": A qualitative analysis of street youth suicide. *Youth & Society, 36*, 30-54.


assessments in a treatment study of suicidal behaviour. *Suicide and Life-Threatening Behaviour, 36*, 19-34.


APPENDIX I: ENTRAPMENT SCALE

Please read each of the following statements carefully and indicate how much you feel like this by circling a response on the scale

<table>
<thead>
<tr>
<th>Statement</th>
<th>Not at all like me</th>
<th>A little like me</th>
<th>Moderately like me</th>
<th>Quite a bit like me</th>
<th>Extremely like me</th>
</tr>
</thead>
<tbody>
<tr>
<td>I want to get away from myself</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I feel powerless to change myself</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I would like to escape from my thoughts and feelings</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I feel trapped inside myself</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I would like to get away from who I am and start again</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I feel I'm in a deep hole I can't get out of</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am in a situation I feel trapped in</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I have a strong desire to escape from things in my life</td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>I am in a relationship I can't get out of</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I often have the feeling that I would just like to run away</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I feel powerless to change things</td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>I feel trapped by my obligations</td>
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<tr>
<td>I can see no way out of my current situation</td>
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<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>I would like to get away from other more powerful people in my life</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I have a strong desire to get away and stay away from where I am now</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I feel trapped by other people</td>
<td></td>
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</tbody>
</table>
APPENDIX II: DEFEAT SCALE

Please read each of the following statements carefully and indicate how often you have felt like this in the previous seven days by circling a response on the scale.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Never</th>
<th>Rarely</th>
<th>Sometimes</th>
<th>Mostly</th>
<th>Always/ All the time</th>
</tr>
</thead>
<tbody>
<tr>
<td>I feel that I have not made it in life</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I feel that I am a successful person</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I feel defeated by life</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I feel that I am basically a winner</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I feel that I have lost my standing in the world</td>
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<td></td>
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<tr>
<td>I feel that life has treated me like a punchbag</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I feel powerless</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I feel that my confidence has been knocked out of me</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I feel able to deal with whatever life throws at me</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I feel that I have sunk to the bottom of the ladder</td>
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<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>I feel completely knocked out of action</td>
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<td></td>
<td></td>
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<tr>
<td>I feel that I am one of life's losers</td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I feel that I have given up</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I feel down and out</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I feel I have lost important battles in life</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I feel that there is no fight left in me</td>
<td></td>
<td></td>
<td></td>
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<td></td>
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</tbody>
</table>
APPENDIX III: DEBRIEFING SHEET

There are a number of professional and voluntary organisations which you may find helpful if you have been experiencing periods of low mood, stress, worry or anxiety. We have listed some of these in your area. You may also find that your GP practice may have useful suggestions and contact numbers.

The University runs an excellent counseling service. Please see [http://www.intranet.man.ac.uk/counselling/](http://www.intranet.man.ac.uk/counselling/)

Address: 5th Floor Crawford House, Precinct Centre, Oxford Road (by the chaplaincy)
Tel: (0161) 275 2864

There is a drop-in service every day between 2 and 3.30.

Manchester and Salford Samaritans
24 hour phone service
Day time drop-in

72/74 Oxford Street
Address: Manchester
M1 5NH
Tel: 0161 236 8000

Mind in Manchester
Unit 25
The Progress Centre
Charlton Place
Ardwick Green
Manchester
M12 6HS
Tel: 0161 272 8204
[info@mind-in-manchester.org.uk](mailto:info@mind-in-manchester.org.uk)

See also Mental health in Manchester

You may find the following websites useful:

[http://www.studentdepression.org/](http://www.studentdepression.org/) - This is a well though of site which gives information about depressed moods.

[http://www.thecalmzone.net](http://www.thecalmzone.net) - The Campaign Against Living Miserably is targeted at young men aged between 15-35. The campaign offers help, information and advice via a phone and web service. Anyone, regardless of age, gender or geographic location can call the line.

