The Effect of Mood in Depression on Responses to the Young Schema Questionnaire-Short Form.

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Declaration

This thesis has been composed by myself, the work contained herein is my own and has not been submitted as part of any other degree.

Signed

31st July 2006.
Abstract

Introduction
The aim of this study was to investigate whether mood-state influenced responses on a self-report measure of schematic content, namely the Young Schema Questionnaire-Short Form (YSQ-S). To date, the vast majority of studies have demonstrated that self-report measures of schematic content do not detect negative cognitive styles in the absence of negative affect. A recent study by Stopa and Waters (2005) investigated the link between the YSQ-S and mood-state using a mood-induction paradigm in a non-clinical population. These findings suggested that responses on the YSQ-S reflected some beliefs as stable and enduring, while others were influenced by mood-state. The present study extended this investigation to include naturally occurring mood-states across currently depressed (CD), recovered depressed (RD), and never depressed (ND) participants.

Method
The study investigated the relationship between mood-state and YSQ-S subscales. Differences in YSQ-S scores across CD (N = 20), RD (N = 13), and ND (N = 20) participants were also compared. All participants completed the YSQ-S, a Visual Analogue Mood Scale (VAMS), the Beck Depression Inventory (BDI), and the Beck Anxiety Inventory (BAI).

Results
Correlational analyses revealed a negative relationship between mood-state and scores on 11 of the 15 subscales of the YSQ-S. One way Analyses of variance found that RD participants resembled ND participants on measures of depression, anxiety, mood-state, and 14 of 15 subscales of the YSQ-S. RD participants resembled CD participants on 5 of 15 subscales. Out of these differences the subscales of social isolation and self-sacrifice offered the most distinguishable results in relation to mood-state and enduring schemata.

Discussion
Findings supported the influential role of mood in detecting negative cognitive styles using self-report measures of schematic content. Results were discussed within theoretical models of cognitive vulnerability to depression. Additionally, caution was advised in the interpretation of YSQ-S scores, particularly when using these scores as indications of schema modification in treatment outcome studies.
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Chapter 1

1.0 Introduction

1.1 Overview

The current study aims to investigate elements of cognitive vulnerability to depression hypotheses, namely the effect of mood on the assessment of cognitive schemata using a self-report measure of schema content. The study will outline symptoms and diagnostic features of depression and present a description of clinical schema models that attempt to explain the disorder, focusing mainly on the role of early maladaptive schemata as causal vulnerability factors for depression. In many cases, the treatment of depression has been greatly informed by cognitive models, and Beck’s cognitive behavioural therapy for depression (Beck, Rush, Shaw & Emery, 1979) has received a wealth of empirical support (see Casacaldenda, Perry & Looper, 2002; Gloaguen, Cottraux, Cucherat & Blackburn, 1998 for reviews). However, the fundamental aspects of cognitive theories that focus on the role of negative schemata as causal vulnerability factors for depression have been largely unsupported, where investigations have generally concluded that when depression remits, dysfunctional schemata remit (see Haaga, Dyck & Ernst, 1991; Ingram, Miranda & Segal, 1998; Persons & Miranda, 1992, for reviews).

A number of arguments and research studies will then be presented that have demonstrated dysfunctional schemata as having an integral role in depression, whether that role may be viewed as causal or reciprocal with mood state. The following will also provide possible reasons why some investigators have failed to find support for dysfunctional schemata as vulnerability factors, and will put forward evidence that suggests mood plays an important role in the identification of schemata.
Additionally, this review will take into account other explanations that may account for previous findings, for example, methodology used in previous studies. Supportive findings from information processing methodology, in particular, the problems associated with the measures used to assess negative schemata, and the potential problems of using a remitted depression design paradigm will be reviewed and discussed.

Taking into account these arguments, and considering supportive findings for cognitive vulnerability hypotheses, the current study will be based upon the assertion that negative schemata appear to be vulnerability factors for depression; however, the current study makes no assumptions about the underlying cognitive processes involved in the activation of these schemata, but simply argues that mood may play an important part in the identification of these schemata. Furthermore, the current study will take into consideration a number of issues that have been argued to influence detection of negative schemata as a vulnerability factor. Firstly, one of the arguments noted above involves the measures used to assess schemata. To date, a large number of studies have used the Dysfunctional Attitudes Scale (DAS: Weissman, 1979) to assess schematic content. However, researchers have argued that this measure only represents one aspect of cognitive structure and limits our understanding of cognition in depression (Gemar, Segal, Sagrati, & Kennedy, 2001; Stopa & Waters, 2005). Therefore, the current study is primarily concerned with a measure of schematic content called the Young Schema Questionnaire-Short Form, second edition (YSQ-S; Young & Brown, 2003). Evidence is accumulating to suggest that this assessment measure may be a promising method of assessing schematic content (Gladstone & Parker, 2001; Glaser, Campbell, Calhoun, Bates & Petrocelli, 2002; Lee, Taylor, &
Dunn, 1999). The empirical basis for this questionnaire will also be outlined. However, the current study will argue that the evidence is unclear with regards to whether or not the YSQ-S is actually assessing schemata as stable constructs. Secondly, the role of mood in schema activation will be considered in relation to whether it may influence responses on the YSQ-S. Thirdly, some of the limitations regarding the design of previous remitted depression studies will be considered in the current design.

A previous study by Stopa and Waters (2005) has suggested that the YSQ-S may be measuring some schemata as stable constructs while other schemata, as assessed by the YSQ-S, are susceptible to the influence of mood state. This has implications for the use of the YSQ-S as a clinical measurement tool for schema modification in therapy and research, and gives rise to a number of questions concerning the link between mood state and schemata. For example, if the YSQ-S is assessing schemata as stable and enduring, in support of schema theory, and without influence from mood state, then this questionnaire may be valuable in future studies of the cognitive vulnerability hypothesis. Additionally, schema modification in therapy may be readily examined. However, if responses on this questionnaire are influenced by mood, then further investigation is required to determine exactly what the questionnaire is assessing, or indeed whether our conceptual understanding of schema-mood relationships requires further development. The above study by Stopa and Waters (2005) provides preliminary findings in relation to these points. However, due to a number of limitations in the above study, the results cannot be generalised to a clinical population. The current study will outline these limitations and take forward modifications as the next stage in this area of research. The main premise of the
current study is that if negative schemata do exist as stable and enduring vulnerability factors for depression, as argued by a number of cognitive theorists (e.g., Beck, 1967, 1976; Young, Weinberger & Beck, 2001), and if the YSQ-S is a valid measure of stable and enduring schemata, then recovered depressed individuals should reveal similar scores to currently depressed individuals on the YSQ-S and should differ from never depressed controls. However, if the YSQ-S is influenced by mood state then it may not be a valid measure for assessing schema modification in research and therapy, and therefore conclusions that the YSQ-S reliably assesses schematic content and schema change may be premature.
2.0 Depression and Cognitive Models of Depression

2.1 Depression

Depression is a mood disorder, which, in the United Kingdom, is estimated to occur in 21/1000 adults; additionally, when taking into account the occurrence of mixed depression and anxiety the estimated prevalence is 98/1000 adults (NICE, 2004). Features of depression can include depressed mood, subjective feelings of sadness and worthlessness, loss of pleasure in activities, and disruptions in sleep and appetite. Individuals with depression may also withdraw from activities and social interactions and experience concurrent interpersonal difficulties. Depression can be a debilitating disorder and it is thought to be the greatest risk factor for suicide (Knapp & Ilson, 2002). In the National Health Service, depression accounts for a large proportion of mental health service treatment allocation. Depression also tends to be recurrent in nature, and relapse after treatment and recovery is not uncommon (Judd, 1997; Young, Weinberger, & Beck, 2001). Therefore, there have been, and currently remain, a number of incentives for investigating the vulnerability factors and nature of the disorder. Depressive disorders have been classified in a number of ways, differentiating between types of depression, for example, bipolar depression and major depression. Each of the distinctions have unique characteristics and subsequent theoretical groundings. However, the current study is concerned with unipolar depression in the form of major depressive episode.
2.2 Diagnostic Criteria

Major Depressive Episode.

The American Psychiatric Association (2000) defines a major depressive episode in the Diagnostic and Statistical Manual, fourth edition, Text Revision (DSM-IV-TR) using the following criteria:

A. Five (or more) of the following symptoms have been present during the same 2-week period and represent a change from previous functioning; at least one of the symptoms is either (1) depressed mood or (2) loss of interest or pleasure.

(1) depressed mood most of the day, nearly every day, as indicated by either subjective report (e.g. feels sad or empty) or observation made by others (e.g. appears tearful)

(2) markedly diminished interest or pleasure in all, or almost all, activities most of the day, nearly every day (as indicated by either subjective account or observation made by others)

(3) significant weight loss when not dieting or weight gain (e.g. a change of more than 5% of body weight in a month), or decrease or increase in appetite nearly every day

(4) insomnia or hypersomnia nearly every day

(5) psychomotor agitation or retardation nearly every day (observable by others, not merely subjective feelings of restlessness or being slowed down)

(6) fatigue or loss of energy nearly every day

(7) feelings of worthlessness or excessive or inappropriate guilt (which may be delusional) nearly every day (not merely self-reproach or guilt about being sick)

(8) diminished ability to think or concentrate, or indecisiveness, nearly every day (either by subjective account or as observed by others)

(9) recurrent thoughts of death (not just fear of dying), recurrent suicidal ideation without a specific plan, or a suicide attempt or a specific plan for committing suicide

B. The symptoms do not meet criteria for a Mixed Episode.

C. The symptoms cause clinically significant distress or impairment in social, occupational, or other important areas of functioning.

D. The symptoms are not due to the direct physiological effects of a substance (e.g. a drug of abuse, a medication) or a general medical condition (e.g. hypothyroidism).

E. The symptoms are not better accounted for by bereavement, i.e., after the loss of a loved one, the symptoms persist for longer than 2 months or are characterised by marked functional impairment, morbid preoccupation with worthlessness, suicidal ideation, psychotic symptoms, or psychomotor retardation.
2.3 Clinical Cognitive Theories of Depression

For many years theorists have strived towards providing accounts of the phenomenon of depression. The most influential theory of depression in current psychology is Beck’s cognitive theory of depression and subsequent cognitive behavioural therapy (CBT) for depression (Beck, 1967, 1976; Beck, Rush, Shaw, & Emery, 1979). The extent of this influence is captured by Rachman (1997),

“CBT is widely accepted and is practised by growing numbers of clinicians; in all likelihood, it is today the most broadly and confidently endorsed form of psychological therapy. Cognitive behaviour therapy dominates clinical research and practice in many parts of the world.” (pp 3-4).

2.3.1 Cognitive Theory of Depression (Beck, 1967, 1976)

Beck (1967, 1976) developed a cognitive model of depression that takes into account predisposing factors, distal and proximal precipitating factors, and maintaining factors of the disorder. For example, predisposing factors may be an interaction of biological and environmental factors, such as temperament and negative experiences in childhood. Clinical cognitive models of depression place emphasis on how different predisposing factors can influence the development of thought content.

Beck (1967, 1976) proposes that negative experiences in childhood may lead to the formation of dysfunctional beliefs, or negative schemata, which refer to underlying beliefs about the self, others and the world. These beliefs are thought to guide a person’s perceptions and organise their interpretation of experiences, and they are thought to be resistant to change. Within this model (Beck, 1987), dysfunctional beliefs are conditional and revolve around negative themes in depression such as failure and loss. Their conditional nature is such that an individual’s self-worth is
dependent upon certain conditions being present, and these conditional dysfunctional beliefs are defined as ‘if, then’ rules. It is argued that these beliefs are maladaptive and latent until they are activated by precipitating events such as environmental or life stressors. In the above instance, a stressor may take the form an interpersonal conflict. This would then activate the underlying assumptions that the self is worthless in the event of external disapproval. Therefore, the role of stress is an important element of Beck’s cognitive model of depression. Once dysfunctional schemata are activated by life stresses, they cause individuals to perceive themselves and their environment in a negative way. Thus the cognitive model of dysfunction developed by Beck (1987) is a stress-diathesis model.

Depending on the nature of the schematic content for each individual, different stressors will lead to different reactions. For example, an individual who harbours dysfunctional schemata revolving around themes of failure, perhaps derived from early experiences of conveyed negativity from parents in the absence of desired achievements, may become aware of unpleasant emotions in response to events relevant to their schemata, such as missing out on a promotion at work. In this instance a schema may consist of underlying assumptions such as ‘I am only worthwhile if I succeed’ and ‘if I fail, then others will view me as worthless’. Therefore the conditional nature of this belief is that certain standards must be in place, i.e. success, in order for the person to feel a sense of worth. Once activated, these schemata produce a range of negative automatic thoughts, for example ‘I cannot do anything right, everyone thinks I am no good’. These negative automatic thoughts are within the individual’s conscious awareness and, according to this theory, they lead to negative affect, physiological changes, and dysfunctional behaviours. It is the
combination of cognitive, behavioural, somatic and affective changes that are believed to perpetuate difficulties in the form of a vicious cycle.

Within cognitive behavioural therapy (CBT) for depression, these proximal features of depression are the first focus of treatment leading to a later shift in focus to the underlying negative dysfunctional schemata (Beck, Rush, Shaw, & Emery, 1979). This type of therapy is thought to be advantageous compared to pharmacotherapy in preventing the reoccurrence of depression because it focuses on the underlying cognitive vulnerability factors of dysfunctional schemata (Fennell, 1989). However, there is evidence to suggest that negative schemata, in the form of Beck’s dysfunctional assumptions, may not be vulnerability factors for depression (e.g. Haaga, Dyck & Ernst, 1991). It is therefore currently unclear whether dysfunctional assumptions constitute a vulnerability to depression. This argument will be reviewed in section three.

2.3.2 Young’s Schema Theory in the Context of Depression

Whilst Beck’s conceptualisation of depression (e.g. Beck, 1967, 1987) and the cognitive behavioural therapy (CBT) that derives from it has proven efficacy (see Gloaguen, Cottraux, Cucherat, & Blackburn, 1998; Oei & Free, 1995), in the treatment of chronic and severe conditions there are conflicting findings regarding the efficacy of CBT (e.g. see Elkin, Gibbons, Shea & Shaw, 1996). Accordingly, Young (1990) developed a schema theory in relation to the treatment of chronic axis I and axis II disorders. This theory and model of treatment is described as an expansion of the cognitive behavioural theory and therapy (Young, Klosko, & Weishaar, 2003).
The development of this therapy was to address a number of shortcomings of traditional cognitive behavioural therapy in the treatment of individuals who presented with personality problems. Young, Klosko, & Weishaar (2003) outline some of these shortcomings. For example, cognitive behavioural therapy aims towards clients accessing and recording their negative thoughts and emotions; however, it is argued that clients with characterological problems have great difficulty in doing this. The emphasis of schema therapy is on the underlying cognitive schemata, and the use of the therapeutic relationship and specific experiential techniques in eliciting these schemata, rather than a focus on more proximal features of difficulties, such as negative automatic thoughts. However, schema therapy is not intended for the treatment of acute disorders, such as major depressive episode, but for more long-standing difficulties, such as individuals with chronic depression where characterological problems are evident.

Young’s schema theory (e.g. Young, 1990) moves beyond negative automatic thoughts at a conscious level and the representation of schemata as dysfunctional assumptions, as described by Beck (1967, 1976), where schemata are depicted as conditional ‘if, then’ assumptions. It moves towards a deeper level conceptualisation of schemata represented as unconditional truths. These unconditional truths are argued to be stable, enduring, and highly resistant to change. An example of an unconditional truth may be the belief that one is fundamentally flawed. This belief is considered as an implicit a priori truth (Gladstone & Parker, 2001). Within schema theory, it is the existence of these unconditional beliefs that lead to numerous negative experiences for the individual, and the development of psychological difficulties. Therefore, schema therapy aims to address these maladaptive beliefs, which are at the
core of a person’s self-concept, and help individuals to modify these beliefs to become more adaptive.

Although schema therapy is not intended for the treatment of acute disorders, there appears no reason why schema theory cannot be applied to such disorders. The premise of the theory is similar to that described by Beck, in that, the vulnerability factors for the development of psychopathology are underlying differences in thought content. It is proposed that repeated undesirable experiences and themes in childhood lead to the development of maladaptive schemata. Young borrowed the term ‘repisodes’ from Neisser (1981) to explain the representations in episodic memory of experiences relating to repeated episodes and situations that are no longer based on temporal references. For example, a child who continually does not have her emotional needs met by her caregivers, may believe that her needs will never be met and that others are incapable of meeting her needs. This perspective takes into account theory and research regarding the importance of early attachments (e.g. Bowlby, 1969, 1973, 1980).

Attachment theory (Bowlby, 1969, 1973, 1980) argues that early relationships with caregivers lead to the development of internal working models. These models will vary depending on the individual’s experiences. For example, when an infant experiences overwhelming sensations of hunger, pain, or fear, he will display behaviours to elicit a response from his caregiver. It is the role of the caregiver to infer these sensations and offer comfort and security for the infant. When this is carried out, the caregiver restores the equilibrium for the child. An individual with experiences of a responsive caregiver will hold a sense of security in his relationships,
and will have an implicit sense that his needs will be adequately met by others. However, a non-responsive caregiver may not sufficiently regulate her child’s emotions and attend to his needs. In this instance, the child may hold negative expectations of how others will respond to him, and may also experience emotional dysregulation to a larger degree. Young’s schema theory (Young, 1990; Young, Klosko & Weishaar, 2003) is related to attachment theory whereby ongoing negative patterns in childhood lead to the development of beliefs about the self, others, and the world in general. Unlike Beck’s cognitive theory (Beck 1967, 1976), these beliefs are not balanced on conditions, they are considered absolute truths to the individual. Insecure attachments have been argued to be a risk factor for the development of psychological difficulties in childhood and adulthood (Ingram, 2003), and this may also be viewed as strengthening Young’s theory of early maladaptive schemata as causal vulnerability factors for psychopathology.

According to Young (1990), these maladaptive beliefs are elaborated throughout a person’s life and influence the processing of later experiences. Schemata are also theorised to be self-perpetuating, and Welburn, Coristine, Daag, Pontefract, and Jordan (2002) suggest that their self-maintaining nature leaves individuals vulnerable to experiencing depression when faced with life experiences that activate the schemata. Again, an example of this may be an individual who fears that her emotional needs cannot be met by others and therefore elaborates this belief by avoiding any form of intimacy over the course of her life. In this instance, the individual is isolated from social and emotional support, which, for example, is argued to provide a buffer against the development of psychological difficulties such as depression (Day, Kane & Roberts, 2000; Garber & Flynn, 2001; Olstad, Sexton &
Soggard, 2001). The schema that others cannot support the individual is fulfilled and maintained through avoidance of situations that could disconfirm the content of the schema.

Young, Klosko and Weishaar (2003) argue that schemata are maintained through avoidance, surrender, and compensation behaviours. It is also theorised that individuals who are vulnerable to developing psychopathology will endorse maladaptive schemata to a greater degree than those who are less likely to have psychological difficulties. Indeed, it has been found that stronger endorsement of maladaptive schemata can distinguish clinical populations from non-clinical populations (Rijkeboer, van den Bergh, & van den Bout, 2005). Additionally, it is thought that varying degrees of endorsement of maladaptive schemata can also discriminate between different types of psychopathology (Lee, Taylor, & Dunn, 1999; Waller, Shah, Ohanian, & Elliot, 2001).

2.3.3 Young’s Early Maladaptive Schemata

Young has conceptualised schemata into discreet domains and within these domains there are specific schemata representing maladaptive beliefs that individuals may hold. Table 2.1 provides an outline of Young’s conceptualisation of early maladaptive schemata.
Table 2.1 Young’s Early Maladaptive Schemata and Associated Domains

<table>
<thead>
<tr>
<th>Disconnection and Rejection</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Expectation that one’s needs for security, safety, stability, nurturance, empathy, sharing of feelings, acceptance, and respect will not be met in a predictable manner. Typical family origin is detached, cold, rejecting, withholding, lonely, explosive, unpredictable, or abusive.</strong></td>
</tr>
<tr>
<td>1. <strong>Abandonment/Instability</strong>: The perceived instability or unreliability of those available for support and connection.</td>
</tr>
<tr>
<td>2. <strong>Mistrust/Abuse</strong>: The expectation that others will hurt, abuse, humiliate, cheat, lie, manipulate, or take advantage.</td>
</tr>
<tr>
<td>3. <strong>Emotional Deprivation</strong>: Expectation that one’s desire for a normal degree of emotional support will not be adequately met by others.</td>
</tr>
<tr>
<td>4. <strong>Defectiveness/Shame</strong>: The feeling that one is defectiveness, bad, unwanted, inferior, or invalid in important respects; or that one would be unlovable to significant others if exposed.</td>
</tr>
<tr>
<td>5. <strong>Social Isolation/ Alienation</strong>: The feeling that one is isolated from the rest of the world, different from other people, or not part of any group or community.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Impaired Autonomy and Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Expectations about oneself and the environment that interfere with one’s perceived ability to separate, survive, function independently, or perform successfully. Typical family origin is enmeshed, undermining of child’s confidence, overprotective, or failing to reinforce child for performing competently outside the family.</strong></td>
</tr>
<tr>
<td>1. <strong>Dependency/Incompetence</strong>: Belief that one is unable to handle one’s everyday responsibilities in a competent manner, without considerable help from others.</td>
</tr>
<tr>
<td>2. <strong>Vulnerability to Danger/Random Events</strong>: Exaggerated fear that imminent catastrophe will strike at any time and that one will be unable to prevent it.</td>
</tr>
<tr>
<td>3. <strong>Enmeshment/Underdeveloped Self</strong>: Excessive emotional involvement and closeness with one or more significant others (often parents), at the expense of full individuation or normal social development.</td>
</tr>
</tbody>
</table>
| 4. **Failure**: The belief that one has failed, will inevitably fail, or is fundamentally inadequate relative to one’s peers, in areas of achievement.
### Impaired Limits

Deficiency in internal limits, responsibility to others, or long-term goal orientation. Leads to difficulty respecting the rights of others, cooperating with others, making commitments, or setting and meeting realistic personal goals. Typical family origin is characterised by permissiveness, overindulgence, lack of direction, or a sense of superiority-rather than appropriate confrontation, discipline, and limits in relation to taking responsibility, cooperating in a reciprocal manner, and setting goals. In some cases, child may not have been pushed to tolerate normal levels of discomfort or may not have been given adequate supervision, direction or guidance.

1. **Entitlement/Self-Centeredness:** The belief that one is superior to other people; entitled to special rights and privileges; or not bound by the rules of reciprocity that guide normal social interaction.

2. **Insufficient Self-Control/Self-Discipline:** Pervasive difficulty or refusal to exercise sufficient self-control and frustration tolerance to achieve one's personal goals, or to restrain the excessive expression of one's emotions and impulses.

### Other-directedness

An excessive focus on the desires, feelings, and responses of others, at the expense of one's own needs in order to gain love and approval, maintain one's sense of connection, or avoid retaliation. Usually involves suppression and lack of awareness regarding one's own anger and natural inclinations. Typical family origin is based on conditional acceptance: children must suppress important aspects of themselves in order to gain love, attention, and approval. In many such families, the parents' emotional needs and desires—or social acceptance and status—are valued more than the unique needs and feelings of each child.

1. **Subjugation:** Excessive surrendering of control to others because one feels coerced—usually to avoid anger, retaliation, or abandonment.

2. **Self-Sacrifice:** Excessive focus on voluntarily meeting the needs of others in daily situations, at the expense of one’s own gratification.

### Over-Vigilance and Inhibition

Excessive emphasis on suppressing one's spontaneous feelings, impulses, and choices or on meeting rigid, internalized rules and expectations about performance and ethical behaviour—often at the expense of happiness, self-expression, relaxation, close relationships, or health. Typical family origin is grim, demanding, and sometimes punitive: performance, duty, perfectionism, following rules, hiding emotions, and avoiding mistakes predominate over pleasure, joy, and relaxation. There is usually an undercurrent of pessimism and worry—things could fall apart if one fails to be vigilant and careful at all times.

1. **Unrelenting Standards:** The underlying belief that one must strive to meet very high internalized standards of behaviour and performance, usually to avoid criticism.

2. **Emotional Inhibition/Overcontrol:** The excessive inhibition of spontaneous action, feeling, or communication—usually to avoid making mistakes, disapproval of others, catastrophe and chaos, or losing control of one’s impulses.

In relation to the above conceptualisation, a self-report schema questionnaire was developed (Young & Brown, 1994, 2003) as a means of identifying and assessing maladaptive schemata in individuals. The clinical relevance of this measure is to identify schemata so that interventions can help to modify them and reduce related symptomatology. The psychometric properties of the questionnaire will be discussed in section four, and potential problems relating to the assessment of schemata using this self-report method will also be discussed. Presently, the purpose of the above section was to provide an overview and description of two clinical schema-based cognitive vulnerability theories. The following section aims to outline the fundamental assumptions of such theories in terms of researching the schema vulnerability hypothesis, and present evidence that does not appear to support such a hypothesis.
3.0 Conflicting Evidence for the Cognitive Vulnerability Hypothesis

Cognitive vulnerability models are based on the premise that dysfunctional schemata act as stable and major contributory causes of psychological difficulties. The recurrent nature of depression can also be explained using such models. In Beck’s theory (e.g., Beck, 1967, 1976), these dysfunctional schemata are present, but are unavailable to conscious reflection until activated by life stressors. In Young’s schema theory (Young, 1990), these schemata are viewed as fundamental truths that influence cognitive processes, affect and behaviour. Both models are similar, and Young, Klosko, & Weishaar (2003) also describe schemata as traits, but highlights that all maladaptive schemata may not always be active in certain states. While there are a number of similarities between these two theories, as might be expected given that one partially gave rise to the other, Young, Klosko, & Weishaar (2003) highlight subtle differences. For example, there is greater emphasis on the origins of schemata, such as early attachment experiences, and the direct relationship between schemata and coping styles. Additionally, schema therapy aims to target these beliefs early in treatment, whereas cognitive behavioural therapy deals initially with conscious cognitive processes.

There is very little research into cognitive vulnerability for depression within Young’s schema conceptualisation (Young, 1990). This is not surprising considering that the theory and the therapy were aimed at understanding and treating axis II disorders, and not specifically acute axis I episodes. However, Beck’s cognitive vulnerability theory (e.g. Beck, 1967, 1976) has been widely researched in the area of depression. One of the fundamental assumptions in this area of research has been that individuals, who have an implicit vulnerability to depression in the form of dysfunctional schemata,
should still evidence this vulnerability even when they have remitted from their depressive episode. This assumption is in line with the notion that dysfunctional schemata remain latent and offer a vulnerability to relapse and future depressive episodes.

Many studies have investigated dysfunctional attitudes in remitted depressed patients (e.g. Eaves & Rush, 1984; Teasdale & Barnard, 1993). The premise of a number of these studies has been that if dysfunctional attitudes are a vulnerability factor, then they should be evident in previously depressed patients to a greater degree than never depressed controls. However, the majority of studies conducted using a remitted depressed paradigm have not found support for Beck’s (Beck, 1967, 1976) vulnerability theory (see Haaga, Dyck & Ernst, 1991; Ingram et al., 1998; Persons & Miranda, 1992 for reviews). Rather, what has been concluded is that when depression remits, cognitive vulnerability patterns, for example dysfunctional assumptions, become undetectable in recovery.

Parker, Gladstone, Roussos, Willhelm et al. (1998) further investigated cognitive vulnerability in terms of the link between schema specificity and relevant schema activating stressors. They hypothesised that if early adverse experiences provided the thematic content of schemata, then later life experiences, relevant to these themes, should act as triggers to depressive episodes. They described this as a ‘lock and key’ hypothesis. Previous remitted studies may have ignored the role of stress specificity in activating schemata, therefore Parker et al. (1998) emphasised the salience and specificity of the stressor in activating the schema. This study did not find evidence of a relationship between schematic themes and specificity of the triggering stressor.
However, in a later study, Parker, Gladstone, Mitchell, & Willhelm (2000) found a link between qualitative analyses of early experiences and schemata, where quantitative analyses revealed no such link. These findings draw attention to the methods used to identify schemata and suggest that quantitative measures may present with methodological limitations.

There is a large body of evidence that appears to offer conflicting findings to Beck’s (Beck, 1967, 1976) cognitive vulnerability theory of depression. In many cases, authors have concluded that negative schemata do not play a causal role in depression (e.g. Silverman, Silverman, & Eardley, 1984; Wilson, Nathan, O’Leary, & Clark, 1996). In addition, it is argued that negative schemata appear to be a feature of depressed mood rather than enduring factors (Dalgleish, Neshat-Doost, Taghavi, Moradi, et al., 1998; Ingram, Miranda, & Segal, 1998), such that evidencing negative biases in cognition is mood-state dependent.

The studies that contest cognitive schemata as stable vulnerability factors are not without their flaws. A number of authors have provided support for negative schemata as vulnerability factors after taking into account some of the problems in previous studies. For example, the role of mood in activating latent schemata has been argued to be an important factor in detecting differences between recovered depressed and never depressed individuals (e.g. Miranda & Persons, 1988). The methods used to assess schemata in a number of previous studies may also be called into question. For example, information-processing techniques have yielded evidence of the presence of negative schemata in recovered depressed individuals compared with never depressed controls (e.g. Teasdale & Dent, 1987). It is also argued that some self-report
questionnaires, such as the Dysfunctional Attitudes Scale, are insensitive measures of depressed thinking (e.g. Hedlund & Rude, 1995) and therefore conclusions reached in previous studies investigating cognitive vulnerability to depression may be based upon results from insensitive measures. Furthermore, there are a number of problems associated with the design of previous remitted depression studies. For example, it is argued that many studies have tested recovered depressed individuals under the very conditions that would reveal cognitive vulnerability to a lesser degree (e.g. Haefeli, Abramson, Metalsky, Dykman et al., 2005), such as after receiving cognitive therapy for depression.

The following section will outline these arguments further, and will propose several ways in which underlying negative schemata may serve as a vulnerability factor for depression. For example, schemata may be stable and enduring a priori truths with a specific schema content, which continually drives behavioural patterns, as proposed by Young (Young, 1990; Young, Klosko & Weishaar, 2003) or, for example, they may be affect congruent (Teasdale, 1988; Teasdale & Barnard, 1993). What the following intends to do is to review the evidence regarding the importance of mood in schema activation. The next step will then be to outline preferential methods in assessing schemata, and the Young Schema Questionnaire will be examined. Additionally, it will be argued that previous studies, which did not support the cognitive vulnerability hypothesis, may be limited due to their design. The current study then aims to determine whether the YSQ-S can detect maladaptive schemata in the absence of depressed mood, thus supporting the theory of schemata as stable and enduring.
4.0 Explanations for Conflicting Findings

4.1 The Role of Mood in Schema Identification

A number of authors have concluded that negative schemata may not be a stable vulnerability factor for depression because when depression remits, so too do negative cognitive styles. Findings such as these expose some limitations of the cognitive theory of depression, as outlined by Beck (1967, 1976). Additionally, the same conclusions may be drawn about Young’s maladaptive schemata in relation to psychopathology (Young, 1990; Young, Klosko & Weishaar, 2003). However, a number of studies have provided evidence that may contribute to the redemption of negative cognitive styles as stable vulnerability factors. The present section will outline findings and arguments for cognitive vulnerability theories focusing specifically on the role of mood in detecting negative schemata.

Miranda and Persons (1988) argue that negative schemata, in the form of Beck’s (e.g. Beck, 1967, 1976) dysfunctional assumptions, are stable vulnerability factors for depression. The premise of this argument is that previous studies may have neglected the activating role of stress in assessing schematic content. Given that Beck (1987) proposed a stress-diathesis model, and he argued that schemata were latent until activated, Miranda and Persons (1988) suggest that failure to detect negative cognitive styles may have been due to the absence of activation. They formed a mood-state hypothesis whereby they proposed that an individual’s ability to access and report their negative schemata would be dependent upon their current mood-state. In their study they used an experimental mood induction procedure and found that when sad mood occurred, participants with a history of previous depression endorsed more dysfunctional attitudes than those without a history of depression. They concluded
that the failure to observe cognitive style differences between recovered depressed and never depressed subjects in previous studies may have been due to the absence of mood-state conditions that would facilitate the activation and reporting of negative schemata. Therefore, they argue that cognitive vulnerability factors continue to exist in recovered depressed individuals and mood-state plays an important role in evidencing these vulnerability factors.

Further studies in relation to the mood-state hypothesis were then conducted. Miranda, Persons and Byers (1990) found that in a group of depressed psychiatric patients with naturally occurring diurnal mood variation, the degree of endorsement of dysfunctional attitudes varied considerably in relation to changes in mood-state. Furthermore, they examined a group of asymptomatic individuals in terms of their mood and their dysfunctional attitudes. They found that for those individuals vulnerable to depression, dysfunctional attitudes varied in accordance with mood; however, those individuals who were not vulnerable to depression displayed no relationship between mood and dysfunctional attitudes. Based on these findings, they argued that vulnerable individuals do indeed have underlying dysfunctional attitudes, but these are only detectable during periods of dysphoria. Additionally, they proposed that the mood-state hypothesis accounted for previous evidence that had been viewed as damaging to cognitive theories.
There has been much support for the role of mood in detecting negative cognitive styles. For example, Miranda, Gross, Persons, & Hahn (1998) found that women with a history of depression reported higher levels of dysfunctional attitudes after a negative mood induction compared to reports before the induction. However, conclusions about negative schema and vulnerability to depression, such as those drawn in the above studies, may be viewed as narrow. It is possible that the measure used to detect negative schemata in these studies (the Dysfunctional Attitudes Scale, Weissman, 1979) may not necessarily reflect cognitions at the schematic level.

Mood-state findings alone do not confirm the existence of cognitive vulnerability to depression because dysfunctional attitudes represent only one aspect of cognitive functioning. Additionally, if schemata are postulated as being stable and enduring, and influential in a number of functions, such as behaviour, it may be argued that individuals do have a degree of conscious reflection into their stable and enduring beliefs, even in the absence of dysphoric mood. The latency theory alone is insufficient to counter previous arguments that do not support Beck’s (Beck, 1967, 1976) cognitive vulnerability to depression theory. Findings from the above mood-state hypothesis studies reveal a relationship between mood and cognition, but this observation of a relationship is not enough to conclude that the differences found in cognitive styles reflect differences at the schematic level. Therefore the following section aims to present arguments and findings from studies using information processing techniques to detect negative cognitive styles.
4.2 Findings From Information-Processing Studies

Studies that have used measures of cognition, other than self-report measures, have found a similar relationship between cognition and mood. Teasdale and Dent (1987) compared a group of recovered depressed women with a group of never depressed women. Participants were asked to rate positive and negative descriptive words in accordance with how well each word described their personality. During a recall task of these self-descriptive adjectives, formerly depressed participants recalled fewer positive self-referent words than never depressed individuals. Participants were then administered a recall task following a negative mood induction. This task revealed that mood-state influenced recall of negative self-referent adjectives, such that recovered depressed individuals recalled more negative self-referent words compared to never depressed individuals, and these differences were only observed following the negative mood induction.

These findings suggest that there are differences in cognitive processes for individuals vulnerable to depression. Furthermore, they highlight that modest changes in mood are sufficient to activate depressogenic cognitive process in vulnerable individuals. Therefore, it may not be negative schemata per se, or negative affect alone that constitute a vulnerability to depression, but an interaction of cognition and emotion, where changes in mood can also be viewed as a vulnerability factor for individuals who harbour negative self-cognitions.
Gemar, Segal, Sagrati, & Kennedy (2001) also found that following a negative mood induction, formerly depressed individuals exhibited evaluative bias on an automatic reaction time task, evidencing a greater bias towards negative self-referent adjectives, compared with never depressed controls. They also detailed that the evaluative bias seen in this group was similar to that found in a group of currently depressed individuals. Therefore, the above studies revealed differences in cognitive process of memory and reaction times for recovered depressed individuals when negative mood was induced. Such findings suggest that mood-state is an important factor in determining differences in cognitive processes for individuals vulnerable to depression. This also generates questions about whether or not self-report measures of schematic content are sensitive to reveal differences in vulnerable individuals in the absence of dysphoric mood.

Sheppard and Teasdale (2004) examined further the cognitive processes that may be involved in accounting for the findings that challenge cognitive vulnerability theories. They investigated mediating processes in partial remission that might account for the reduction in dysfunctional thinking observed in many remitted depressed studies. Based on a previous investigation (Sheppard & Teasdale, 2000), they reasoned that during episodes of depression, individuals appear to have a deficit in controlled monitoring of their thoughts, whereas non-depressed individuals employ a controlled process of thought monitoring, known as meta-cognitive monitoring. They hypothesised that studies revealing dysfunctional attitudes as returning to normal in recovered depressed, may either reflect (a) reduced access to dysfunctional schemata, which would lead to a direct reduction in negative cognitive products, without any
differences in controlled thought monitoring, or (b) a change in the ability to monitor cognitions rather than a change in access to dysfunctional schemata.

They investigated this argument using two different tasks designed to reflect different aspects of cognition. The first task combined the Dysfunctional Attitudes Scale (DAS: Weissman, 1979) with information processing methods. Subjects were asked to indicate, as fast as possible, the extent to which they agreed or disagreed with attitudinal statements. A previous study (Sheppard & Teasdale, 2000) found that control participants were slower to respond to statements that were inconsistent with functional schemas, whereas depressed participants did not demonstrate this slowing in response. This task was argued to indicate the use of controlled thought processes, or meta-cognitive monitoring of schematic products, and previous findings from this task suggested that depressed individuals had a deficit in this monitoring process. The second task was a semantic decision task, which asked participants to decide whether the last words of sentences were semantically meaningful. Sheppard and Teasdale (2004) reasoned that the sentence would be rated as meaningful in a faster time if the meaning was congruent with existing schemata. This task was therefore designed to reflect the initial automatic access to schemata.

Findings revealed that partially remitted individuals resembled controls on the meta-cognitive monitoring task, and differed from currently depressed subjects. Additionally, on the task reflecting access to dysfunctional schemata, the partially remitted individuals were similar to currently depressed participants, but were significantly different from controls. They therefore suggested that the extent to which an individual can access negative schemata does not change in remission; rather,
individuals employ controlled thought processes to monitor dysfunctional cognitive products. These findings also contribute to arguments that suggest self-report methods of schema assessment, such as the DAS, do not capture cognitions at the schematic level, but reflect controlled cognitive processes.

These findings do not dispute the role of negative schemata as vulnerability factors for depression. However, they do suggest a different perspective of vulnerability compared to clinical models of cognitive vulnerability. If schemata are thought to be stable but latent until activated, as proposed by Beck’s model (Beck, 1987), or enduring unconditional truths, as presented by Young’s model of vulnerability (Young, 1990), then it might be argued that, given the right methodology, they should be accessible at some level and at all times. However, studies using the DAS (Weissman, 1979) in remitted depressed patients have not demonstrated access to these schemata. Beck (1987) uses the term ‘latent’ to account for the inaccessibility of schemata in recovery. However, the findings of Sheppard and Teasdale (2004) suggest that during recovery, schemata remain operative and available. Clinical cognitive models have been criticised for describing what people think, while failing to describe how people think (Wells, 2000). Findings such as those presented above, may suggest that negative schemata are accessible and that changes in affect do not suddenly activate individual ‘latent’ schemata. Rather, a relationship between affect and cognition exists such that changing affect leads to changes in other cognitive processes, for example, memory, judgements, attention, and meta-cognitive processes (Sheppard, & Teasdale, 1996).
4.2.1 The Interacting Cognitive Subsystems Model

Teasdale and Barnard (1993) present a cognitive model, named the Interacting Cognitive Sub-systems model (ICS). Within ICS, it is argued that schemata represent a range of values across broad schematic variables. These schematic variables can become combined in a variety of ways depending on the context of situations and the values attached to the variables. For example, Teasdale (1997) suggests that one should view the self as having a number of minds. Each of these different minds are ‘wheeled in’ in accordance with different contexts. In a non-depressed state, a functional mind is active, and, in this mind-set, personal worth is not dependent on success or social approval. Cognitive systems, for example, memory and attention processes operate in a reciprocal manner to extract meanings from situations based upon recurring regularities of previous and current sensory experiences, which may be intuitively interpreted as non-threatening. However, within a depressed mind-set, worth becomes linked to approval and success. Unrealistic expectations are formed, and again, cognitive systems form reciprocal relationships that lead to individuals extracting themes from sensory input and specific meanings, which is intuitively interpreted as negative, and is in accordance with previous and current experiential learning based upon continuing regularities. In this way, the experience of negative emotion in depressed mood also becomes locked-in with other negative schematic representations because the emotion is linked to the recurring regularity of other depressogenic cognitive processes.
This model is a multi-level description of cognition and emotion, taking into account low-level sensory input, its transformation into codes that correspond to specific meanings, which are stored in memory systems, and the further transformation of input into implicit meanings, which are derived from recurring regularities of past and present experiences. The schematic models that become synthesised in depressed mood are argued to be accessible from memory in the presence of retrieval cues. It is the types of patterns of negative thinking that become switched-in with mood that constitute the vulnerability within this cognitive model. Similarly, ICS predicts that recovered depressed and never depressed individuals will differ in their subjective accounts of dysphoric mood due to differences in underlying information processing configurations during low mood, and this prediction has been supported (Teasdale & Cox, 2001).