[http://www.bbc.co.uk/health/conditions/mental_health/](http://www.bbc.co.uk/health/conditions/mental_health/) - Contains useful information about a range of mental health issues.

[http://www.mind.org.uk](http://www.mind.org.uk) - includes information sheets on a wide range of emotional and psychological difficulties.
APPENDIX IV: AUTOBIOGRAPHICAL MEMORY TEST (AMT)
INSTRUCTIONS AND EXAMPLE FORM

AUTOBIOGRAPHICAL MEMORY TEST

Instructions

I am interested in your memory for events that have happened in your life. I am going to read to you some words and phrases. For each word or phrase I want you to think of an event that happened to you which the word or phrase reminds you of. The event could have happened at any point in your life from when you were small to last week, please do not include memories from last week. It might be an important event, or trivial event.

Just one more thing: the memory you recall should be a specific event – an event that lasted less than a day, and occurred at a particular time and place. So if I said the word “good” – it would not be OK to say, “I always enjoy a good party”, because that does not mention a specific event. But it would be OK to say “I had a good time at Jane’s party” (because that is a specific event). It is important to try retrieving a different memory or event for each cue word. Let us try some words for practice:-

Rain
Newspaper
Milk

1. Tender

☐

☐ specific age:
☐ extended ocu:
☐ categoric pos:
☐ sem ass Dist:
☐ no response

Prompt for clarification ☐
Feedback sheet

You can use this sheet to provide us with feedback about what it was like taking part in the study, and about your attitudes to research in general. Feel free to mention anything you liked or disliked about the study. Responses can be written below each question in the spaces provided.

How did you find it talking about the issues raised in the study?

What was your general experience like, taking part in this study?

How do you feel about research in this area?

Any additional comments?
Finally, we would like you to list characteristics about yourself which you like or feel proud of.

Please take a moment to think about specific instances where you feel you have displayed these characteristics, and note them below.

If you find this difficult, you can just think of activities or events, which you find particularly enjoyable, and list them below.

Are there any comments you would like to make, or anything you feel may help us?

Thank you very much!
APPENDIX VII: PARTICIPANT INFORMATION SHEET FOR NONCLINICAL STUDY 1

SCHOOL OF PSYCHOLOGICAL SCIENCES

Participant Information Sheet

Title of project: Cognitive appraisal, memory and the Cry of Pain model (Study 1)

We would like to invite you to take part in a research study. Before you decide you need to understand why the research is being done, and what it would involve for you. Please read the following carefully, and talk to others about the study if you wish.

Introduction – What is this research about?
In order to develop effective interventions for suicide, it is necessary to understand the factors that leave some people vulnerable to suicide and not others. Certain cognitive factors related to the way people see the world may be particularly important in understanding what makes people feel suicidal. The aim of this research is to investigate these factors in more detail.

What will I be asked to do if I take part?
You will be asked to complete a number of questionnaires about your thoughts and feelings. Example questions are, “Have you ever thought about or attempted to kill yourself?” and “(true or false) the future looks dark to me”. This study should last no longer than 45 minutes. You will receive three credits for taking part.

If there are any particular concerns about you that are raised as a result of your responses to the questions in any of the questionnaires, we would like to write on your behalf to the University Counselling Service and refer you to their services. This will only be done at your consent, which can be given or declined on the consent form provided. If you consent, you will be fully informed of any referral to the counselling service and would be allowed to view the letter. At no point will you be forced to make an appointment with the service if you do not wish to. If you do not wish to be referred to the University Counselling Service, an appropriately qualified senior researcher will meet with you to provide feedback and where you can talk about the sources of support that are available to you.

Information concerning the findings of this research will be available from the study researchers and advisers, whose contact details are listed below. Please note this will only include the general findings of the study, not individual scores.

Will my data be confidential?
All data recorded in this experiment will be completely confidential. All information pertaining to participant’s identities will be stored separately from data gathered during the study, and will only be matched with the participant’s consent. All participants will be assigned an identification number which will be used to match responses. All data will be stored securely either on paper, or password-protected databases. Personal data will not be kept any longer than 12 months, and will be destroyed by this time. Completely anonymous copies of people’s responses may be retained for up to 10 years after the study.