This view presents schemata as dynamic structures rather than rules of “if I fail, I am worthless”, or absolute truths of “I am flawed”. It is the combination of generic schematic meanings, at the level of intuition and emotional associations, in any given situation that leads to the degree of outcome. For example, the events of failing two different education exams may have two different outcomes for an individual. The result of failing one exam may not upset the individual, however, depending on the meaning and implicit associations related to each event, failing another exam may result in despondency. In this instance, the environmental input is similar i.e. failing; however, the individual’s response to this input need not necessarily be the same on each occasion.
ICS suggests that the success of cognitive behavioural therapy (CBT) in treating depression may be derived from individuals creating different mind-sets through experiences, which encapsulate the view of depressive thoughts as part of the disorder rather than absolute facts. For example, the use of behavioural experiments as key techniques in CBT. This also builds a memory store of wider interpretations and implicit meanings, involving the self as experiencing negative thoughts and emotions rather than the self identifying with negative thought content as fact. In doing so, the individuals are able to decentre from their thoughts. However, this model also suggests that the techniques of gathering evidence for and against beliefs in CBT are insufficient for change at the schematic level. Rather, what is required are actual experiences where the creation of new models is facilitated during the experience.

ICS suggests that treatments for the prevention of relapse in depression should focus on teaching individuals to accept their thoughts, simply as thoughts, without ruminating about the truth or meaning of them. This model proposes that cognitive strategies like rumination are often employed by individuals in distress to try and help their difficulties, however, these types of cognitive strategies have been found to act as maintaining factors in depression (Gillanders, 2000; Papageorgiou & Wells, 2001; Watkins & Moulds, 2005). Additionally, due to the role of mood in facilitating changes in thinking patterns, individuals should be made aware of these changes as normal processes and become acquainted with their own mood-thought relationships.
4.2.2 Further Considerations of the Emotion-Cognition Link

To date, clinical schema theories have provided the favoured models of depression and intervention. Beck’s cognitive therapy (Beck, Rush, Shaw & Emery, 1979) is widely researched and is the leading treatment for depression in the NHS (NICE, 2004). However, taking into account the arguments that suggest schematic change requires experiential learning, this therapy may not necessarily reach cognitions at the schematic level, and treatment outcome studies (see Gloaguen, Cottraux, Cucherat, & Blackburn, 1998 for treatment outcome review) could perhaps reflect changes in meta-cognitive monitoring and other controlled cognitive processes, as opposed to changes in core beliefs. If this therapy does not address modification of negative schemata, or emphasize the importance of the link between mood and cognition in constituting vulnerability, then this may leave the individual vulnerable to relapse to a greater degree.

Although Young (Young, Klosko & Weishaar, 2003) also advocates a schema model of psychopathology, he identifies a number of shortcomings of Beck’s (Beck, 1987) cognitive model. The emphasis of this model is upon the content of schemata and their relationship with individuals’ patterns of functioning. Young (Young, 1990; Young, Klosko & Weishaar, 2003) views schemata as unconditional, enduring and resistant to change, whereas Beck (e.g. Beck, 1976) depicts them as assumptions that are based on conditions. Schema therapy is aimed at modifying schemata rather than teaching meta-cognitive strategies, and a large amount of treatment is focused upon experiential techniques and the eliciting of negative emotions to facilitate schema modification.
The current study is concerned with access to schemata using a self-report measure. In therapy, Young (e.g. Young, Klosko & Weishaar, 2003) proposes the use of specific emotive therapeutic strategies in addition to the use of the Young Schema Questionnaire and its short-form (YSQ: Young & Brown, 1994; YSQ-S: Young & Brown, 2003) to access schemata. However, as a number of studies have shown, the relationship between mood and various aspects of cognition, suggests that gaining access to these schemata may be more intricate than self-report assessment measures allow. Access via mood induction methods used in schema therapy may provide a valid means of eliciting the negative schemata or schematic configurations linked with dysphoria, however, the YSQ and its shorter form, YSQ-S, may not be sensitive measures of schematic content in the absence of congruent affective states. The following section aims to present arguments that relate to difficulties associated with self-report measures of cognition at the schematic level.

4.3 Problems with Self-Report Schema Assessment Measures

Numerous studies have demonstrated that mood plays an important part in detecting negative cognitive styles (e.g. Miranda, Gross, Persons, & Hahn, 1998; Teasdale & Dent, 1987). However, evidence has also shown that when using different methods to access schemata, such as comparing self-report measures with information-processing laboratory tasks, differences in cognitive styles can be detected without the presence of dysphoric mood (Hedlund & Rude, 1995). This could be viewed as supporting the notion of schemata as stable and enduring. Therefore it can be argued that the types of methods used in previous unsupportive studies may preclude schema detection and elude the very theories they are proposing to support (Ingram, Miranda, & Segal,
1998). Perhaps the self-report measures used did not tap into the stable and enduring aspects of cognition.

Self-report questionnaires may not be sensitive to reveal differences in schematic content. The responses on questionnaires may reflect controlled cognitive processes, for example meta-cognitive monitoring or thought suppression, as the individual remits from their current episode. Therefore, this may account for findings that dysfunctional attitudes resemble those of controls when individuals have recovered from depression. Hedlund and Rude (1995) investigated the sensitivity of self-report questionnaires compared to information processing laboratory task measures of interpretation and recall. They compared a group of formerly depressed individuals with a control sample of never depressed participants to investigate whether different measures of depressive thinking revealed evidence of depressive biases in cognition for recovered depressed individuals. Their findings indicated that self-report methods did not reveal differences in cognitive styles, and the results resembled those of previous studies showing depressive cognitive styles as returning to that of controls’ when depression had remitted. In contrast, the responses on two out of three information processing tasks revealed negative biased information processing in the formerly depressed group, but not in the control group. Moreover, this study did not use a mood induction. They argue that these findings provide evidence for the persistence of negative schemata in recovered depressed individuals.
These results suggest that there are differences in underlying cognitive processes for individuals who are vulnerable to depression, and these differences are persistent after a depressive episode. Findings such as these also suggest that mood state may not play a necessary role in detecting differences in cognition when the tasks require automatic responses and processes. It may be that mood state is only influential in revealing differences across self-report measures, and its influence may be in the form of interfering with controlled thought processes during dysphoria. This underlines potential difficulties in using self-report measures of schematic content, particularly as a means of measuring schema modification across treatments.

Gladstone and Parker (2001) highlight that although detection of schemata appears to be state dependent, this finding may be related to the measures used in schema assessment. They describe that the majority of studies investigating cognitive vulnerability to depression have relied almost exclusively on three self-report measures: The Dysfunctional Attitudes Scale (Weissman, 1979), the Attributional Style Questionnaire (Seligman, Abramson, Semmel, & von Baeyer, 1979), and the Automatic Thoughts Questionnaire (Hollon & Kendell, 1980). It is possible that these three measures capture cognitive products, which would have reduced after an episode of depression. Therefore, it is not surprising that remitted depressed studies revealed no differences between recovered participants and controls. However, if a self-report measure existed that could access a deeper level of cognition then this may provide support for cognitive vulnerability theories. Gladstone and Parker (2001) also argue that simply because the above named measures may appear to be state dependent in detecting negative cognitive styles in previously depressed individuals, it does not necessarily follow that deeper level cognitions, in the form of
unconditional schemata, do not exist as vulnerability factors. They suggest that the Young Schema Questionnaire (YSQ: Young & Brown, 1994) may be a sensitive instrument for assessing unconditional schemata. This questionnaire emphasizes beliefs that contribute to an individual’s core self-concept, and therefore, in theory, should measure stable and enduring beliefs and knowledge about the self, even when individuals are euthymic.

The following section will describe the YSQ and its shorter version, the YSQ-S (Young & Brown, 2003). The psychometric properties of these questionnaires will be outlined using support from a number of investigations. However, based upon the difficulties associated with detecting schemata via self-report methods, considerations will be made regarding whether or not the questionnaires are assessing stable enduring schemata or symptoms of disorders. This will then lead to a counter discussion presenting arguments that promote the possibility of stable self-report measures, thus supporting the prospect of the YSQ and the YSQ-S as stable schema assessment instruments.

4.4 The Young Schema Questionnaire (YSQ) and Short-Form (YSQ-S)

The Young Schema Questionnaire (YSQ: Young & Brown, 1994) is a 205-item self-report measure designed to assess the fifteen theorised early maladaptive schemata as described by Young and colleagues (Young, 1990; Young, Klosko & Weishaar, 2003). This measure has also been modified to produce a shorter questionnaire containing 75-items (YSQ-S: Young & Brown, 2003). The short form of the schema questionnaire allows for a more economical method of schema assessment that may be advantageous in research and clinical settings where time is limited.
Both versions of the schema questionnaire have been found to be comparable with regards to their psychometric properties (Stopa, Thorne, Walters, & Preston, 2001; Waller, Meyer & Oharian, 2001). Investigations have supported the internal consistency of the questionnaires, with a number of studies providing support for the factor structure of the YSQ (Lee, Taylor, & Dunn, 1999; Schmidt, Joiner, Young, & Telch, 1995) and the YSQ-S (e.g. Welburn et al., 2002). The measures have also demonstrated moderate to adequate temporal stability (Rijkeboer, van den Berg & van den Bout, 2005; Schmidt et al., 1995; Welburn, Daag, Coristine, & Pontefract, 2000), and discriminative validity within clinical and non-clinical populations (e.g. Rijkeboer, van den Berg & van den Bout, 2005) and axis I and axis II pathology (Lee, Taylor, & Dunn, 1999). Studies have also demonstrated the predictive validity of the measures. For example, Glaser, Campbell, Calhoun, Bates & Petrocelli (2002) found that YSQ-S total scores accounted for 54 per cent of the variance of scores on the Beck Depression Inventory (BDI: Beck et al., 1961), with abandonment contributing significantly to the variance in BDI scores above the other fourteen schemas. Additionally, YSQ-S scores accounted for 49 per cent of the variance in scores on the depression subscale of the revised Symptom Checklist-90 (SCL-90-R: Derogatis, 1983), with abandonment and social isolation contributing significantly to the variance in scores, over the other thirteen schemas. Similarly, Welburn et al. (2002) found that YSQ-S scores accounted for 47 per cent of the variance in depression subscale scores of the Brief Symptom Inventory (BSI: Derogatis, 1993), with abandonment and insufficient self-control emerging as significant individual predictors of depression.
Although psychometric investigations have been positive in contributing to the construct validity of the schema questionnaires, investigations to date have not yet begun to demonstrate whether the schema questionnaires are indeed assessing unconditional core beliefs at the heart of cognitive structure. So far, the schema questionnaires have been shown to discriminate between clinical and non-clinical populations (e.g. Rijkeboer, van den Berg, & van den Bout, 2005), and provide a degree of predictive power via schema subscale scores and their relationship with types of disorders in clinical samples (e.g. Glaser et al., 2002). Responses on the measures have also been shown to distinguish between personality disorder traits and axis I disorders (Lee, Taylor, & Dunn, 1999). Despite this, there are a number of questions that remain to be answered. For example, are the differences observed between clinical and non-clinical populations reflective of differences in schema endorsement in these two groups, or are responses mood-state artefacts?

The aforementioned studies have found a relationship between the schema questionnaires and measures of general distress, depression and anxiety. However, this again does not answer questions about what the questionnaires are measuring. One possibility may be that the schema questionnaires are accessing maladaptive schemata, which are active while the individual is in a state of distress. This would support the mood-state hypothesis (e.g. Miranda, Gross, Persons, & Hahn, 1998; Miranda & Persons, 1988). However, this would indicate that the schema questionnaires might not provide reliable measures of schema modification across therapy due to the interference of mood changes on responses.
Another possibility is that the schema questionnaires provide a sensitive self-report method of measuring schemata as stable and enduring, irrespective of distress and mood-state. In this instance, support for negative cognitive styles as causal factors in depression could be achieved, without the presence of low mood. If early maladaptive schemata are an integral part of a person's core self-concept, then it is possible that they would have an awareness of their beliefs and would demonstrate them if primed with the correct questions. The differences found between the clinical and non-clinical populations could be due to individuals in the non-clinical sample holding adaptive beliefs that would not serve as vulnerability factors. If this assumption was true, then the schema questionnaires may be measuring what they propose, and may be of use in studies relating to cognitive vulnerability theories and schema modification through therapy.

A third possibility is that the questionnaires are not assessing cognitions at the level of core beliefs. Instead they may be reflecting cognitive products, such as negative automatic thoughts, which would be evident to a greater degree when an individual is in episode. Additionally, the relationships between certain early maladaptive schemata, as depicted by the individual schema subscales, and different disorders, may be reflective of the types of negative automatic thoughts that would be expected to accompany each disorder. For example, the relationship between anxiety and vulnerability to harm (Glaser et al., 2002; Schmidt, Joiner, Young, & Telch, 1995; Welburn et al., 2002) is not surprising given that a feature of anxiety is worrying about harm, and many of the questions within this schema domain on the YSQ and YSQ-S relate to this very thing.
Similarly, Welburn et al. (2002) found support for *abandonment* and *insufficient self-control* as predictors of depressive symptomatology. In light of this, Welburn and colleagues suggested that their findings supported the schema questionnaire as measuring core schemata. They provided a theoretical explanation of how symptoms of depression, such as low motivation and energy, overlapped with the items that make up the subscale of insufficient self-control. However, results such as these do not confirm that this is an expression of unconditional schemata. The findings of Welburn et al. (2002) may be simply reflective of the symptoms of the disorders as opposed to underlying schema vulnerabilities. For example, a symptom of depression, as outlined by the diagnostic criteria (APA, 2000), is observed tearfulness. In this instance, an individual who is tearful much of the time may indeed view this as an inability to control their emotional expression. Nevertheless, it does not necessarily follow that this stems from an underlying absolute belief that they have poor self-control. Rather, what one may be observing in responses to the schema questionnaire are reports of the individual’s current situation, and the negative automatic thoughts that accompany their condition.

Currently, the YSQ and YSQ-S remain to be investigated further and validated against non-self-report methods of information-processing. Such investigations may begin to answer what utility the questionnaires hold with regards to supporting the clinical cognitive schema theories, and their place in clinical practice and research. Additionally, the influence of mood upon self-report measures of cognition is undeniably important in the interpretation of responses; therefore, the role of mood on responses to the YSQ and YSQ-S must also be established before the questionnaires can be used with confidence. The current study makes no debate that the schema
questionnaires and clinical schema theories, such as those proposed by Beck (e.g. Beck, 1976) and Young (e.g. Young, 1990), may be helpful in contributing to clinicians’ formulations, understanding, and articulation of clients’ difficulties. However, questions remain regarding the nature of schemata, for example, they may be stable and enduring beliefs or they may exist in a reciprocal relationship with mood-state. Therefore, measurement issues arise. Self-report measures of schematic content may not provide a sufficient method for accessing the hypothesised cognitive vulnerability factors if they are influenced by mood, or if they simply reflect negative automatic thoughts as symptoms of current disorders.

The above section has outlined some possibilities in relation to what the schema questionnaires may be measuring, namely, (1) mood related activations of schemata, (2) stable and enduring unconditional trait beliefs that are accessible via the questionnaires, regardless of mood-state or, (3) an assessment of cognitive products as symptoms of disorders. It is also argued that further investigations are necessary to begin answering these questions, and the current study aims to contribute to this area of research. Despite the difficulties that have been presented with regards to assessing schemata via self-report measures, the following section will introduce arguments that may lend support to the YSQ and YSQ-S as measures of stable and enduring beliefs. Furthermore, studies using prospective designs and optimised remitted depressed designs have found support for clinical cognitive schema theories of vulnerability using self-report measures. These studies will be presented and their premise will be considered in the design of the current study. Leading on from this, a recent study that investigated the effect of mood upon responses to the YSQ-S will be presented and this will form the basis for the current investigation.
4.5 The Possibility of a Stable Self-Report Measure

4.5.1 The Young Schema Questionnaires and Measures of Attachment

Young (1990) proposed that early maladaptive schemata develop throughout childhood as a result of the type and quality of relationships from significant caregivers. This premise is closely linked with attachment theory, which argues that infants have an innate propensity to form close bonds with caregivers (Bowlby, 1969). The caregiver's responsiveness to the child contributes to the formation of internal working models of relationships, which are thought to be the foundations of beliefs about the self and others. Attachment theory has been widely investigated, and insecure attachment styles have been found to be a vulnerability factor for psychological difficulties through childhood and adulthood (see Ingram, 2003). Schema theory (Young, 1990; Young, Klosko, & Weishaar, 2003) takes into account early attachment experiences in the formation of early maladaptive schemata. The Young Schema Questionnaires (YSQ: Young & Brown, 1994; YSQ-S: Young & Brown, 2003) are also composed of sections that may relate closely to early attachments and ongoing relationships. For example, the schema of emotional deprivation depicts themes from an early relational perspective where the main caregiver may not have been responsive in providing nurturance, empathy, and protection. In line with attachment theory, the internal model may view the self as unworthy of affection, or unable to sufficiently provide self-comfort, and view others as incapable of meeting emotional needs.

Responses on the YSQ-S have been found to correlate with measures of attachment and childhood trauma (Cecero, Nelson and Gillie, 2004). Attachment theory has proven to be influential in predicting vulnerability to psychopathology in many
studies, and insecure attachment self-ratings have an established link with depression (e.g. Haaga, Yarmus, Hubbard, Brody, et al., 2002; Reinecke & Rogers, 2001). Therefore, the YSQ and the YSQ-S may provide valid methods of investigating stable and enduring cognitive concepts in relation to attachment experiences. However, results from self-report attachment studies in depression may also be open to the same mood-state effects as self-report schema studies in depression.

Haaga et al. (2002) investigated the effect of mood upon self-rated attachment styles in depression using a remitted depressed design and an experimental mood induction paradigm. In the remitted study they compared recovered depressed participants with never depressed control participants and found that insecure attachment styles were evident to a greater degree in recovered depressed individuals. They suggest that these findings support the view of an insecure attachment style as an ongoing vulnerability factor for depression, even when depression has remitted. Additionally, these findings may suggest that it is possible to access stable beliefs through self-report measures, even when controlled cognitive processes might be operating.

In their study involving mood manipulation, Haaga et al. (2002) also found that attachment ratings were stable and were not influenced by mood-state. They discuss their findings as suggesting that self-rated attachment styles are stable vulnerability factors that are not influenced by depression status, and are not mood-state artefacts. This study demonstrated a self-report measure of attachment that was not susceptible to changes in mood. It may also be argued that such a finding promotes the possibility that the YSQ and YSQ-S may measure some maladaptive schemata as stable and enduring, even when individuals are euthymic.
4.5.2 The Young Schema Questionnaires: Global versus Specific Effects

Self-report measures of cognitive vulnerability have also been argued to provide greater sensitivity to stable and enduring factors if they focus on specific effects rather than Global effects. Power, Duggan, Lee, & Murray (1995) investigated the Dysfunctional Attitudes Scale (DAS: Weissman, 1979) to determine whether there were differences in global scores and specific sub-scale scores across currently depressed, recovered depressed, and never depressed participants. The premise of this investigation was that total scores on the DAS might represent both state-specific items and trait effects. Therefore conclusions that negative cognitive styles remit in depression may be due to state-effects in the measures used to assess negative cognitive styles. These findings revealed that, consistent with previous studies, global scores did not differ across recovered depressed and never depressed participants. However, recovered depressed participants revealed elevated scores on a dependency sub-scale relative to controls.

These findings may also contribute to the possibility of the YSQ and YSQ-S as valid methods of schema assessment. Given that the questionnaires assess schemata across discrete domains, they may prove to be beneficial tools in cognitive vulnerability to depression investigations. Moreover, the dependency subscales of the YSQ and YSQ-S have also been implicated as an important schema concept in predicting the presence of depression (Glaser et al., 2002; Schmidt, Joiner, Young, & Telch, 1995).
4.5.3 The Young Schema Questionnaires: Further Advantages

The above section has highlighted a number of difficulties associated with self-report measures in assessing schemata, but has also presented studies that lend support to this methodology. Moreover, self-report measures are practical to apply clinically compared with information-processing techniques. Welburn et al. (2002) outline that non self-report measures, such as information-processing techniques, have a number of their own limitations. For example, they are time consuming in their application, they require training to administer, and are more amenable to controlled research situations than clinical practice. Self-report measures can also help contribute to case formulations and may instigate discussions with clients regarding the origins of their current difficulties and beliefs. It may then be argued that they have great utility despite the problems associated with them. There is a need to develop self-report measures that are sensitive to the enduring aspects of negative schemata. Welburn et al. (2002) propose that the YSQ may provide a means of doing this. Despite the problems associated with detecting schemata, they argue that although the operations of schemata are postulated as unconscious, individuals should have an awareness of their negative beliefs, especially since these theorised maladaptive schemata are argued to result in continual negative consequences for the individual. In addition, they reason that it is unlikely that individuals, for example with a schema of mistrust, would not be aware of not trusting others.

Gladstone and Parker (2001) argue that evidence from cognitive vulnerability studies of depression has been dependent upon the types of measures used to detect vulnerability. They also suggest that there is a need to investigate vulnerability using different methodology. The YSQ may prove to be a useful self-report measure of
maladaptive schemata. They highlight that schema theory (Young, 1990) postulates schemata as more hypervalent than conditional assumptions, as measured by the DAS. The YSQ may therefore provide a method of assessing schemata as given truths which are not susceptible to mood changes. However, this questionnaire has not been investigated in relation to the effect of mood changes in depression, and therefore its usefulness in this respect is unknown.

The YSQ and YSQ-S remain to be investigated, not only in relation to their support of clinical cognitive vulnerability theories, but also in support of the therapy they are linked to. In schema therapy (Young, Klosko, & Weishaar, 2003), the YSQ and YSQ-S can be used as a means of assessing schema modification and thus providing support for the therapy. However, if the arguments presented so far are taken into account, what may be observed throughout therapy is an improvement in the ability to monitor or challenge negative cognitions as mood improves, rather than modifications in the endorsement of schemata themselves. In this instance, future studies relating to the efficacy of schema therapy, using the YSQ or YSQ-S as quantitative evidence of schema modification, may always reveal positive results. However, if the YSQ and YSQ-S can assess schemata as stable and enduring after recovery from episode, without treatment that explicitly changes the cognition and emotion interaction, and in the absence of dysphoric mood, then they may be promising and reliable devices in clinical practice and research.

The following section will build upon the arguments presented so far by detailing problems associated with the designs of previous studies investigating cognitive vulnerability hypotheses. Furthermore, this section will identify studies with
optimized designs that have observed differences in cognitive styles using self-report measures. These findings have been observed irrespective of mood-state, and lend support to negative cognitive styles as stable and enduring factors, as measured by self-report methods.

4.6 Problems of the Remitted Design Paradigm

It is argued that best method of investigating cognitive vulnerability theories of depression is by using prospective designs that take into account the cognitive styles of asymptomatic individuals, both hypothesised to be at high or low risk for depression depending on their cognitive style, and following these individuals over time for future depressive episodes (Alloy, Abramson, Hogan, Whitehouse et al., 2000; Alloy, Abramson, Whitehouse, Hogan et al., 2006; Just, Abramson & Alloy, 2001). These authors have termed this a ‘behavioural high risk design’. Alloy et al. (2006) provide evidence in support of both hopelessness theory of depression (Abramson, Metalsky, & Alloy, 1989) and Beck’s theory of depression (Beck, 1967; 1976). They conducted a behavioural high risk design study over two and a half years and found that those individuals who exhibited more negative cognitive styles at baseline, based on a number of self-report measures, were more likely to experience major, minor and hopelessness depression than those individuals who did not evidence negative cognitive styles. They concluded that negative cognitive styles confer vulnerability to the onset of depression. Additionally, in their study, Alloy et al. (2006) controlled for initial depressive symptoms and prior episodes of depression, and therefore argued that residual depressive symptoms did not account for their findings, nor did the effect of previous experiences of depression on cognition.
These findings challenge the view that negative cognitive styles are a result of the experience of depression (e.g. the ‘scar hypothesis’, Rohde, Lewinsohn, & Seeley, 1990), or that negative cognitive styles are simply concomitants of depression (interested readers are directed to Just, Abramson & Alloy (2001) for a comprehensive critique of remitted depression studies). Additionally, while evidence supports the role of mood in accessing negative styles, the above study suggests that negative cognitive styles are evident prior to depression onset and may provide predictors of future depression. It might be argued that the failure to identify negative cognitive styles in remitted studies, may be related to the role of metacognitive monitoring and controlled thought processes as indicated in the research of Sheppard and colleagues regarding thought processes in remission from depression (Sheppard & Teasdale, 2004). Individuals who have previously been depressed may also be cautious about acknowledging negative beliefs due to a fear of further episodes. Indeed, it has been argued that active thought suppression of unwanted thoughts may be responsible for the apparent reduction in negative cognition during remission (Van der Does, 2005).

Haeffel, Abramson, Metalsky, Dykman, et al. (2005) argue that many remitted depressed studies have examined subjects under the very conditions in which it would be likely that cognitive vulnerability would have decreased. Firstly, they highlight that a number of remitted designs have examined remitted individuals after psychological treatment for depression, and more specifically, cognitive therapy. In this instance, it would not be unlikely that negative cognitive patterns had diminished, given that one of the main focuses of evidence-based cognitive therapies is helping individuals to challenge their negative cognitions and modify their maladaptive beliefs. De Rubeis
and Hollon (1995) found that individuals treated with cognitive therapy showed greater improvements in cognitive style than individuals treated only with medication. Therefore, assessing cognitive styles in remitted depressed individuals who have received psychological therapy may not be a valid test of cognitive vulnerability hypotheses.

Secondly, Haeffel et al. (2005) argue that negative cognitive styles tend to be assessed at discharge from therapy. Difficulties associated with this may be that responses on self-report measures are reflective of the therapeutic environment, or indicate the patient’s desire to please the therapist by appearing well. Additionally, the findings that controlled thought processes or thought suppression is involved in the remission stage (Sheppard & Teasdale, 2004; Van der Does, 2005), may contribute to the arguments of Haeffel et al. (2005) who propose individuals should be assessed in their natural environment where stresses may contribute to the reappearance of cognitive vulnerability factors. This type of design may help to control for any residual depressive symptoms, metacognitive monitoring, or thought suppression involved in remission, and may allow the individual to experience life stresses away from the therapeutic environment.

Although prospective studies are a more robust method of examining cognitive vulnerability, in practice they can be expensive, time consuming, and require a greater commitment from participants and researchers. Haeffel et al. (2005) challenged the results of classic remitted depressed design studies by conducting a remitted study with an optimized design. Based on the above arguments, they proposed that a remitted study should not depend upon individuals having received psychological
treatment for depression, and negative cognitive patterns should be assessed after remission, but not at discharge. They should be assessed in the individuals' natural environment. The results of this study found that remitted depressed individuals evidenced greater negative cognitive styles than never depressed controls. However, this result was true when using the Cognitive Style Questionnaire (CSQ: Abramson, Metalsky & Alloy, 1990), but not when using the Dysfunctional Attitudes Scale (DAS: Weissman, 1979). Therefore, their findings mirror previous results using the DAS. They offered the suggestion that their results using the CSQ may be related to this questionnaire having a possible built-in mood prime, however, this was not investigated. Additionally, the results may indicate that the CSQ provided a more sensitive measure of enduring cognitive vulnerability factors.

The above findings suggest that cognitive vulnerability factors do indeed exist, and that these factors can be detected by self-report measures when the remitted study design is optimized. Therefore, this type of methodology may be suitable for investigating the YSQ or YSQ-S. If these questionnaires are measuring stable and enduring factors, then a similar study design may reveal results consistent with those presented. Therefore, an investigation contributing towards determining what the questionnaires are assessing should take into account the effect of mood upon schema identification, and the potential problems of a classic remitted design.
A recent study by Stopa and Waters (2005) presented the first stage in this research. In an attempt to determine whether the YSQ-S was measuring beliefs as stable and enduring or whether it was susceptible to changes in mood-state, they investigated the effect of mood-state upon responses to the questionnaire. The next section will outline this study and its limitations. This provides the platform for the development of the current investigation, which will also take into account suggestions from the aforementioned optimized design paradigm.
5.0 The Effect of Mood on Responses to the Young Schema Questionnaire-Short Form (YSQ-S)

5.1 Review of Recent Findings

Stopa and Waters (2005) investigated whether changes in mood-state influenced how individuals responded to the Young Schema Questionnaire-Short form (YSQ-S: Young & Brown, 2003). Their study was conducted as an initial investigation into determining whether the YSQ-S is measuring schemata as stable constructs or whether responses on this self-report measure are subject to the influence of mood, as previous self-report measures of schematic content have shown to be. Based upon the mood-state hypothesis (Miranda & Persons, 1988), they reasoned that depressed mood may activate latent schemata and therefore predicted that responses on the YSQ-S sub-scales would be higher when depressed mood was present. They used a validated experimental mood induction paradigm (Clark, 1983) to manipulate mood-state in a group of non-clinical university student and non-academic staff participants. Three mood-states were investigated: neutral mood, happy mood, and despondency.

The results of this study indicated that responses on three of the fifteen schemata on the YSQ-S were significantly affected by changes in mood state. When individuals were examined in the despondent mood condition, two schemata were influenced by dysphoric mood induction: participants revealed elevated scores on the schemata of Emotional Deprivation and Defectiveness. The third schema that was influenced by mood state was Entitlement, however, this was not in the expected direction and individuals demonstrated higher scores on this schema when they were in the happy mood condition. As a more stringent evaluation of their hypothesis, Stopa and Waters (2005) conducted a secondary sub-group analysis to include only those participants
who had rated their moods as changing in the expected directions in both the mood induction conditions. This analysis revealed the same results as those described above, with the addition of responses on the schema *social isolation* showing elevations when mood was despondent. They also detailed that the schemata *mistrust and abuse* and *self-sacrifice* just failed to reach significance in this analysis.

Stopa and Waters (2005) state that their results indicate that the YSQ-S is measuring some schemata as stable and enduring, while other schemata are susceptible to influence by mood-state. This was apparent with modest changes in mood, and in a non-clinical population. Therefore, it is possible that larger effects would be found if this investigation was replicated to extend to a clinical population with naturally occurring depressed mood. The above findings do not answer the question of *how* mood influences responses. For example, it is unclear whether low mood activates latent schemata, or whether changing responses are a result of negative schematic products, such as negative automatic thoughts. However, these findings provide initial evidence that the YSQ-S may not be measuring some schemata as stable constructs, in the way that Young’s schema theory (Young, 1990) proposes.

There were a number of limitations in this study and these will be described towards the latter part of this chapter. Currently, it may be interesting to view the results of this study in the context of other investigations relating to Young’s schema questionnaires.
5.2 Comparison of Responses Across Investigations

It is important to consider the findings of Stopa and Waters (2005) in relation to other studies. One of the main arguments for doing so is that the Young Schema Questionnaires (YSQ: Young & Brown, 1994; YSQ-S: Young & Brown, 2003) are used in schema therapy to determine schema modification over treatment. Furthermore, research is beginning to emerge to determine treatment outcomes for schema therapy, using the questionnaires as quantitative evidence. However, as argued previously, outcomes may always appear positive if the YSQ and YSQ-S responses are mood-state artefacts rather than indicative of schema modification.

An example of the above point can be seen in a treatment evaluation study conducted by Welburn, Daag, Coristine, & Pontefract (2000). The purpose of this study was to investigate schema change as an outcome of an intensive day-treatment programme. The most common referrals to the programme were depression, suicidal ideation, and being in a state of crisis. Individuals were assessed at entry to the treatment programme and upon completion. A waiting list control group was also included in the study. The assessment measures were the YSQ-S and the Global Severity Index (GSI) of the Brief Symptom Inventory (BSI; Derogatis & Spencer, 1982), which is a self-report measure of psychiatric distress. Welburn et al. (2000) found that the treatment programme resulted in significant reduction in distress for participants. Additionally, they found that three schemata: Social Isolation, Defectiveness, and Vulnerability to Harm significantly reduced following treatment. They argued that the treatment effects were highly specific upon these three schemata and this demonstrated that core cognitive structures could be altered through treatment.
It may be argued that such conclusions are premature. If these results are attended to in conjunction with the findings of Stopa and Waters (2005), then it can be seen that both studies found changes in Social Isolation and Defectiveness, in relation to distress levels in the first study, and mood-state in the second study. However, Welburn et al. (2000) attribute this to schema change, whereas Stopa and Waters (2005) view this as a direct result of mood change. Defectiveness has also been found to be a predictor of clinical levels of symptomatology and depressive symptoms (Rijkeboer, van der Bergh and van der Bout, 2005: Schmidt et al., 1995); however, this may be a function of mood-state rather than an unconditional core belief.

Welburn et al. (2000) also described a non-significant trend of the waiting list control participants endorsing more negative schemata as their distress increased. This suggests that increasing distress and negative affect influence responses on the YSQ-S. Interestingly, within the waiting list control group, scores on the schema of Entitlement showed a non-significant decrease as distress increased. Again, if this finding is viewed alongside the findings of Stopa and Waters (2005), then this may suggest that Entitlement is a schema that is related to positive affect and lower distress. Perhaps, Entitlement should be promoted as an adaptive schema in relation to depression as this would indicate a sense of self-importance over feelings of worthlessness.

Some studies of the psychometric properties of the schema questionnaires have also noted that Entitlement was not a predictor of psychological distress. Glaser et al (2002) found that all schemata correlated with measures of psychopathology except for the schema Entitlement. They suggested that this may have been because the other
measures used did not contain items that assessed any aspect of the *Entitlement* sub-scale. However, another explanation could be that responses on the schema of *Entitlement* are influenced by mood-state such that positive affect results in increased endorsement of this schema. Rijkeboer, van der Bergh and van der Bout (2005) also found that *Entitlement* and *Unrelenting Standards* were the lowest predictors of the presence of clinical symptomatology. They propose that this may have been because their non-clinical sample were students who are often associated with stubborn attitudes. However, this again may be reflective of mood-state.

Indeed there are currently no known studies of the schema questionnaires that identify *Entitlement* or *Unrelenting Standards* as predictors of psychopathology, and at this stage it is unclear what the reasons for this may be. It may reflect the participant samples used in investigations, for example a group of individuals with narcissistic personality disorder may endorse an *Entitlement* schema to a greater degree than other types of pathology and control subjects. However, this would not necessarily imply a belief of *Entitlement* at the schematic level, but may reflect more controlled processes as a defence against low self-worth. Alternatively, endorsement of this schema may reflect adaptive beliefs that are only evident in a euphoric mood-state. However, there is no evidence that indicates a healthy level of endorsement of *Entitlement* in a clinical population.

As stated previously, investigations of the efficacy of schema therapy and schema change are beginning to emerge. Nordahl and Nysaeter (2005) provided the first investigation into the effectiveness of schema therapy for patients with Borderline Personality Disorder (BPD) using a single case series design. They investigated
outcomes using a number of measures. Nordahl and Nysaeter (2005) did not comment directly on the relationship between BDI scores (BDI: Beck et al., 1961) and YSQ responses. However, tentative observations can be made from graphically represented data. In all six cases included in this investigation, total YSQ scores show an observational trend of corresponding to BDI scores, such that when depressive symptoms decreased, YSQ scores decreased, and increases in BDI scores appeared to be accompanied by increases in YSQ scores.

Although this observation is speculative and no confirmatory evidence exists, it is possible that changes in depressed mood influenced responses on the YSQ, particularly if arguments concerning the role of mood in assessing schemata are taken into account. However, it is also possible that changes in YSQ scores reflected schema modification as a result of schema therapy, given that five of the six patients investigated made clinical gains through treatment, and three of the six patients no longer met the criteria for BPD at post-treatment assessment. It is not unreasonable to conclude that improved personality functioning led to reductions in depressive symptoms and negative schemata, however without more thorough investigations of the properties of the YSQ and YSQ-S, such a conclusion remains tentative.

Further investigations are needed to determine whether scores on the YSQ are influenced by changes in mood, more specifically, which individual schemata, if any, are being measured as stable and enduring, and which individual schemata are significantly influenced by mood state. Preliminary findings of Stopa and Waters (2005) suggest that the YSQ-S may be measuring some schemata as stable and enduring while others appear to be influenced by even modest changes in mood.
5.3 Limitations of Recent Findings

One of the main limitations of Stopa and Waters (2005) relates to the inability to generalise findings to a clinical population. The Young schema questionnaires (YSQ: Young & Brown, 1994; YSQ-S: Young & Brown, 2003) were devised for use with clinical patients, and particularly individuals with axis II and chronic axis I disorders. Stopa and Waters (2005) conducted their investigations using a non-clinical sample and therefore it is unclear whether the same findings would occur if individuals presented with psychopathology. There are a number of considerations relevant to this point. For example, the initial schema ratings and the changes in the endorsement of schemata in the above study were minimal. Even though a number of these changes were significant, the level of endorsement may not hold clinical relevance. There is a possibility that within a clinical sample these core schemata would be endorsed to a greater degree and would present as more rigid and less susceptible to the influence of mood. It is not sufficient to assume that a non-clinical population would parallel a clinical sample in their endorsement of schemata in different mood-states. Furthermore, the changes in mood-state in the above study were quantitatively small and may not correspond to the levels of low mood experienced during a depressive episode. It may also be argued that participants involved in an experimental mood induction procedure may infer expectations of how they should respond to questions in different mood-states. Therefore, investigating responses in relation to mood should perhaps focus on naturally occurring mood-states to avoid this possible confounding influence.
A further consideration of the above study relates to the assumption that although there would be quantitative differences in despondent mood, non-clinical participants’ experience of low mood should be qualitatively similar to clinical populations. However, Teasdale and Cox (2001) reported that subjective experiences of dysphoric mood differed in patients who had recovered from episodes of major depression compared with never depressed controls. Therefore, the current investigation of the YSQ-S recognises the importance of examining a clinical population to account for qualitative differences in mood and the relationship between cognitive vulnerability and clinical symptoms.

5.4 The Current Investigation

The current study aims to elaborate upon the work of Stopa and Waters (2005) by investigating the effect of mood-state on responses to the Young Schema Questionnaire-Short Form (YSQ-S: Young & Brown, 2003) using clinical and non-clinical participants.

Firstly, the current study employs a clinical population of currently depressed individuals. It is established that clinical populations differ from non-clinical populations on their responses to the Young schema questionnaires (e.g. Rijkeboer, van den Bergh & van den Bout, 2005), and the inclusion of a clinical group will provide greater relevance in relation to type of individuals the Young schema questionnaires were devised for.
Secondly, mood-state will not be induced by an experimental technique, and instead, mood-state will be naturally occurring depressed mood and naturally occurring non-depressed mood. Thirdly, a remitted depressed sample and never depressed sample will be compared to the naturally occurring depressed mood group as a more stringent investigation of Young’s cognitive vulnerability hypothesis (Young, 1990; Young, Klosko & Weishaar, 2003) in relation to the measurement of enduring schemata using the YSQ-S self-report assessment tool.

The difficulties associated with self-report assessments of core beliefs were outlined in section four, alongside the potential advantages that the YSQ-S may offer in schema assessment. Therefore, the inclusion of a remitted depressed group may contribute towards understanding whether maladaptive schemata continue to be evident after remission, and after mood has improved, as assessed by the YSQ-S. By examining responses in currently depressed, recovered depressed, and never depressed individuals, the concept of schemata, as measured by the YSQ-S, may be better understood. In this instance, the mood-state across the remitted depressed and never depressed groups will be similar; however, scores on the YSQ-S may be higher in the recovered depressed group if the YSQ-S is measuring enduring schemata, and thus will provide support for clinical cognitive models of vulnerability. With the addition of a naturally occurring depressed mood group, it may also become clearer whether depressed and remitted depressed groups show similarities in schema endorsement irrespective of mood-state. Such an investigation would contribute to the understanding of the usefulness of the YSQ-S as a clinical instrument.
Fourthly, due to the difficulties associated with remitted depressed investigations, as described in section four, the current study will take into account the recommendations of an optimised design, as put forward by Haeffel et al. (2005). In the current study, recovered depressed individuals will not have received psychological treatment for their difficulties. This will avoid the possibility that some schemata may have been altered as a result of psychotherapy. Furthermore, individuals will have been recovered for at least six months and will be assessed in their natural environment, where Haefel et al (2005) suggest that everyday life stresses may contribute to the reappearance of negative cognitive patterns. This also takes into account the potential influences of the therapeutic environment, for example, individuals wanting to appear well to please the therapist or gain discharge from therapy. Additionally, the influence of meta-cognitive monitoring processes or thought suppression, which have been reported in the partial remission stage of depression (e.g. Sheppard & Teasdale, 2004; Van der Does, 2005) may be minimized.

Based upon the rationale presented throughout the previous reviews, the following section will state the research aims and hypotheses of the current investigation.
5.5 Aims and Hypotheses

If the Young Schema Questionnaire-Short form (YSQ-S: Young & Brown, 2003) is assessing schemata as stable, enduring unconditional beliefs, then it may be predicted that responses on this self-report questionnaire should be similar across currently depressed individuals and recovered depressed individuals. This premise is based upon clinical theories of cognitive vulnerability to depression. However, if mood-state influences the assessment of schemata, then responses on the YSQ-S may be similar across recovered depressed and never depressed individuals, but differ from a currently depressed population. Therefore the specific hypotheses of the current study are as follows:

1. Based on the findings of Stopa and Waters (2005) it is predicted that there will be an inverse relationship between mood-state and responses on a number of the YSQ-S subscales.

2. If the YSQ-S is assessing stable vulnerability factors without the influence of mood-state, it is hypothesized that recovered depressed individuals will score higher on the YSQ-S than never depressed control participants. However, if mood-state influences responses on the YSQ-S, it is hypothesized that recovered depressed individuals will resemble never depressed control participants in YSQ-S scores when mood-state is similar across both groups.