Do I have to take part?
There is no obligation to take part in this study. Furthermore, you may withdraw from the study at any time without reason, and if you wish, have your data destroyed.

**What support will be available to me?**
If you have any concerns or are at all distressed following the study please feel free to contact either the project researchers or supervisors, whose contact details are listed below. The project supervisors will be able to listen to your concerns and direct you to relevant sources of support. You will also be provided with a list of voluntary and professional support organisations, some of whom are available 24 hours a day, which you will be able to contact if you feel any worry or negative emotions after taking part in this study. This list of organisations will also be available, after the study, from the project researchers. Furthermore, as mentioned, you will be given the opportunity to consent to being referred to the University Counselling Service, should any of your responses indicate a cause for concern.

**Who can I contact for independent advice or to make a complaint?**
If you wish to seek independent advice about taking part in the research or wish to make a complaint about participation you can do so by contacting the Research Office at The University of Manchester by calling 0161 275 7583 or by emailing karen.schafheutle@manchester.ac.uk.

**Where can I obtain further information if I need it?**
If you have any questions or concerns about anything mentioned or involved in this study, please contact either

Peter Taylor, p.j.taylor@postgrad.manchester.ac.uk, Tel: 0161 306 0428
Judith Johnson, Judith.Johnson@postgrad.manchester.ac.uk, Tel: 0161 306 0428

The project supervisor:

Dr Patricia Gooding, patricia.a.gooding@manchester.ac.uk, Tel: 0161 275 1971
Professor Nicholas Tarrier, Nicholas.tarrier@manchester.ac.uk, Tel: 0161 306 0404

This project has been approved by the School of Psychological Sciences Research Ethics Committee
Title of project:
Rumination and well-being

Would you like to take part in a survey?

Introduction
Researchers at the School of Psychological Sciences at the University of Manchester are conducting a survey on how people’s beliefs and attitudes relate to their well-being. We would very much value your participation. This research is designed to lead to new knowledge in psychology about how attitudes relate to well-being.

How do I take part?
There is a researcher at the back of the room, with a stack of questionnaires on the table. If you are interested in participating, or have any questions, please speak to this researcher.

What will I be asked to do if I take part?
After reading the Participant Information Sheet and signing the Consent Form, if you choose to participate in the study you will be asked to complete a series of seven questionnaires. These questionnaires ask about your beliefs and about your well-being and will take approximately 10-15 minutes to complete.
Example questions include:
1. Do you love analysing things?
2. Do you like most aspects of your personality?

Will my data be anonymous?
Your data will remain anonymous at all times. You will be asked for your age, gender and ethnicity but no personal information will be able to identify you as an individual and link you to your responses. This information will not be passed on to third parties, it will only by used for the purposes of this study. Questionnaires will be kept for 5 years after publication in a secure, locked cabinet under the supervision of the Project Supervisor Dr. Alex Wood.

Do I have to take part?
You do not have to take part in this study. At any point during the study, either before, during or after, you have the right to withdraw without giving any reasons, and if you wish, your data will be destroyed. After completion of the study, data will be stored in an anonymous format preventing identification of your responses.

Where can I obtain further information if I need it?
For further information please contact:
Dr. Alex Wood: Alex.Wood@manchester.ac.uk
If you are upset or concerned due to any of the issues raised in this questionnaire, please contact Dr. Wood. Additionally confidential non-judgemental emotional support is provided by the Samaritans, 24 hours a day, on 08457 90 90 90 or via www.samaritans.org, and by SupportLine, on 020 8554 9004. Further support, advice and information on mental health-related issues can be found at Saneline, from 12 noon to 2am, on 0845 767 8000, and MIND, on 0161 272 8205.