3. If the YSQ-S is assessing stable vulnerability factors without the influence of mood-state, it is hypothesized that currently depressed individuals will resemble recovered depressed individuals in YSQ-S scores and will differ from never depressed control participants. However, if mood-state influences responses on the YSQ-S, it is hypothesized that currently depressed individuals will score higher than both recovered depressed and never depressed individuals.
2.0 Method

2.1 Design

The design of this study was a quantitative cross-sectional design, which compared differences between three groups. These groups were (1) currently depressed individuals, (2) recovered depressed individuals, and (3) a control group of individuals with no previous history of depression. The independent variables were mood and depression status between groups, and the dependant variables were scores on the Young Schema Questionnaire-Short Form (YSQ-S: Young & Brown, 2003).

2.2 Ethical Approval

Ethical approval for this study was obtained from the NHS Tayside Medical Research Ethics Committee, and the University of Dundee Department of Psychology (see appendix 1).

Invitations to all participants (see appendix 2) comprised an introductory letter relating to the study and an information sheet about the study. The information sheet included a brief overview of the research and a description of what participation would involve. Individuals were alerted to the types of questions they would be asked to respond to, and were informed that some of the questions may highlight difficulties they were experiencing. In the event of any of the items leading to distress or difficulty coping, individuals were advised that they could contact the principle researcher or a named clinical psychologist for advice and support. For those individuals currently receiving treatment for mental health difficulties, they were also advised that they could choose to approach their own identified psychologist in the
event of feeling distressed. In the event of a crisis, and where contact with the principle researcher or named psychologist was not possible, individuals were advised of The Samaritans’ helpline telephone number.

Issues of confidentiality were afforded importance in the information given. Individuals were informed of the data collection and storage processes, and were made aware of who would have access to the information they provided; this being the principle researcher and a named supervisory clinical psychologist. Individuals were also advised that any information they provided would not be shared with any other health professionals and that a decision to participate or a decline to participate would not affect any current or future healthcare they may receive.

2.3 Informed Consent

Individuals wishing to participate completed a consent form (see appendix 3). Individuals were informed that the questionnaires being used in the study would be sent to them by post once their written consent was obtained. They were also informed that they were free to withdraw from the study after giving their consent. This procedure was the same across all three groups of participants, with the addition of a depression screening question (Endicott & Spitzer, 1978) on the consent form for group three participants (see appendix 4). This was included to rule out individuals from the control group who may have had previous episodes of depression, or may be experiencing a current episode of depression.
2.4 Power and Sample Size Calculations

To determine the number of participants required for a statistically significant result, power calculations were carried out using an internet web-site statistical calculator. This resource was provided by The University of California at Los Angeles Department of Statistics (UCLA, 2004). Calculations were carried out for an independent samples design, between clinical and non-clinical groups, assuming unequal variance. The calculations were based upon two recent articles investigating the Young Schema Questionnaire-Short Form (YSQ-S). The current study was concerned with differences between clinical and non-clinical samples and the articles were selected on this basis. Welburn et al. (2002) investigated the YSQ-S in a clinical sample, predominantly presenting with mood disorders, and Stopa and Waters (2005) investigated the YSQ-S in a non-clinical population. Data from Welburn et al (2002) were taken from the mean YSQ-S subscale scores and standard deviations for responses given by men. The scores from men were used over the scores from women because they were lower and were closer to non-clinical scores. This would therefore reduce the effect size in the calculation and allow for a more conservative indication of sample size. Data from Stopa and Waters (2005) were taken from the mean YSQ-S subscale scores and standard deviations for responses given by non-clinical participants in a neutral mood condition. The neutral mood condition did not involve any experimental mood induction techniques and represented naturally occurring mood-state. Therefore, this was deemed representative of the two non-clinical samples to be investigated in the current study, where mood state would also be naturally occurring.
Both studies were entered into the calculation for a number of schemata: emotional deprivation (ED), defectiveness/shame (DS), social isolation (SI), abandonment (Ab), and dependence/incompetence (DI). These particular schemata were selected on the basis of a number of studies, which have either found a significant difference in responses relating to dysphoric mood (Stopa & Waters, 2005), or have found a number of these schemata as predictors of depression (e.g. Schmidt et al., 1995; Glaser et al., 2002). To detect a significant effect the power value was set at 0.8 and the p-value was set at 0.01 then 0.05. The means and standard deviations (SD) entered for calculation are presented in table 2.1 with the respective sample sizes required to detect differences between clinical and non-clinical groups at the 0.01 and 0.05 levels of significance.

Table 2.1 Means, Standard Deviations (SD), and Required Sample Sizes When Power is 0.8 and p-value is 0.01 and 0.05.

<table>
<thead>
<tr>
<th>Schema</th>
<th>Mean (Stopa &amp; Waters, 2005)</th>
<th>SD</th>
<th>Mean (Welburn et al., 2002)</th>
<th>SD</th>
<th>Sample Size (Non-Clinical)</th>
<th>Sample Size (Clinical)</th>
<th>Sample Size (Non-Clinical)</th>
<th>Sample Size (Clinical)</th>
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</thead>
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<tr>
<td>ED</td>
<td>2.11</td>
<td>1.32</td>
<td>3.85</td>
<td>1.45</td>
<td>14</td>
<td>16</td>
<td>9</td>
<td>10</td>
</tr>
<tr>
<td>DS</td>
<td>1.47</td>
<td>0.65</td>
<td>3.05</td>
<td>1.42</td>
<td>7</td>
<td>15</td>
<td>5</td>
<td>9</td>
</tr>
<tr>
<td>SI</td>
<td>1.77</td>
<td>0.99</td>
<td>4.14</td>
<td>1.36</td>
<td>6</td>
<td>8</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Ab</td>
<td>1.82</td>
<td>0.82</td>
<td>3.29</td>
<td>1.45</td>
<td>10</td>
<td>16</td>
<td>6</td>
<td>11</td>
</tr>
<tr>
<td>DI</td>
<td>1.63</td>
<td>0.74</td>
<td>3.05</td>
<td>1.29</td>
<td>9</td>
<td>16</td>
<td>6</td>
<td>10</td>
</tr>
</tbody>
</table>

Sample size was conservatively selected based on the highest number of participants required to detect a significant result at the higher probability level of 0.01. Therefore, the number of participants required in the clinical group of currently depressed individuals was 16, and the number of participants required in the non-clinical groups of recovered depressed and never depressed individuals was 14 per group.
2.5 Eligibility Criteria

Group 1 Inclusion: Currently Depressed Individuals

- Depressive disorder (meets the criteria in the diagnostic and statistical manual for mental disorders (DSM-IV: American Psychiatric Association, 1994)).
- Mixed depression and anxiety (where depression is considered to be the primary presenting problem).
- Participants score within the clinical range for depression, as indicated by responses on the Beck Depression Inventory-Second Edition (BDI-II: Beck, Steer & Brown, 1996).
- Participants are not currently receiving schema therapy or core belief work as part of their treatment.

Group 2 Inclusion: Recovered Depressed Individuals

- Previous history of depressive disorder (as indicated by pharmacotherapy for previous depression).
- Previous history of mixed depression and anxiety (where depression was the primary presenting problem).
- Participants score below the clinical cut-off for depression and anxiety as indicated by respective responses on the BDI-II and Beck Anxiety Inventory (BAI: Beck, Epstein, Brown & Steer, 1988).
- Participants have not received psychological intervention for previous difficulties.
Group 3 Inclusion: Never Depressed Individuals

- No known history of mental health difficulties.
- Participants reach the criteria for no previous episodes of depression using the diagnostic screening question (Endicott & Spitzer, 1978).
- Participants score below the clinical cut-off for depression and anxiety as indicated by respective responses on the BDI-II and BAI.

Exclusion Criteria

- Current or previous history of:
  Psychosis; Drug and/or alcohol addiction; Eating disorders; Personality disorders.
- Current or previous schema therapy.

Although many of the above disorders may present with co-morbid depression, they have additional features of pathology that were not considered relevant to the current investigation. For example, individuals with axis II personality disorders are known to endorse schemata more strongly than axis I disorders (e.g. Lee, Taylor & Dunn, 1999); their inclusion would therefore confound the interpretation of results in relation to depression and mood.
2.6 Participants

Group 1: Currently Depressed Individuals (CD)

Data were obtained from 20 CD individuals. Participants were 15 females and 5 males, with an age range of 24-63 (mean age 44 (SD 11.4)). These were patients at the start of treatment for depression in NHS Tayside Adult Psychological Services in Primary Care (15); additionally, participants recruited through General Practices for inclusion in group 2 (5) were placed in group 1 if they were still experiencing significant depressive symptoms, as indicated by scores above the clinical cut-off for depression using the BDI-II.

Group 2: Recovered Depressed Individuals (RD)

Data were obtained from 13 participants who had previously been treated for depression with pharmacotherapy in NHS Tayside General Practices. Participants were 11 females and 2 males, with an age range of 25-75 (mean age 38(SD 13.9)). Participants were recovered from depression for at least six months based upon their medical case notes. None of the participants had received previous psychological interventions.

Group 3: Never Depressed Individuals (ND)

Data were obtained from 20 never depressed participants through collection of a convenience sample. Participants were 14 females and 6 males, with an age range of 18-57 (mean age 31 (SD 10)).
2.7 Procedure and Data Collection

Group 1: Currently Depressed Individuals (CD)

Individuals were identified from NHS Tayside Adult Psychological Services in Primary Care for inclusion in this group. The identification of participants was carried out through treatment allocation meetings where incoming referrals from General Practitioners and Psychiatric Services were examined on the basis of the reason for referral. Those referrals that suggested mood disorders as the primary problem were identified as potential participants. Following this, the allocated clinicians assessed the suitability for inclusion based on their initial psychological assessment at the first appointment and based upon the study eligibility criteria. Additionally, clinicians had access to information packs and invitations to distribute to participants who were not identified through the referral information, but who met the eligibility criteria. Eligible individuals were invited to participate and those interested completed and returned consent forms via post. Questionnaires were then dispatched to these individuals, who again returned these via post.

112 information packs were given to clinicians for distribution, and of these 16 individuals returned completed data sets. 1 was excluded on the basis of not meeting the criteria for being currently depressed, as defined by BDI-II scores. A further 5 individuals were included in this group, taken from group 2 recruitment, on the basis of being currently depressed. Therefore, a total of 20 participants were included in the CD group.
Group 2: Recovered Depressed Participants (RD)

Individuals were identified from NHS Tayside Primary Care General Practices. 9 General Practices were approached in the recruitment of participants, and of these, 3 agreed to assist in the recruitment stage. A presentation of the research was given to each respective practice, and General Practitioners (GPs) had the opportunity to discuss the study and clarify the purpose and eligibility criteria for the study. The identification of potential participants was made by GPs who conducted a search of their respective practice databases for individuals who had been treated for depression with antidepressant medication and who had been recovered from depression for at least six months. GPs then examined the case notes of these individuals to confer with the study eligibility criteria. Contact and liaisons were conducted with the respective GP practices at least twice weekly to obtain updates on their progress of identifying participants. The names and addresses of those deemed suitable were forwarded to the principle researcher. The receipt of participant details was staggered due to GP time constraints, therefore regular contact was maintained over a period of months.

Individuals were invited to participate and those interested completed and returned consent forms via post. Questionnaires were then dispatched to these individuals, who again returned these via post.

139 individuals were identified as suitable for inclusion and were invited to participate. Of these, 18 returned completed data sets. 5 were excluded on the basis of current depressive symptoms, as indicated by their scores on the BDI-II. These individuals were therefore included in the CD group. A total of 13 participants were included in the RD group.
Group 3: Never Depressed Individuals (ND)

Control participants were invited to take part in the study and those interested completed and returned consent forms via post. Questionnaires were then dispatched to individuals who did not screen positively for previous or current depression based upon negative responses to a screening question (Schedule for Affective Disorders and Schizophrenia, Endicott & Spitzer, 1978), which was presented at the end of the consent form. This asked ‘Has there ever been a time that lasted at least a week when you felt extremely depressed or sad, that you didn’t care any more or didn’t enjoy anything?’ Individuals returned the questionnaires via post.

A control sample of undergraduate students at the University of Dundee were invited to participate. Individuals were approached from the department of Psychology. An information sheet was placed on the department of Psychology research notice board and interested individuals were instructed to obtain further information from the department reception. Additionally, the department secretary circulated information about the study via email to all psychology students (575). 2 students returned completed data sets and of these, 1 was excluded on the basis of scoring above the clinical cut-off for current anxiety problems as indicated by scores on the BAI.

Due to the low response rate of the above method, a convenience sample of thirty healthy controls was also identified. 20 returned completed consent forms and of these, 1 was excluded on the basis of screening positively for previous depression as indicated by responses to the depression screening question. 19 returned completed data sets.
In total, 22 agreed to participate, but 1 was excluded on the basis of screening for previous episodes of depression, and 1 was excluded on the basis of scoring above the clinical cut-off for anxiety, as indicated by scores on the BAI. Therefore 20 participants were included in the ND group.

Table 2.2 presents a summary of the number of invites, number of responses, and number of individuals allocated to each group.

Table 2.2 Invitations, Responses and Eligibility

<table>
<thead>
<tr>
<th>Group</th>
<th>No. Invited</th>
<th>No. Responded</th>
<th>No. Eligible</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group 1 CD</td>
<td>112</td>
<td>16</td>
<td>15 + 5 (from RD group)</td>
</tr>
<tr>
<td>Group 2 RD</td>
<td>139</td>
<td>18</td>
<td>13</td>
</tr>
<tr>
<td>Group 3 ND</td>
<td>605</td>
<td>22</td>
<td>20</td>
</tr>
</tbody>
</table>
2.8 Measures

The Young Schema Questionnaire-Short Form (YSQ-S: Young & Brown, 2003)

The YSQ-S (see appendix 5) is a 75-item self-report questionnaire designed to assess the fifteen theorised early maladaptive schemata as described by Young and Colleagues (Young, 1990; Young, Klosko & Weishaar, 2003). It is derived from the original 205-item schema questionnaire (YSQ: Young & Brown, 1994) as a more economical method of schema assessment. For each of the individual schemata on the YSQ-S there are five items corresponding to that schema. Each item on the questionnaire is rated on a 6-point scale ranging from 1 (completely untrue of me) to 6 (describes me perfectly). According to the clinical scoring criteria for this measure, items rated as a 5 or 6 are translated into a score of 1, and items rated as 0-4 are translated into a score of 0. Therefore, a minimum score of 0 is possible and a maximum score of 5 is possible for each schema. However, this is not a standardized procedure and the majority of research studies investigating the YSQ-S have used mean scoring procedures (personal communication, Stopa, 2006). Therefore the current study used a mean scoring procedure.

The original 205-item YSQ has demonstrated good construct validity. Investigators have provided support for the factor structure, internal consistency, convergent and discriminant validity, and have shown adequate test-retest reliability (Schmidt et al., 1995; Lee et al., 1999; Rijkeboer, van den Berg & van den Bout, 2005). The YSQ-S has shown to have comparable psychometric properties to the YSQ (Stopa et al., 2001; Waller, Meyer & Oharian, 2001; Glaser et al., 2002).
Rationale for using the YSQ-SF: responses on this measure will be the dependent variable in the current study. The YSQ-S was selected over the original YSQ because it provides a more economical method of assessment, for example, it is less time consuming for participants to complete.

Visual Analogue Mood Scale (VAMS: e.g. Luria, 1975)

The VAMS (see appendix 6) asks respondents to rate themselves on a visual parameter, which is illustrated as a straight horizontal line on paper. The VAMS represents a respondent’s current subjective mood-state. The left hand side of the line is labelled with a rating of 0 with a description that corresponds to a participant’s lowest mood. The middle of the line is labelled with a value of 50. The right hand side of the line is labelled with a rating of 100 with a description that corresponds to a participant’s best mood. Respondents place a mark on the line to represent their current mood and accompany this by stating a number (Between 0-100) that corresponds to their mark. The VAMS has demonstrated reliability and validity in reflecting mood-state (Luria, 1975).

Rationale for using the VAMS: the VAMS was used to assess any variation in current mood-state between groups, independent of the presence or absence of depressive symptoms. For example, rather than assume that, in the absence of depressive symptoms, recovered depressed and never depressed individuals would have comparable mood states, the inclusion of the VAMS would act as a measure of similarities or differences in mood-state across groups.

The BDI-II (see appendix 7) is a widely used standardized self-report 21-item scale for measuring the presence and severity of depressive symptoms. This inventory was developed to correspond to the diagnostic criteria for depressive disorders as defined by the Diagnostic and Statistical Manual of Mental Disorders-Fourth Edition (DSM-IV: American Psychiatric Association, 1994). Each item in the inventory is rated on a 4-point scale ranging from 0 (minimal) to 3 (severe). Respondents are instructed to select the statement that best describes they way have been feeling over the past two weeks. The BDI-II has an overall minimum score of 0 and a maximum score of 63. A score ranging between 0-13 indicates minimal depressive symptoms and is below the clinical cut-off for depression; a score of 14-19 indicates mild depressive symptoms; a score of 20-28 indicates moderate depressive symptoms; and a score of 29-63 represents severe indications of depressive symptoms. The BDI-II has demonstrated reliability and validity (see Beck, Steer & Brown, 1996).

Rationale for using the BDI-II: this measure was used to control for the presence or absence of depressive symptoms for inclusion and exclusion purposes. For example, those identified by GPs as having recovered from depression were not included in the recovered depressed group if they demonstrated clinical levels of depressive symptoms as defined by this measure.
The Beck Anxiety Inventory (BAI; Beck, Epstein, Brown & Steer, 1988)

The BAI (see appendix 8) is a widely used standardized self-report 21-item scale for measuring the presence and severity of clinical anxiety. Each item is rated on a 4-point scale ranging from 0 (Not at all) to 3 (severely). The items consist of symptoms of anxiety and respondents are instructed to select a rating that corresponds to how much they have been bothered by each symptom over the past week. The BAI has an overall minimum score of 0 and a maximum score of 63. A score ranging between 0-7 reflects a minimal level of anxiety, and is below the clinical cut-off for anxiety; a score of 8-15 indicates mild anxiety; a score of 16-25 indicates moderate anxiety; and a score of 26-63 suggests severe anxiety. The BAI has demonstrated reliability and validity (see Beck & Steer, 1993).

Rationale for using the BAI: there is a high co-morbidity of depression and anxiety. The current study depicts mixed anxiety and depression in the inclusion criteria. However, anxiety, and its related symptomatology, without depression was not the focus of the current study. Therefore, individuals with minimal depressive symptoms coupled with anxiety symptoms above the clinical cut-off, for example, would not be included in the study.
2.9 Statistical Analyses

Following exploratory analyses of the distribution of the data in the three groups, comparisons between groups were made using one-way analyses of variance (ANOVA) with post hoc Tukey’s Honestly Significant Difference (HSD) tests. Data that were abnormally distributed received precautionary secondary analyses using non-parametric tests. These tests were Kruskal-Wallis one-way analyses of variance and Mann-Whitney paired comparisons. Analyses of the relationship between mood-state and YSQ-S scores were made using Pearson’s correlational analyses.
Chapter 3

3.0 Results

3.1 Examination of the Distribution of Data

Exploratory analyses of the data from the self-report questionnaires were undertaken to determine the distribution within the three populations sampled. The distribution of scores was normal for the VAMS, the BDI, and the BAI, with the exception of BAI scores in the recovered depressed group, which were positively skewed. (appendix 9). The distribution of data from the YSQ-S suggested that there was a tendency towards positive skewness in YSQ-S total scores and in 10 of the 15 YSQ-S subscale scores, and this was confirmed by the indices of skewness and kurtosis. Accordingly, logarithmic transformations of all the YSQ-S data were conducted in an attempt to modify the distribution. Transformations improved the distribution on YSQ-S total scores and all subscales. However, distribution of 7 of the 15 YSQ-S subscales did not sufficiently improve within the normal limits of distribution (see appendix 9). Within the currently depressed group (CD) the distribution of scores on the self-sacrifice subscale was negatively skewed and scores on the enmeshment subscale were positively skewed. Within the recovered depressed group (RD) the distribution of scores on the abandonment, dependence/incompetence, vulnerability to harm, and enmeshment subscales were positively skewed. Within the never depressed group (ND) the distribution of scores on the abandonment, social isolation, defectiveness, dependence/incompetence, vulnerability to harm and enmeshment subscales were positively skewed. Given that 8 of the 15 subscales had a normal distribution, and 7 of the 15 subscales had at least one group with skewed data, parametric tests were used firstly in the analyses. Parametric tests are considered robust under departures from normality (Dancey & Reidy, 2004) and they enable more complex post hoc analyses.
They are likely to be more powerful than non-parametric tests. However, in light of the heterogeneity of variance and the unequal sample sizes, secondary equivalent non-parametric analyses were also conducted on the abnormally distributed data as a precautionary measure that there would be similar differences detected. The results from non-parametric analyses of the abnormally distributed data mirrored the findings of parametric analyses, therefore only the findings of the parametric analyses are reported in the current section. Results of the non-parametric analyses are presented in appendix 10.

### 3.2 Sample Characteristics of Self-Reported Anxiety, Depression, and Mood

Table 3.1 presents mean scores and standard deviations between the CD, RD and ND groups on self-report measures of anxiety symptoms (BAI), depressive symptoms (BDI), and mood (VAMS).

#### Table 3.1. Mean Scores (M) and Standard Deviations (SD) on the BAI, BDI, and VAMS.

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>CD (n=20)</th>
<th>RD (n=13)</th>
<th>ND (n=20)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M (SD)</td>
<td>M (SD)</td>
<td>M (SD)</td>
</tr>
<tr>
<td>BAI</td>
<td>20.75 (7.55)</td>
<td>2.69 (3.35)</td>
<td>2.55 (2.33)</td>
</tr>
<tr>
<td>BDI</td>
<td>31.3 (7.63)</td>
<td>5.46 (5.53)</td>
<td>2.45 (2.16)</td>
</tr>
<tr>
<td>VAMS</td>
<td>34.25 (13.22)</td>
<td>77.08 (10.12)</td>
<td>79 (12.24)</td>
</tr>
</tbody>
</table>

A one-way Analysis of Variance was used to identify differences in BAI scores, BDI scores, and VAMS scores between the three groups. Significant differences were found between the groups. For BAI scores this was $F(2, 50) = 77.6, p<0.001$. For BDI scores this was $F(2, 50) = 153.6, p<0.001$. For VAMS scores this was $F(2, 50) =$
81.4, $p< 0.001$. A post hoc Tukey’s Honestly Significant Difference (HSD) test was used for multiple paired comparisons. The significant differences between the groups were as expected in relation to the screening of participants for the presence or absence of anxiety, depression, and the levels of self-rated mood. BAI and BDI scores were significantly higher for the CD group compared to the RD and ND groups. VAMS scores were significantly lower for the CD group compared to the RD and ND groups. There were no significant differences between the RD and ND groups on any of these measures. This supports the claim that RD participants were free from depressive symptoms, their self-rated mood-state was significantly higher than CD participants, and they resembled ND participants in BDI scores and mood-state. Table 3.2 displays the mean differences and significance levels between these multiple comparisons.

**Table 3.2 Tukey’s HSD Test of Multiple Comparisons:**

**Mean Differences and Significance Levels**

<table>
<thead>
<tr>
<th></th>
<th>BAI</th>
<th>BDI</th>
<th>VAMS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CD</td>
<td>RD</td>
<td>ND</td>
</tr>
<tr>
<td>CD</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>18.1*</td>
<td>18.2*</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&lt;0.001</td>
<td>&lt;0.001</td>
<td></td>
</tr>
<tr>
<td>RD</td>
<td>-18.1*</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>&lt;0.001</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ND</td>
<td>-18.2*</td>
<td>-0.14</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&lt;0.001*</td>
<td>= 1</td>
<td></td>
</tr>
</tbody>
</table>

*Mean difference significant at the 0.01 level (two-tailed).*
3.3 Testing Hypothesis 1

- Based on the findings of Stopa and Waters (2005) it is predicted that there will be an inverse relationship between mood-state and responses on a number of the YSQ-S subscales.

Pearson correlations were used to investigate the relationship between self-reported mood-state and scores on the YSQ-S subscales. Analyses revealed that there was a strong significant negative relationship between self-reported mood-state and total scores on the YSQ-S ($r = -0.75, p < 0.001$), where lower mood ratings were associated with higher scores on the YSQ-S. Analyses of the subscales of the YSQ-S revealed a strong significant negative relationship between self-reported mood-state and the subscales defectiveness/Shame ($r = -0.68, p < 0.001$), emotional deprivation ($r = -0.66, p < 0.001$), mistrust/abuse ($r = -0.65, p < 0.001$), social isolation ($r = -0.65, p < 0.001$), and emotional inhibition ($r = -0.65, p < 0.001$), where lower mood ratings were associated with higher scores on these subscales. The percentage of variance in scores that was accounted for by mood was calculated by squaring the correlation coefficient (Dancey & Reidy, 2004). The percentage of variance in scores that was accounted for by mood was 56 per cent in total YSQ-S scores, 46 per cent in defectiveness/shame, 44 per cent in emotional deprivation, 42 per cent in mistrust/abuse, 42 per cent in social isolation, and 42 per cent in emotional inhibition.
There was a significant negative relationship between mood-state and abandonment \((r = -0.62, p < 0.001)\), subjugation \((r = -0.62, p < 0.001)\), dependence/incompetence \((r = -0.58, p < 0.001)\), vulnerability to harm \((r = -0.5, p = 0.001)\), and failure \((r = -0.49, p < 0.001)\), where lower mood ratings were associated with higher scores on these subscales. The percentage of variance in scores that was accounted for by mood was 38 per cent in abandonment, 38 per cent in subjugation, 34 per cent in dependence/incompetence, 25 per cent in vulnerability to harm, and 24 per cent in failure. There was a significant negative relationship between mood-state and insufficient self-control \((r = -0.34, p = 0.01)\) where lower mood ratings were associated with higher scores on this subscale. Mood-state accounted for 11 per cent of the variance in scores on this subscale.

There was no significant relationship found between mood-state and self-sacrifice, unrelenting standards, enmeshment or entitlement. These findings are presented in table 3.3 with the addition of a summary of the findings of Stopa and Waters (2005) indicating which schemata were influenced by mood-state in their study.
Table 3.3 Pearson’s Correlation Coefficients Between Mood-State and YSQ-S Subscales.

<table>
<thead>
<tr>
<th>Subscale</th>
<th>r</th>
<th>p</th>
<th>Association</th>
<th>Variance</th>
<th>Stopa &amp; Waters (2005)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total YSQ-S Scores</td>
<td>-0.75**</td>
<td>&lt; 0.001</td>
<td>strong</td>
<td>56%</td>
<td>sig</td>
</tr>
<tr>
<td>Defectiveness/Shame</td>
<td>-0.68**</td>
<td>&lt; 0.001</td>
<td>strong</td>
<td>46%</td>
<td>sig</td>
</tr>
<tr>
<td>Emotional Deprivation</td>
<td>-0.66**</td>
<td>&lt; 0.001</td>
<td>strong</td>
<td>44%</td>
<td>sig</td>
</tr>
<tr>
<td>Mistrust/Abuse</td>
<td>-0.65**</td>
<td>&lt; 0.001</td>
<td>strong</td>
<td>42%</td>
<td>approaching sig</td>
</tr>
<tr>
<td>Social Isolation</td>
<td>-0.65**</td>
<td>&lt; 0.001</td>
<td>strong</td>
<td>42%</td>
<td>sig</td>
</tr>
<tr>
<td>Emotional Inhibition</td>
<td>-0.65**</td>
<td>&lt; 0.001</td>
<td>strong</td>
<td>42%</td>
<td>ns</td>
</tr>
<tr>
<td>Abandonment</td>
<td>-0.62**</td>
<td>&lt; 0.001</td>
<td>moderate</td>
<td>38%</td>
<td>ns</td>
</tr>
<tr>
<td>Subjugation</td>
<td>-0.62**</td>
<td>&lt; 0.001</td>
<td>moderate</td>
<td>38%</td>
<td>ns</td>
</tr>
<tr>
<td>Dependence/Incompetence</td>
<td>-0.58**</td>
<td>&lt; 0.001</td>
<td>moderate</td>
<td>34%</td>
<td>ns</td>
</tr>
<tr>
<td>Vulnerability to Harm</td>
<td>-0.5**</td>
<td>&lt; 0.001</td>
<td>moderate</td>
<td>25%</td>
<td>ns</td>
</tr>
<tr>
<td>Failure</td>
<td>-0.48**</td>
<td>&lt; 0.001</td>
<td>moderate</td>
<td>24%</td>
<td>ns</td>
</tr>
<tr>
<td>Insufficient Self-Control</td>
<td>-0.34*</td>
<td>= 0.01</td>
<td>weak-moderate</td>
<td>11%</td>
<td>ns</td>
</tr>
<tr>
<td>Self-Sacrifice</td>
<td>-0.25</td>
<td>= 0.07</td>
<td>weak</td>
<td>6%</td>
<td>approaching sig</td>
</tr>
<tr>
<td>Unrelenting Standards</td>
<td>-0.23</td>
<td>= 0.1</td>
<td>weak</td>
<td>5%</td>
<td>ns</td>
</tr>
<tr>
<td>Enmeshment</td>
<td>-0.06</td>
<td>= 0.65</td>
<td>zero</td>
<td>0%</td>
<td>ns</td>
</tr>
<tr>
<td>Entitlement</td>
<td>0.003</td>
<td>= 1</td>
<td>zero</td>
<td>0%</td>
<td>sig</td>
</tr>
</tbody>
</table>

*Correlation is significant at the 0.01 level (two-tailed)

**Correlation is significant at the 0.001 level (two-tailed)
3.4 Testing Hypotheses 2 and 3

- If the YSQ-S is assessing stable vulnerability factors without the influence of mood-state, it is hypothesized that recovered depressed individuals will score higher on the YSQ-S than never depressed control participants. However, if mood-state influences responses on the YSQ-S, it is hypothesized that recovered depressed individuals will resemble never depressed control participants in YSQ-S scores when mood-state is similar across both groups.

- If the YSQ-S is assessing stable vulnerability factors without the influence of mood-state, it is hypothesized that currently depressed individuals will resemble recovered depressed individuals in YSQ-S scores and will differ from never depressed control participants. However, if mood-state influences responses on the YSQ-S, it is hypothesized that currently depressed individuals will score higher than both recovered depressed and never depressed individuals.

The Effect of Group on Scores on the Subscales of the YSQ-Q

Table 3.4 shows the mean scores and standard deviations, and differences between groups for total scores and all subscales of the YSQ-S. A Summary of mean scores are also presented in figure 3.1. Logarithmic transformations were carried out on these scores to improve the distribution of the data. The following analyses were conducted on the transformed data (see appendix 9 for transformed data of YSQ-S scores).
### Table 3.4 Mean Scores, Standard Deviations, and Differences Between Groups on Responses to the YSQ-S

<table>
<thead>
<tr>
<th>YSQ-S Subscales</th>
<th>Mean Scores and Standard Deviations (SD)</th>
<th>Differences Between Groups</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CD</td>
<td>RD</td>
</tr>
<tr>
<td>Total Scores</td>
<td>225.5 (54.8)</td>
<td>148.8 (40.1)</td>
</tr>
<tr>
<td>Abandonment</td>
<td>3.49 (1.57)</td>
<td>1.65 (0.98)</td>
</tr>
<tr>
<td>Mistrust/Abuse</td>
<td>3.22 (1.43)</td>
<td>1.86 (0.72)</td>
</tr>
<tr>
<td>Emotional Deprivation</td>
<td>3.91 (1.4)</td>
<td>2.26 (1.3)</td>
</tr>
<tr>
<td>Defectiveness/Shame</td>
<td>3.13 (2.7)</td>
<td>1.48 (0.57)</td>
</tr>
<tr>
<td>Social Isolation</td>
<td>3.84 (1.54)</td>
<td>2.08 (1.33)</td>
</tr>
<tr>
<td>Dependence/Incompetence</td>
<td>2.45 (1.25)</td>
<td>1.31 (0.55)</td>
</tr>
<tr>
<td>Vulnerability to Harm</td>
<td>2.6 (1.05)</td>
<td>1.78 (1.33)</td>
</tr>
<tr>
<td>Enmeshment</td>
<td>1.2 (0.37)</td>
<td>1.23 (0.55)</td>
</tr>
<tr>
<td>Failure</td>
<td>2.79 (1.61)</td>
<td>1.65 (0.73)</td>
</tr>
<tr>
<td>Entitlement</td>
<td>2.02 (0.8)</td>
<td>1.88 (0.68)</td>
</tr>
<tr>
<td>Insufficient Self-Control</td>
<td>2.8 (1.29)</td>
<td>2.43 (1.2)</td>
</tr>
<tr>
<td>Subjugation</td>
<td>2.73 (1.17)</td>
<td>1.69 (0.94)</td>
</tr>
<tr>
<td>Self-Sacrifice</td>
<td>3.6 (1.21)</td>
<td>3.58 (1.26)</td>
</tr>
<tr>
<td>Unrelenting Standards</td>
<td>3.45 (1.33)</td>
<td>3.45 (1.42)</td>
</tr>
<tr>
<td>Emotional Inhibition</td>
<td>3.28 (1.7)</td>
<td>1.45 (0.65)</td>
</tr>
</tbody>
</table>

* Significant at the 0.05 level (two-tailed)

** Significant at the 0.01 level (two-tailed)
Figure 7.41 Comparison of Mean Scores on the YSQ-S Subscales across CD, RD and ND Participants
One-way Analyses of Variance (ANOVA) were conducted to determine differences in YSQ-S responses between groups. Significant differences were found between groups on YSQ-S total scores (F(2,50) = 33, p < 0.001). Analyses of the subscales revealed significant differences between groups on 11 of the 15 subscales: abandonment (F(2,50) = 19.2, p < 0.001), mistrust/abuse (F(2,50) = 17.5, p < 0.001), emotional deprivation (F(2,50) = 27.4, p < 0.001), defectiveness/shame (F(2,50) = 23.2, p < 0.001), social isolation (F(2,50) = 27.8, p < 0.001), dependence/incompetence (F(2,50) = 12.6, p < 0.001), vulnerability to harm (F(2,50) = 8.8, p = 0.001), failure (F(2,50) = 7.3, p = 0.002), subjugation (F(2,50) = 11.1, p < 0.001), self-sacrifice (F(2,50) = 4.2, p = 0.02), and emotional inhibition (F(2,50) = 14.5, p < 0.001).

A post hoc Tukey’s Honestly Significant Difference (HSD) test was used for multiple paired comparisons between groups. ANOVA values, and Tukey (HSD) mean differences and significance levels are presented in table 3.5. Results show that there were no significant differences between RD and ND participants on 14 of the 15 YSQ-S subscales. There was a significant difference between RD and ND on the subscale social isolation (mean difference 0.4, p = 0.05) where RD participants scored higher than ND participants. CD participants resembled RD participants and ND participants on 4 subscales enmeshment, entitlement, insufficient self-control, and unrelenting standards. CD participants also resembled RD participants, but not ND participants, on 1 subscale self-sacrifice. However, there was no significant difference between the RD and ND on this subscale. CD participants scored significantly higher than both the RD and ND groups on 10 subscales: abandonment, mistrust/abuse, emotional deprivation, defectiveness/shame, social isolation, dependence/incompetence, vulnerability to harm, failure, subjugation, and emotional inhibition.
Table 3.5 ANOVA Values and Tukey’s HSD Test of Multiple Comparisons: Mean Differences and Significance Levels

<table>
<thead>
<tr>
<th>YSQ-S</th>
<th>ANOVA</th>
<th>Multiple Comparisons</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>p</td>
</tr>
<tr>
<td>Total scores</td>
<td>33**</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>Abandonment</td>
<td>19.2**</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>Mistrust/abuse</td>
<td>17.5**</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>Emotional dep</td>
<td>27.4**</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>Defectiveness</td>
<td>23.2**</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>Social isolation</td>
<td>27.8**</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>Dependence/inc</td>
<td>12.6**</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>Vulnerability</td>
<td>8.8**</td>
<td>= 0.001</td>
</tr>
<tr>
<td>Enmeshment</td>
<td>0</td>
<td>= 1</td>
</tr>
<tr>
<td>Failure</td>
<td>7.3**</td>
<td>= 0.002</td>
</tr>
<tr>
<td>Entitlement</td>
<td>0.1</td>
<td>= 1</td>
</tr>
<tr>
<td>Insufficient S C</td>
<td>1.3</td>
<td>= 0.28</td>
</tr>
<tr>
<td>Subjugation</td>
<td>11.1**</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>Self-sacrifice</td>
<td>4.2*</td>
<td>= 0.02</td>
</tr>
<tr>
<td>Unrelenting stds</td>
<td>1.4</td>
<td>= 0.27</td>
</tr>
<tr>
<td>Emotional inhib</td>
<td>14.5**</td>
<td>&lt; 0.001</td>
</tr>
</tbody>
</table>

* Significant at the 0.05 level (two-tailed)
** Significant at the 0.01 level (two-tailed)
In summary, there was a significant relationship between mood and 11 of the 15 subscales of the YSQ-S. Of the remaining 4 subscales, which were not related to mood, responses on 3 of them did not differ across groups. RD and ND participants, who were similar in mood and free from depressive and anxious symptoms, resembled each other on all subscales with the exception of *social isolation*. CD individuals, who differed from the other two groups in mood and depressive and anxious symptoms, scored significantly higher than both groups on 10 of the 15 subscales, and resembled the RD group, but not the ND group, on the subscale *self-sacrifice*. 
4.0 Discussion

This study investigated the effect of mood on the assessment of cognitive schemata using a self-report measure of schema content, namely the Young Schema Questionnaire-Short Form (YSQ-S: Young & Brown, 2003). The findings of the current study will be examined in relation to a similar study by Stopa and Waters (2005), and will be viewed within a theoretical context in relation to cognitive schema models. The implications of the current findings for clinical practice and research will then be considered. Finally, the limitations of the current study and possible directions for future investigations will be discussed.

4.1 The Relationship Between Mood and Responses on the Young Schema Questionnaire-Short Form.

The first part of the study investigated the relationship between self-rated mood-state and scores on the YSQ-S. The findings of Stopa and Waters (2005) showed that scores on four subscales, defectiveness/shame, emotional deprivation, social isolation, and entitlement were influenced by mood-state, such that despondent mood was related to higher scores on the first three subscales, and happy mood was related to increased scores on entitlement. Additionally, they found that scores on two subscales, mistrust/abuse and self-sacrifice were approaching significance with regards to increasing scores in a despondent mood-state. The results of the current investigation supported these findings, with the exception of scores on entitlement and self-sacrifice, in which no relationship was found with mood-state.
The current study revealed a significant relationship with self-rated current mood-state and total YSQ-S scores. Analyses of the subscales found a significant relationship between self-rated current mood-state and eleven of the fifteen subscales of the YSQ-S. These subscales were defectiveness/shame, emotional deprivation, mistrust/abuse, social isolation, emotional inhibition, abandonment, subjugation, dependence/incompetence, vulnerability to harm, failure and insufficient self-control. All of these findings revealed that dysphoric mood was negatively correlated with scores on these eleven subscales. There was no relationship found between mood and four subscales: self-sacrifice, unrelenting standards, enmeshment, and entitlement.

4.1.1 Mood and Schema Relationships

Studies investigating the convergent validity of the Young schema questionnaires, with regards to measures of depression, have always implicated schemata from the earliest theorised schema domain of disconnection and rejection as predicting the presence of depressive symptoms (e.g. Glaser et al., 2002; Schmidt, Joiner, Young, & Telch, 1995; Welburn et al., 2002). Additionally, the significant findings relating to despondent mood in the study by Stopa and Waters (2005) showed that a negative mood induction had an impact on three schemata, all from the domain of disconnection and rejection. Interestingly, the current findings have also shown that the schemata from this domain predominantly had the strongest relationships with mood-state. The reasons for this are as yet unclear; however, if the YSQ-S does access schematic content then it may be that the structure of representations formed in the earlier stages of life, reflecting this schema domain, are most strongly connected with early emotional experiences, and are therefore more prevalent and highly associated with the occurrence of negative emotional states. Although this hypothesis
has not been directly investigated in relation to the Young schema questionnaires. Theorists have proposed that early life experiences are key in the development of the self and affect regulation (e.g., Fonagy, Gergely, Jurist & Target, 2004). Therefore, it is possible that the Young schema questionnaires may be accessing beliefs related to self-concept at the core of cognitive structure in the disconnection and rejection domain when negative affect is present. This attachment perspective can also be related to the Interacting Cognitive Subsystems model (ICS: Teasdale & Barnard, 1993), which was described in section four. For example, recurring regularities in early childhood, perhaps relating to unresponsive or inconsistent caregivers, may lead to experiences of emotional dysregulation for the child. In this example, these negative emotional experiences may be associated with themes such as the unavailability (emotional deprivation) or unpredictability (mistrust/abuse) of others. These negative themes may have become "locked-in" with the distressed state, and a reciprocal relationship would then exist between negative affect and these schematic representations.

This argument may also extend to the findings of Stopa and Waters (2005), who, although investigating a non-clinical sample, did not control for risk factors of vulnerability such as previous episodes of depression, or early attachment relationships. Therefore it is possible that the relationship between despondent mood and increasing scores in defeciveness/shame, emotional deprivation, and social isolation reflects individuals in the sample who may be at risk of developing psychological difficulties. Indeed psychological difficulties among student populations are common (Surtees, Wainwright & Pharoah, 2002) and some investigations have revealed that the general mental health of students is poorer than
general population norms (Roberts, Golding, Towell & Weissneb, 1999; Stewart-Brown, Evans, Patterson, Peterson, et al., 2000).