This project has been approved by the School of Psychological Sciences Research Ethics Committee
APPENDIX IX: PARTICIPANT INFORMATION SHEET FOR CLINICAL STUDY 1

SCHOOL OF PSYCHOLOGICAL SCIENCES

Participant Information Sheet

Title of project: Appraisal and memory in suicide (Study 1)

We would like to invite you to take part in a research study. Before you decide you need to understand why the research is being done, and what it would involve for you. Please read the following carefully, and talk to others about the study if you wish.

Introduction – What is this research about?
In order to develop effective interventions for suicide, it is necessary to understand the factors that leave some people vulnerable to suicide and not others. Certain cognitive factors related to the way people see the world may be particularly important in understanding what makes people feel suicidal. The aim of this research is to investigate these factors in more detail.

Why have I been chosen?
We are interested in hearing from individuals with a range of different experiences, including those who have experiences of psychosis, such as hearing voices, as well as those without such experiences. This is because we’re interested in whether similar cognitive factors are as important to individuals with and without these experiences.

What will I be asked to do if I take part?
You will be sent a questionnaire pack, which you will first be asked to complete. This pack will include a number of questionnaires about your thoughts and feelings. Example questions are, “(to what extent do you feel) I am in a situation I feel trapped in”, and “(true or false) the future looks dark to me”. This study should last between 30 minutes and 1 hour and 15 minutes. Everything is explained as you work through the questions. You will be reimbursed £5 for taking part in the study, or if you’re a student, will receive three credits.

There will be a short follow-up call, which will be made by the interviewer one week after you have completed the questionnaires. This is not part of the study, but simply to ensure your well-being and will not take up much of your time.

You may also be given the opportunity to take part in a second study looking at memory. If you wish to be re-contacted about this second study please say so on the consent form and re-contact sheet provided.

If there are any particular concerns about you that are raised through your participation in this study, we may ask for your consent to refer these concerns to either your NHS management team, where applicable, or another suitable professional. In extreme cases it may be necessary to breach the confidentiality of this study and inform professionals of your responses. This would include cases where the specific intent to cause harm to oneself or others has been made clear.
Information concerning the findings of this research will be available from the study researchers and advisers, whose contact details are listed below.

Will my data be confidential?
All data recorded in this experiment will be completely confidential. All information pertaining to participant’s identities will be stored separately from data gathered during the study, and will only be matched with the participant’s consent. All participants will be assigned an identification number which will be used to match responses. All data will be stored securely either on paper, or password-protected databases. Personal data will not be kept any longer than 12 months, and will be destroyed by this time. Completely anonymous copies of people’s responses may be retained for up to 10 years after the study.

Do I have to take part?
There is no obligation to take part in this study. Furthermore, you may withdraw from the study at any time without reason, and if you wish, have your data destroyed.

What support will be available to me?
If you have any concerns or are at all distressed following the study please feel free to contact either the project researchers or supervisors, whose contact details are listed below. The project supervisors will be able to listen to your concerns and direct you to relevant sources of support. You will also be provided with a list of voluntary and professional support organisations, some of whom are available 24 hours a day, which you will be able to contact if you feel any worry or negative emotions after taking part in this study. This list of organisations will also be available, after the study, from the project researchers. For those who are currently under NHS care, your key worker or other relevant member of your management team will be aware of your participation in this research and can also be informed if you do have any problems or issues.

Who can I contact for independent advice or to make a complaint?
If you wish to seek independent advice about taking part in the research or wish to make a complaint about participation you can do so by contacting the Research Office at The University of Manchester by calling 0161 275 7583 or by emailing karen.schafheutle@manchester.ac.uk.