4.1.2 Schemata Unrelated to Mood

While this initial investigation revealed a significant relationship between mood and responses on eleven YSQ-S subscales, no firm conclusions can be reached regarding whether these are specific to a depressed population, or whether some of the scores on the YSQ-S subscales may be elevated in a recovered depressed population. The samples investigated consisted of three groups, one of which was a never depressed participants group (ND). This group was screened for previous depressive episodes, and were predicted to be less vulnerable to depression and harbour less negative schemata than currently depressed (CD) and recovered depressed (RD) participants. Therefore, the relationship between euthymic mood-state and lower schema endorsement may be inflated and reflect the inclusion of the ND group in the analyses. However, these findings do reveal that there are some subscales of the YSQ-S that are unrelated to mood-state and may be equally relevant to non-vulnerable individuals as they are to clinical populations. These subscales may not reflect maladaptive beliefs at the core of cognitive structure. Indeed there are no studies of Young’s schema questionnaires that have found entitlement or unrelenting standards as predicting the presence of depression and psychopathology in general (e.g. Welburn et al, 2002; Glaser et al., 2002; Rijkeboer, van den Bergh, & van den Bout, 2005). Additionally self-sacrifice and enmeshment have not been reported as being strong indicators of psychopathology.
It may be argued that the above four schemata are not directly representative of unconditional core beliefs as theorised by Young (Young, 1990; Young, Klosko, & Weishaar, 2003), but alternatively they may indicate beliefs at a more proximal level, that are readily available to conscious reflection, and do not require a prime to evidence them. In vulnerable individuals, in this case the CD and RD groups, these beliefs may be more strongly associated with other schemata such that they are of a conditional nature as opposed to unconditional truths. Indeed, Young, Klosko and Weishaar (2003) suggest the schemata that are developed earliest in life are mostly unconditional beliefs at the core of self-concept, whereas some schemata developed later in life are conditional, and usually develop to gain relief from the unconditional beliefs. From the current investigation an example of this may be “if I do not meet all my responsibilities (conditional unrelenting standards) then others will see that I am worthless (unconditional defectiveness) and they will leave me (unconditional abandonment).” An individual who meets all of their responsibilities may be temporarily relieved from activating defectiveness and abandonment. If an individual has stronger associations and representations of defectiveness and abandonment, then an active belief of unrelenting standards, in the presence of negative affect, may be more problematic for them. Unrelenting standards may act within an associative network, thus activating the other unconditional schemata. In this instance a stronger relationship between mood and defectiveness and abandonment would be observed. For those individuals who are not considered to be vulnerable to depression, in this instance the ND group, an active belief of unrelenting standards would have less of an impact because defectiveness and abandonment are not presumed to be beliefs that exist more strongly over adaptive cognitions, and they would not be evidenced to the same degree, even during dysphoria. This argument is consistent with a diathesis-
stress model of cognitive vulnerability, and corresponds to Young’s conceptualisation of unconditional and conditional schemata.

These findings can also be explained within Teasdale and Barnard’s ICS model (Teasdale & Barnard, 1993). Within this model it is argued that schematic variables can become combined in a number of ways depending on the context of situations and the values attached to the variables. The schematic models operating in the depressed state may imply a closer relationship between achievement and self-worth. However, in the non-depressed state this relationship is weaker. *Unrelenting standards* may reflect themes associated with achievement. Further support for such an argument comes from theories of self-esteem. For example, some authors propose that self-esteem comprises the dimensions self-competency and self-liking (Tafarodi & Swan, 2001; Tafarodi & Vu, 1997). If an individual has a high sense of self-liking and worth, then threats to their sense of self-competency would have a lesser impact than they would for a person with a lower sense of self-liking and worth. Therefore, across both clinical and non-clinical groups, a static level of endorsement of *unrelenting standards* may be unproblematic for some individuals, while it may act as a potential vulnerability factor for others in the presence of low mood, by virtue of its strength of relationships with other mood-related unconditional beliefs.
In summary, the above findings detailed that there was no relationship between mood-state and four subscales of the YSQ-S. It was discussed that these may reflect beliefs that are generally stable, active and accessible for all individuals. However, for some individuals these beliefs may be highly associated with unconditional maladaptive schemata during dysphoria, but have relatively weaker connections for others. Therefore, it may be argued that beliefs such as *unrelenting standards* are only problematic if they are associated with unconditional truths regarding low self-worth, such as *defectiveness*, which in turn are strongly related to negative affect. However, the relationships between each schemata were not investigated in the current study and these suggestions remain tentative.

The above section outlined that responses on a number of subscales of the YSQ-S have a relationship with mood-state, while responses on four subscales appear to be unrelated to mood-state. Additionally, the schemata that had the strongest relationships with negative affect were predominantly from the earliest schema domain of disconnection and rejection. These findings call into question the usefulness of the YSQ-S as a measure of stable and enduring beliefs, and highlight the influential role of mood in detecting negative cognitive styles using self-report measures of schematic content. However, as described previously, some of the significant relationships may have been inflated by the inclusion of a ND group in the analyses. Therefore the following hypotheses were investigated to determine the effect of mood-state across depression status on scores on the YSQ-S between the CD, RD and ND groups.
4.2 Differences Between Groups

The second part of this study assessed differences between three groups: CD, RD and ND individuals. The rationale behind this was that if the YSQ-S was accessing stable and enduring schemata, without influence of mood-state, then RD individuals should score higher than ND individuals, thus evidencing stable cognitive vulnerability factors in the RD group and supporting the YSQ-S as a potentially reliable method of accessing schematic content. However, if negative affect is an important facilitator in accessing stable and enduring core schemas, then there should be no differences in responses between the RD and ND groups, but CD participants should evidence significantly greater scores on the YSQ-S. Such a finding would contest the use of the YSQ-S as a measurement tool for schema modification in therapy in the absence of dysphoric mood.

Findings revealed that there were no significant differences between the RD and ND groups on YSQ-S total scores and fourteen of the fifteen subscales. However, on the subscale social isolation RD participants scored significantly higher than ND participants, but significantly lower than CD participants, thus placing them at a point between the CD and ND groups. On the subscale emotional deprivation, the difference between RD and ND participants was approaching significance. With reference to hypothesis 2, it is concluded that, with the exception of social isolation, recovered clinical participants do not evidence significantly greater levels of maladaptive schemata, as measured by the YSQ-S, compared to controls when they are not experiencing depressive symptoms and mood-state is similar across both groups.
Further analyses to investigate hypothesis 3 revealed that CD participants scored higher than RD participants on YSQ-S total scores and ten of the fifteen subscales, and higher than ND participants on total scores and eleven of the fifteen subscales. The CD group resembled the RD and ND groups on four subscales *enmeshment*, *entitlement*, *insufficient self-control*, and *unrelenting standards*. This was not surprising considering three of these subscales did not correlate with mood in previous analyses, and *insufficient self-control* had a weak to moderate relationship with mood sharing only 11 per cent of variance in its scores with mood. Therefore, the similarities across groups on these subscales were not unexpected.

Stopa and Waters (2005) found that scores on *entitlement* increased when mood became more positive. Additionally Welburn, Daag, Coristine and Pontefract (2000) reported a non-significant decrease in *entitlement* scores when affect became more negative. The findings of these studies suggested that *entitlement* had a positive relationship with mood. However, the current study did not support these findings. There was no relationship found between mood-state and *entitlement*, and scores across CD, RD and ND groups were similar. Rijkeboer, van den Bergh and van den Bout (2005) found that *entitlement* had the lowest contribution in predicting whether individuals were clinical or non-clinical, however, *t*-tests did support that clinical participants scored significantly higher on this subscale. The current findings did not reveal such a significant result, although the mean scores for depressed participants were higher than the asymptomatic individuals.
Stopa and Waters (2005) are the only investigators to report significantly higher scores on the *entitlement* subscale in relation to positive affect. Their findings may reflect the student and academic population that was investigated. For instance, Rijkeboer, van den Bergh and van den Bout (2005) argue that such a population are often associated with stubborn attitudes, which may influence their scores on this scale. The populations in the current investigation consisted of a variety of educational backgrounds and this may explain why positive affect was not associated with significantly higher scores on this subscale, if indeed the reason for previous findings can be attributed to the student populations sampled. Additionally, stubborn attitudes associated with student populations cannot be used to explain the similarities between groups in the current study. It appears more likely that beliefs centred on *entitlement* are not by themselves maladaptive. Rather, as previously argued, it may be the strength of the associations with other maladaptive beliefs that confer vulnerability to psychopathology. Young, Klosko and Weishaar (2003) classify this schema as unconditional rather than conditional. However, evidence from previous studies and from the current study suggests that this schema may be conditional or an unconditional adaptive schema.

The current findings also revealed that the CD group resembled the RD group, but not the ND group on the subscale *self-sacrifice*. Scores were higher on this subscale for RD than ND but this was not significant, although the difference was approaching significance. This does however place the RD group below the ND group, and mean scores between the RD and CD groups were close in value (3.58 and 3.60 respectively). *Self-sacrifice* was also a subscale in which responses did not have a significant relationship with mood. It may be concluded from the differences across
groups that the self-sacrifice and social isolation subscales are accessing beliefs of a more enduring nature across negative and positive mood-states. With reference to hypothesis 3, findings conclude that CD participants’ scores on the YSQ-S resembled scores of previously depressed participants on total scores and five subscales despite differences in mood. However, similarities in self-sacrifice between CD and RD appear to be the most meaningful out of these five subscales.

The following will discuss social isolation and self-sacrifice as the subscales that offered distinctions across the groups over and above the remaining thirteen schemata. Arguments regarding the implications of these findings will be presented.

4.2.1 Social Isolation

Scores on the subscales of social isolation and self-sacrifice offered distinctions, over and above the other thirteen schemata, that indicate the YSQ-S may be assessing these beliefs as relatively stable and enduring in clinical patients who are not currently experiencing depressive symptoms or low mood. The findings of Stopa and Waters (2005) suggested that the YSQ-S was not assessing social isolation as stable and enduring, and scores on this subscale were greater in a despondent mood-state. The current findings support that mood-state was related to scores on this subscale. However, it can also be seen that RD individuals, assessed in their natural environment where everyday stresses are argued to act as potential activating triggers (Haeffal et al., 2005), endorsed these beliefs to a greater degree than control participants, even when mood-state was similar across these groups.
The participants used in the study by Stopa and Waters (2005) may have represented a heterogeneous group of individuals. It is not unreasonable to suggest that some of the participants may have been vulnerable to psychological difficulties in accordance with cognitive vulnerability theories. In the presence of a negative mood induction, these difficulties may have become more apparent. This can also be seen in the current study within the naturally occurring depressed state where social isolation scores were highest. The current study has taken the findings of Stopa and Waters (2005) forward by uncovering a more detailed relationship between mood, depression vulnerability factors, and social isolation. Dysphoric mood was related to higher scores in this schema. However, mood-state cannot be used to explain the differences in scores between RD and ND participants. The following section outlines arguments to account for these findings.

Social isolation appears to be a stable and enduring schema that remains operative during depression and after remission from depression. By virtue of its stability relative to the majority of the maladaptive schemata in the current study, it is unlikely that this subscale reflects negative automatic thoughts as symptoms of depression, or vulnerability factors that are only evident in dysphoria. It belongs to the earliest domain of disconnection and rejection and is therefore considered by Young (1990) to be an unconditional belief. It is a fundamental feeling that one is different from others. It is not unlikely that such a belief would be available to conscious reflection. A person would have an awareness of feeling as though they were different and did not fit in. This belief remains accessible, via the self-report YSQ-S, and active in a non-depressed mood-state. It may also be a specific enduring vulnerability factor for potential relapse in recovered depressed individuals. However, it is unclear why this
should not be the case for other schemata, for example, *Mistrust and Abuse*. Welburn et al. (2002) argued that a person would have a degree of awareness of not trusting others. This perhaps highlights criticisms of clinical models of depression that were raised in chapter one, outlining that these models describe *what* people think, but not *how* they think (Wells, 2000). This may also reflect the insensitivity of self-report methods as assessments of core schemata.

It is likely that there are a number of belief patterns that are only evident during dysphoria, and that vulnerability depends on the relationship between cognition and emotion. However, the current findings and those from a similar study (Power, Duggan, Lee, & Murray, 1995) suggest that there are also some beliefs that do constitute trait-like differences in individuals irrespective of mood-state. *Social isolation* appears to be such a belief.

The differences observed between the CD and RD groups on this subscale may be explained within a diathesis-stress model of cognitive vulnerability, as these differences may reflect the degree of activation of this particular schema. The potential for relapse and the activation of associated schemata may increase in the event of increasing stress and negative mood. This account may also explain why *social isolation* was influenced by modest changes in mood in the findings of Stopa and Waters (2005). If this is a schema that is continually active in vulnerable individuals, albeit to a lesser degree in RD individuals, then the potential to increase endorsement is greater when faced with priming situations. In support of this, Stopa and Waters (2005) also found that *emotional deprivation* scores increased with a negative mood induction technique. The current study found that scores on this
schema were approaching significance in differentiating RD from ND participants. This may suggest that individuals who are vulnerable to depression have a lower activation threshold for these beliefs. However, it is acknowledged that there is no evidence that any of the participants in the study by Stopa and Waters (2005) were considered vulnerable to developing psychopathology and this is a limitation of their study.

Scher, Ingram and Segal (2005) provide a similar argument in relation to an activation hypothesis based on a recent review of evidence:

"In essence, schemas are linked to various degrees with one another based on similarity of content. When a schema becomes fully activated, activation spreads to associated schemas. If the link between the activated schema and an associated schema is sufficiently strong, the associated schema may become fully activated as well. If the link is weak, the associated schema may become partially activated, but should not exceed the threshold required for full activation in a manner that would guide information processing" (pp 490).

Similarly, Young, Klosko and Weishaar (2003) describe that not all schemata are active in certain states. They argue that some schemata, emotional states and coping responses are dormant, while others are activated by life events. Additionally, although schemata are thought to be dormant, they are not inaccessible. Perhaps social isolation remains active and accessible in recovery, over and above the other schemata, due to continuing activating triggers, for example, the isolating effects of having depression. Individuals may have become socially withdrawn during their depressive episode and may have experienced resulting difficulties in relationships,
which continue into recovery. They may have experienced stigma surrounding their mental health difficulties. Furthermore, the RD participants in the current study did not receive psychological interventions for their difficulties. They may not have had the opportunity to discuss their beliefs and encounter responses that normalised their experiences, and help modify their sense of isolation.

However, these arguments do not appear sufficient to explain why other maladaptive schemata were not activated and available to conscious reflection in the RD group. For example, why individuals with an enduring mistrust of others would start trusting when their mood improved. It is perhaps necessary to view schemata as dynamic structures. Although Young and colleagues depict schemata as stable and enduring, they also offer a wider conceptual approach to schema operations. They acknowledge a latency theory of cognitive vulnerability, however, components of the theory may also be assimilated with elements of the ICS model (Teasdale & Barnard, 1993). Young, Klosko & Weishaar (2003) outline the concept of schema modes in relation to this point. A mode essentially represents a set of schemata, both adaptive and maladaptive, that are operational and active at any given time. They detail that adaptive beliefs can coexist as stable and enduring. The concept of schema modes is not unlike Teasdale’s (1997) account of the ‘mind-in-place’, which was outlined in chapter one, such that within different ‘modes’ or ‘minds’, different schemata or schematic models will be operating. However, this gives rise to the question of whether Young’s early maladaptive schemata can be empirically validated as stable and enduring unconditional truths, particularly in the absence of methods for distinguishing modes. This is a limitation of this theory.
Nonetheless, the current investigation suggests that the schema of social isolation is active in a healthy mode to a greater degree in RD individuals than in ND individuals, and that this schema is captured as more stable and enduring than other schemata using the YSQ-S. Welburn, Daag, Coristine, and Pontefract (2000) suggested that patients’ negative beliefs about social isolation improved after an intensive day-treatment programme. Perhaps the psychological treatment administered in this study facilitated modification of this schema. The group treatment would allow for new experiences where individuals became aware that others held many of the same beliefs as themselves and experienced similar difficulties. This would in turn build a new memory store of wider interpretations and implicit meanings, which Teasdale (1997) argues is important in creating new ‘mind sets’. This would also facilitate the development of a ‘healthy adult mode’ in accordance with Young’s theory (Young, 1990; Young, Klosko, & Weishaar, 2003). In the current study, RD participants may have had limited opportunities to create new memory stores and mind sets. However, a limitation of the schema questionnaires is that there are no normative guidelines for determining what constitutes a healthy outcome. Furthermore, the current study suggests that such guidelines may only be meaningful for social isolation and self-sacrifice, given that the scores across the majority of the subscales resembled healthy controls when depressive symptoms had remitted and mood was no longer dysphoric.

Based on the current findings, the majority of early maladaptive schemata proposed by Young (1990) are not accessible using the YSQ-S in the absence of dysphoric mood. Therefore, it cannot be concluded at this stage whether the YSQ-S is capturing proximal negative automatic thoughts in depression or mood activated core beliefs.
4.2.2 Self-Sacrifice

Self-sacrifice emerged as a relatively stable belief in the current study, showing that CD and RD participants closely resembled each other in their beliefs on this subscale independent of mood-state. Young, Klosko and Weishaar (2003) regard self-sacrifice as a conditional schema that is often used in attempt to gain relief from unconditional beliefs. This schema refers to an excessive focus on trying to meet the needs of others at the expense of one's own needs. This may be a strategy that is evident in depression and continues throughout recovery in an attempt to be liked and avoid activating other schemata. However, an individual may be surrendering to emotional deprivation, such that his or her own emotional needs are not being met. In the current study, emotional deprivation was approaching significance in distinguishing RD from ND participants, and it is possible that this finding reflects the degree of activation in this unconditional schema as a result of its association with self-sacrifice. After recovery from depression, beliefs about self-sacrifice may act as a specific vulnerability factor for future depressive episodes. Alternatively, this may be a stable belief that subtly distinguishes the healthy 'modes' or 'mind-sets' of asymptomatic vulnerable individuals from non-vulnerable individuals.

Stopa and Waters (2005) also detailed that scores on the subscale self-sacrifice increased, although not significantly, after a negative mood induction. The current study did not find a relationship between mood and self-sacrifice; this was explained by higher scores on this subscale in the RD group. Again, similar arguments can be made for this subscale as for social isolation. For example, the heterogeneous group investigated in the above study may have contained individuals for whom self-sacrifice was operating, and therefore this may have become more apparent in a mood.
prime condition. The inclusion of three distinct groups in the current study allowed for a more detailed exploration of the relationship between mood and responses on the YSQ-S.

Teasdale, Lloyd and Hutton (1998) argue that when vulnerable individuals are in a depressed state, the schematic models that are operative relate self-worth to the approval or disapproval of other people. However, when these individuals are in a euthymic state, the schematic models that are operative will have loose connections between self-worth and the approval or disapproval of others. The CD and RD participants in the current study had similar scores on self-sacrifice, but the CD participants had higher scores on subscales relating to unconditional beliefs about self-worth. This may be viewed as supporting the above stance. If Young’s early maladaptive schemata are viewed as inter-related, then differences between the CD and RD groups across nine of the fifteen schemata may reflect strong connections between self-worth schemata and self-sacrifice in the CD group. In contrast, self-sacrifice was perhaps associated with fewer beliefs about self-worth (two schemata: social isolation and emotional deprivation) in the euthymic RD group. Future investigations of the YSQ-S may benefit from examining the inter-relationships between each schema to gain a clearer understanding of their relative associations in constituting vulnerability to depression. Presently, these findings suggest that there are some beliefs that remain stable after recovery, and these beliefs may have implications for future depressive episodes.
The above section outlined arguments that firstly suggested that the YSQ-S may contain four subscales that are not specific to a clinical population, and may not reflect beliefs of a maladaptive nature. Secondly, the YSQ-S did not assess nine schemata as stable and enduring, such that these beliefs were evidenced most clearly in individuals in a dysphoric mood-state. Thirdly, there were two schemata that the YSQ-S appeared to be assessing as relatively stable and enduring. The theoretical implications of these findings were also discussed. The following section will consider the clinical and research implications of these findings.