Where can I obtain further information if I need it?
If you have any questions or concerns about anything mentioned or involved in this study, please contact either
Peter Taylor, p.j.taylor@postgrad.manchester.ac.uk, Tel: 0161 306 0428
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The project supervisor:
Dr Patricia Gooding, patricia.a.gooding@manchester.ac.uk, Tel: 0161 275 1971
Professor Nicholas Tarrier, Nicholas.tarrier@manchester.ac.uk, Tel: 0161 306 0404

This project has been reviewed by the
Stockport Research Ethics Committee
APPENDIX X: PARTICIPANT INFORMATION SHEET FOR CLINICAL STUDY 2

SCHOOL OF PSYCHOLOGICAL SCIENCES

Participant Information Sheet

Title of project: Appraisal and memory in suicide (Study 2)

We would like to invite you to take part in a research study. Before you decide you need to understand why the research is being done, and what it would involve for you. Please read the following carefully, and talk to others about the study if you wish.

Introduction – What is this research about?
Differences in the way events are recalled from memory have been found between people who have experienced suicidal thinking and behaviour, and those who haven’t. The aim of this study is to explore these differences and assess whether they can be explained by the way people see the world, the future and themselves.

Why have I been chosen?
We are interested in hearing from individuals with a range of different experiences, including those who have experiences of psychosis, such as hearing voices, as well as those without such experiences. This is because we’re interested in whether similar cognitive factors are as important to individuals with and without these experiences.

What will I be asked to do if I take part?
You will be met by an interviewer in a convenient place. You will first be asked to complete a short memory task where you will be presented with phrases and asked to describe any memories that come to mind, in as much detail as possible. Your responses will be recorded on tape cassette in this task alone. You will also be asked to complete some questionnaires regarding your thoughts and feelings, including questions such as “(how much do you feel that) I can see things improving in the future”, and “(how much do you feel that) my past is full of awful experiences”. You will also be asked to complete some short tasks, where you’ll be asked to think of words beginning with a certain letter or think of different uses for some objects. The study will take between 30 minutes and 1 hour and 15 minutes. You will be reimbursed £5 for taking part in the study, or if you’re a student, will receive three credits.

There will be two short follow-up calls, which will be made by the interviewer 24 hours and one week after the interview. These are not part of the study, but simply to ensure your well-being and will not take up much of your time.

If there are any particular concerns about you that are raised through your participation in this study, we may ask for your consent to refer these concerns to either your NHS management team, where applicable, or another suitable professional. In extreme cases it may be necessary to breach the confidentiality of this study and inform professionals of your responses. This would include cases where the specific intent to cause harm to oneself or others has been made clear.
Information concerning the findings of this research will be available from the study researchers and advisers, whose contact details are listed below.

Will my data be confidential?
All data recorded in this experiment will be completely confidential. All information pertaining to participant’s identities will be stored separately from data gathered during the study, and will only be matched with the participant’s consent. All participants will be assigned an identification number which will be used to match responses. All data will be stored securely either on paper, or password-protected databases. Personal data and audiotapes will be destroyed after data has been reduced to an anonymous form, which will take place within 1 month following the study. Completely anonymous copies of people’s responses may be retained for up to 10 years after the study.

Do I have to take part?
There is no obligation to take part in this study. Furthermore, you may withdraw from the study at any time without reason, and if you wish, have your data destroyed.

What support will be available to me?
If you have any concerns or are at all distressed following the study please feel free to contact either the project researchers or supervisors, whose contact details are listed below. The project supervisors will be able to listen to your concerns and direct you to relevant sources of support. You will also be provided with a list of voluntary and professional support organisations, some of whom are available 24 hours a day, which you will be able to contact if you feel any worry or negative emotions after taking part in this study. This list of organisations will also be available, after the study, from the project researchers. For those who are currently under NHS care, your key worker or other relevant member of your management team will be aware of your participation in this research and can also be informed if you do have any problems or issues.

Who can I contact for independent advice or to make a complaint?
If you wish to seek independent advice about taking part in the research or wish to make a complaint about participation you can do so by contacting the Research Office at The University of Manchester by calling 0161 275 7583 or by emailing karen.schafheutle@manchester.ac.uk.

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Professor Nicholas Tarrier, Nicholas.tarrier@manchester.ac.uk, Tel: 0161 306 0404

This project has been reviewed by the
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