4.3 Implications for Treatment and Research

The YSQ-S appears to be accessing negative cognitions. However, for the majority of the theorised schemata, these negative beliefs are only evident in a depressed mood-state. Such findings parallel so many studies that have reported negative cognitions as returning to a level similar to control participants when depression has remitted (see Ingram, Miranda, & Segal, 1998; Persons & Miranda, 1992 for reviews of such studies). However, there are two theorised schemata that appear to remain active in recovery from depression, as indicated by scores on the YSQ-S. Together these findings have a number of implications for treatments that aim to modify beliefs at the schematic level. They also have implications for the use and interpretation of the YSQ-S in both clinical practice and research.
4.3.1 Clinical Implications

The cognitive treatment model of depression (Beck, Rush, Shaw, & Emery, 1979) introduces techniques in the initial stages of treatment that focus on schematic products, such as negative automatic thoughts. This is then later followed by therapeutic strategies to attempt to access and challenge beliefs at the level of dysfunctional assumptions. The course of successful treatments should also witness improvements in an individual’s depressed mood-state. Based on a large body of evidence (see Scher, Ingram, & Segal, 2005 for a review), the supported position is that schema activators, particularly negative affect, are paramount in gaining access to schematic content. The current findings largely support the influential role of mood and add to this view by demonstrating similar arguments when using the YSQ-S as a measure of schematic content. Therefore the above sequence of treatment may be unsuccessful in accessing beliefs at the schematic level due to improvements in mood-state. Persons and Miranda (2002) propose that therapies aimed at targeting core cognitions should do so at the beginning of treatment when a person is in a depressed state.

Similarly, clinicians who choose to use the YSQ-S as part of a case conceptualisation, should perhaps be advised to do so when clients are experiencing negative affect. If responses on the YSQ-S are reflective of schemata rather than proximal cognitions, and these schemata are mainly evident during dysphoria, then the timing of the assessment in treatment may influence the responses. The current study also highlights potential difficulties with using the YSQ-S as a measure of schema change in treatment. Given the influence of mood on responses, the YSQ-S may provide
false-positive indications of schema change and lead to overstated interpretations of treatment outcomes.

The YSQ-S appears to be capturing two schemata, *social isolation* and *self-sacrifice*, as relatively enduring beliefs in individuals vulnerable to depression. However, it is unclear whether this reflects core cognitive vulnerability factors, or whether this is an objective representation of individuals' current experiences following their depressive episode. Future studies and replication of these findings are required to determine if this would generalise to a larger participant sample and whether this is specific to depression. Nonetheless, these current discoveries may offer guidance in relapse prevention treatments. The greater level of accessibility of these beliefs suggests that individuals are able to consciously reflect upon these themes during depression and after recovery. A focus on *social isolation* and *self-sacrifice* in therapy may lead to more adaptive coping styles and an awareness of specific cognitive patterns that may pose potential risks for future depressive episodes. Within the context of therapy, these findings may also suggest that patient compliance in treatment could at times reflect beliefs concerning *self-sacrifice*. Therefore, the therapeutic relationship may be used as a vehicle for clients to challenge these beliefs.

4.3.2 Research Implications

A number of authors have argued that the Young schema questionnaires (YSQ: Young & Brown, 1994; YSQ-S: Young & Brown, 2003) may provide a promising method of assessing schematic content (Gladstone & Parker, 2001; Glaser et al., 2002; Lee, Taylor & Dunn, 1999). However, the current study suggests that the utility of the YSQ-S is compromised in the absence of negative affect. As a result of this, it
is currently unlikely that this measure can confidently validate the theory and the therapy it is linked to.

The efficacy of Young’s schema therapy (Young, Klosko, & Weishaar, 2003) is not yet established. However, research is beginning to emerge in this area. The very nature of this therapy implies that core cognitive structures can be changed. Although, finding valid methods to support such an assertion may prove difficult to attain, particularly if these methods are self-report measures of schematic content.

There are a small number of studies that have investigated schema modification after schema therapy, using responses on the Young schema questionnaires as indicators of schema change. As discussed in chapter one, Nordahl and Nysaeter (2005) investigated the effectiveness of schema therapy for patients with Borderline Personality Disorder (BPD), using a single case series design. The current study offered tentative observations from their findings, which suggested that scores on the YSQ showed an observational trend of corresponding to depressive symptoms. In light of the current findings, it is likely that changes in YSQ scores in the above study were related to mood-state variations. Nordhal, Holthe and Haugum (2005) also reported that modification of early maladaptive schemata strongly predicted symptom relief in individuals with personality pathology following schema therapy. However, this finding may reflect the effect of symptom levels and distress on the identification of schemata, such that decreases in symptoms lead to decreases in scores on the schema questionnaires. Indeed, Hoffart, Versland and Sexton (2002) reported on the process of schema therapy and detailed a circular relationship between cognitive
change and distress, rather than a unidirectional process of cognitive change leading to symptom relief.

Implications of the current investigation are that in research, particularly treatment outcome studies, responses on the YSQ-S should be interpreted within a context that acknowledges the influential role of mood-state in evidencing core beliefs. Therefore, conclusions about changes in levels of maladaptive schemata should be viewed with caution when these are coupled with changes in distress and symptom levels. Welburn, Daag, Coristine and Pontefract (2000) argued that an intensive day treatment programme resulted in modifying a number of maladaptive schemata. Their conclusions were,

"On completion of the 12-week program, the distress level was significantly reduced and comparable to outpatient norms. These findings augment previous outcome research of day treatments in not only replicating the significant decrease in psychiatric distress, but in demonstrating that core cognitive structures can also be altered." (pp 193)

In view of the current findings, such conclusions illustrate the potential to perhaps overestimate changes in core cognitive structures when assessing these changes in the absence of negative affect, using the YSQ-S.

The following section will detail the limitations of the current study and propose suggestions for future research.
4.4 Limitations

There were limitations in the current study that can be classified under participant sample sizes, distribution of data, criticisms of remitted design paradigms, and screening procedures. The following will detail each of these categories in relation to the current investigation.

4.4.1 Participant Sample Sizes

Unequal sample sizes and a small sample size in the RD group were limitations in this study. To detect a significant difference at the 0.01 level, power calculations indicated that a minimum number of 16 participants were required in the clinical group (CD), and 14 participants were required in the non-clinical groups (RD & ND). Power was sufficiently met in the CD and ND groups with 20 participants in each group. However, due to low response rates in the recruitment of RD individuals, this group consisted of 13 participants and falls just below the indicated requirements. However, the sample sizes met the requirements to detect significant differences at the 0.05 level, which were indicated as being 9 in the clinical group and 11 in the non-clinical groups.

Another limitation in relation to determining sample sizes was the unavailability of data from previous studies using the YSQ-S for recovered depressed individuals. The representative data entered into the power calculations were taken from a study (Stopa and Waters, 2005) of a non-clinical population because both the RD and the ND groups in the current study were considered to be non-clinical. The population used in the power calculations did not resemble a purely recovered depressed group, although it may be argued that this was a heterogeneous population that may have represented
recovered depressed participants within the population. However, figure 3.1 in chapter three illustrates that RD participants generally scored higher than ND participants on the majority of the YSQ-S subscales. Perhaps a larger sample size may have defined this trend by revealing more significant differences between these groups, thus providing support for the YSQ-S as a measure of stable and enduring beliefs.

4.4.2 Distribution of Data
For a number of the subscales on the YSQ-S, data was abnormally distributed with a tendency towards positive skewness. Logarithmic transformations of the data did not improve the distribution on all subscales, and there may have been some floor and ceiling effects in YSQ-S scores in the respective asymptomatic and currently symptomatic groups. Therefore some of the data did not meet the assumptions of normal distribution for parametric analyses. However, both parametric and non-parametric investigations of the skewed data yielded comparable significant results, and therefore there is less likelihood that the results are statistical artefacts.

4.4.3 The Remitted Design Paradigm
The remitted design paradigm of cognitive vulnerability factors has been criticised by a number of authors (e.g. Ingram, Miranda & Segal, 1998; Just, Abramson & Alloy, 2001). These limitations were identified in the planning of the current investigation; however, for practical reasons, such as the duration of the current research study, it was not possible to attend to all of the identified limitations. Such modifications may have involved a prospective and longitudinal within-subjects design. Therefore the
current investigation was conducted with an optimized remitted design as described by Haeffal et al. (2005). However, a number of limitations continued to exist.

*Heterogeneity:* The selection procedure used in the current study has come under criticism from the above authors. It is argued that selecting individuals on the basis of current depression or previous depression may represent a heterogeneous group of individuals. Within each group there may be some individuals for whom depression is related to cognitive vulnerability factors, while cognitive vulnerability factors may not play a part in other individuals' episodes of depression. This point may be particularly relevant to the CD and RD groups in the current study. During the recruitment of the RD group, five participants evidenced scores on the Beck Depression Inventory (BDI-II: Beck, Steer, & Brown, 1996), which placed their symptoms within the clinical range as indicating a depressive episode. They were then included in the CD group. It is possible that these individuals had relapsed due to cognitive vulnerability factors, while those who were recovered may have represented a greater number of individuals who did not share similar cognitive vulnerability factors. Therefore the inclusion of the currently symptomatic individuals in the CD group may have led to an over-representation of individuals with cognitive vulnerability factors in this group, and an under-representation in the RD group. It is also possible that the currently symptomatic individuals reflected more chronic difficulties, which may have increased the likelihood of higher YSQ-S scores in the CD condition. These limitations also extend to the control group, which may have contained individuals who had cognitive vulnerability factors but had not experienced sufficient activating stresses to develop psychological difficulties.
The cross sectional design: A further limitation in the current study was the selection of participants to different groups. The CD group were predominantly recruited from an adult primary care clinical psychology service, while the RD group contained individuals treated with antidepressant medications. It is possible that these individuals had different characteristics between groups that may have accounted for the choices of General Practitioners (GPs) to refer some for psychological interventions and treat others with medication. For example, those referred for psychological intervention may have presented to their GPs with greater severity of symptoms than those treated with medication. In this event, the majority of individuals in the CD may have had a more severe depressive episode, which would perhaps be associated with fewer adaptive coping skills and greater negative schematic models. The higher YSQ-S scores in the CD group could be a reflection of this. Conversely, the more severely depressed individuals may not have been referred for psychological intervention, perhaps for a number of reasons, such as GPs being deterred by long waiting times. In this instance, the results of the current study could be viewed more confidently. However, this was not investigated and remains a limitation of the current study. There may have also been confounding effects in the ND group. This was a convenience sample and the majority of participants were known to the author. It is possible that individuals may have provided under-representations of their negative cognitions due to the absence of anonymity procedures.
The effect of previous depressive episodes: The study design did not take into account arguments that suggest individuals are changed by the experience of having depression (e.g. the scar hypothesis: Rohde, Lewinsohn, & Seeley, 1990). This position asserts that the depression experience may elevate negative cognitive patterns that remain after recovery. Additionally, the number of previous episodes of depression was not controlled for. However, from the current findings, this argument does not explain why the majority of YSQ-S subscale scores in RD participants resembled controls.

The optimised design: This design also presents difficulties in the interpretation of the findings on the subscales social isolation and self-sacrifice. The differences found in these two subscales, which detailed the RD group as more comparable to the CD group, could be attributed to schema activation caused by daily stresses. Therefore these findings may not provide a true representation of stable and enduring beliefs as assessed by the YSQ-S. Rather, they may reflect stress-activated beliefs. However, the main interest of the current study was not on different types of schema-activating primes. It was concerned with the effect of mood on detecting these beliefs. In support of the current design, research has found that non-mood primes do not contribute towards detecting differences on self-report measures of cognition (e.g. Rude et al., 2001).
4.4.4 Screening Procedures

The current study did not control for a range of psychological difficulties. The two screening measures were the Beck Depression Inventory and the Beck Anxiety Inventory (BDI-II: Beck, Steer & Brown, 1996; BAI: Beck, Epstein, Brown & Steer, 1988). While depression and anxiety are extremely common in the NHS, and have a high co-morbidity, a more encapsulating measure of pathology may have been desirable, for example clinical interviews and the Symptoms Check List (SCL-90-R: Derogatis, 1983). However, these methods were rejected during the planning stage based upon the excessive requirements this would have for participants, particularly considering that the YSQ-S is a lengthy assessment measure in itself. As a result, the current study was unable to detect other types of pathology, for example eating disorders and addictions. These difficulties may have been assessed in the majority of individuals in the CD group who underwent a psychological assessment. In the RD and ND groups, these screening methods were unavailable to detect the presence of undiscovered psychopathology. However, the RD participants were identified by GPs, who had knowledge of patient histories and an awareness of the study eligibility criteria. Similarly, the ND participants were largely known to the author and were approached on the basis of available knowledge of no known previous history of mental health problems.

The CD group contained some individuals with co-morbid anxiety symptoms, as indicated by BAI scores, while the RD and ND participants all scored within the minimal range according to the BAI scoring criteria. It is possible that the differences in YSQ-S scores observed in the CD group may in part be attributed to higher levels of anxiety and related schemata. The findings may not be solely attributed to mood-
state in depression and this is a limitation in the interpretation of the findings. However, it was not possible to obtain a ‘purely’ depressed sample, which reflects the high co-morbidity of depression and anxiety. In view of this, it is also likely that the RD participants did not represent a group of individuals who had previously been ‘purely’ depressed with no overlapping anxiety symptoms. This would offer further support for the current findings, such that the YSQ-S does not measure the majority of schemata as stable and enduring across episode and recovery of both depression and anxiety.
4.5 Possible Directions for Future Study

While the current findings revealed that responses on a number of the YSQ-S subscales were influenced by mood-state, and some were more stable and enduring, the current study does not answer questions about Young’s theorised schemata and their role as causal agents in predicting vulnerability to psychopathology. Prospective longitudinal designs are required to assess whether responses on the YSQ-S represent causal vulnerability factors or whether they represent proximal cognitions as concomitants of disorders. Longitudinal research has generally been supportive of cognitive vulnerability theories (see Scher, Ingram & Segal, 2005 for a review), however, such studies have yet to be conducted within Young’s conceptual framework.

It has been argued that in longitudinal designs it is not necessary to prime participants before measurement of cognitive vulnerability factors, because differences in baseline measurements have still been shown to predict future episodes (Just, Abramson & Alloy, 2001). This position creates questions of why it is then necessary to prime individuals after recovery from an episode to reveal cognitive vulnerabilities. Future studies may combine the YSQ-S with elements of information processing methods to begin to determine the cognitive processes involved in completing this measure. For example, some subscales on the YSQ-S may reflect information that is harder to retrieve from memory in the absence of associated affect-related cues, perhaps the majority of subscales from the earliest domain of disconnection and rejection. However, the schemata that are hypothesised to form later in life may be more accessible from memory and require fewer associated cues to evidence them. The YSQ-S remains to be validated against methods of information processing.
Based upon the current findings, future research may also explore the subscales of *social isolation* and *self-sacrifice* to determine if these enduring beliefs confer vulnerability to future depressive episodes in accordance with varying degrees of endorsement within a recovered depressed population. Furthermore, the strength of the associations between *social isolation*, *self-sacrifice* and those schemata evident during dysphoria may be investigated to determine whether there is a key set of schemata that are strongly associated with the more stable and accessible beliefs and act as the major underlying vulnerability factors.

There are relatively few studies investigating the YSQ-S, and therefore there are a number of possibilities for future investigations. A large body of research exists for other self-report measures such as the Dysfunctional Attitudes Scale (DAS: Weissman, 1979). However, the current study suggests that similar types of investigations using the YSQ-S may yield comparable results, such that when depression remits maladaptive schemata are no longer evidenced. Future research would perhaps be best placed to focus upon developing programmes that incorporate self-report measures of schematic content with computerised methods of information processing. These should be designed for use with clients in clinical practice. In the current technological climate there are multiple opportunities for developing such approaches. Methods such as these may help to reduce the confounding influence of mood on detecting core schemata without removing the thematic content that contributes to case conceptualisations. Clinicians and researchers may also evaluate the outcomes of therapies for schema change in a more confident manner.
4.6 Conclusions

This study found that responses on the Young Schema Questionnaire-Short Form (YSQ-S: Young & Brown, 2003) were predominantly influenced by mood-state, and higher scores were evidenced in a depressed clinical population. Four out of fifteen subscales were unrelated to mood-state and three of these did not differ across clinical and non-clinical populations. Arguments were made regarding whether the thematic content of these subscales reflected maladaptive beliefs at the core of cognitive structure.

The current study did not answer questions about what the YSQ-S is measuring. For example, whether it accesses maladaptive core schemata in a dysphoric mood-state, or whether it reflects proximal cognitions as concomitants of depression. However, the findings of this study highlighted the integral role of mood in detecting differences in cognition using a self-report measure of cognitive content. It was argued that the YSQ-S may not provide a reliable method of evaluating schematic change in schema based therapies due to the influence of mood, and it may not provide a sufficient means of validating the theory and the therapy it is linked to. Nonetheless, the YSQ-S may be beneficial in contributing to case formulations of clients' difficulties, particularly if it is used at a point in therapy when clients are experiencing negative affect.

The current study supports the premise that there is an undeniable link between cognition and emotion (e.g. Scher, Ingram, & Segal, 2005), and this was further demonstrated by extending research to include the YSQ-S.
References


Appendix 1

Ethical Approval from NHS Tayside
Dear Miss Gibney

**Full title of study:** The Effect of Depression Status And Mood on Responses to The Young Schema Questionnaire (Short Form).

**REC reference number:** 06/S1402/18

Thank you for your email of 10 March 2006, responding to the Committee’s request for further information on the above research and submitting revised documentation.

The further information has been considered on behalf of the Committee by the Assistant Administrator and the Medical Advisor.

**Confirmation of ethical opinion**

On behalf of the Committee, I am pleased to confirm a favourable ethical opinion for the above research on the basis described in the application form, protocol and supporting documentation as revised.

**Conditions of approval**

The favourable opinion is given provided that you comply with the conditions set out in the attached document. You are advised to study the conditions carefully.

**Approved documents**

The final list of documents reviewed and approved by the Committee is as follows:

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<th>Document</th>
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<td>04 January 2006</td>
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<tr>
<td>Investigator CV</td>
<td>Academic Supervisor</td>
<td>24 January 2006</td>
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<td>David Gillanders (V1)</td>
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<td>Participant Information Sheet</td>
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Research governance approval

The study should not commence at any NHS site until the local Principal Investigator has obtained final research governance approval from the R&D Department for the relevant NHS care organisation.

Statement of compliance

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees (July 2001) and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

06/S1402/18 Please quote this number on all correspondence

Yours sincerely

Chair

Enclosure: Standard approval conditions

Copy to: Dr D Gillanders, University of Edinburgh
NHS Tayside R&D Department
Appendix 2

Participant Invitations and Information
Dear Sir or Madam

I am a Trainee Clinical Psychologist studying at Edinburgh University and working in Tayside Clinical Psychology Department. I am conducting a research study as part of my training in Tayside and I am looking for participants to take part in this study. My area of interest is concerned with how mood influences individuals' responses to a questionnaire commonly used in the practice of clinical psychology. I am writing to participants who either may be currently experiencing an episode of depression and who are attending our department for psychological intervention, those who may have experienced episodes of depression in the past and who have attended their GP for help or have attended our psychology service, and those who have not experienced episodes of depression.

I would be grateful if you would take time to read the enclosed information pack and think about whether or not you would be willing to participate in this study. If you agree to participate please return your completed consent form in the stamped addressed envelope provided by within two weeks. Once you have returned your consent form you will be sent some questionnaires to complete and return in a stamped addressed envelope provided. If you are not interested, please discard this letter and the information enclosed.

If you have any further enquires please do not hesitate to contact me via the contact information provided. Thank you for your time.

Yours sincerely

Fiona Gibney
Trainee Clinical Psychologist
Dear Sir or Madam,

The Effect of Depression Status and Mood on Responses to the Young Schema Questionnaire-Short Form (YSQ-S).

I write to confirm that Fiona Gibney is carrying out a research project as part of her Clinical Psychology training. I am acting as her Supervisor and have agreed that she may contact you with an invitation to take part in the research project. I would be grateful if you would take the time to read the enclosed Information Sheet and consider taking part and I would be pleased to provide you with further information or answer any questions you may have concerning the project.

Yours sincerely,

Caroline Guthrie
Clinical Psychologist
The Effect of Depression and Mood on Filling Out the Young Schema Questionnaire-Short Form.

Tayside Participant Information Sheet

You are being invited to take part in a research study as someone who is currently being treated by Tayside Clinical Psychology Department. We believe this study to be of potential importance. However, before you decide whether or not you wish to participate, we need to be sure that you understand why we are doing this study and what it would involve if you agreed. We are therefore providing you with the following information. Please take time to read this information carefully and be sure to ask any questions you might have. In addition, talk to others about the study if you wish. We will do our best to explain and to provide any further information you may require now or in the future. You do not have to make any immediate decision. Ask us if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part.

What is the background to the study?

This study is being conducted through The Department of Clinical Psychology in Tayside and The University of Edinburgh. We would like to investigate factors that may influence the way a person responds to a questionnaire commonly used in clinical psychology (The Young Schema Questionnaire-Short Form). Psychologists often use this questionnaire to assess clients' difficulties and also as part of therapy. By gaining a clearer understanding of such influences, we hope that this will aid therapists in their use of the questionnaire and their interpretation of their clients' responses. Specifically, we are investigating the effect of mood upon responding to this questionnaire and will be approaching potential participants who may and may not be experiencing depressed mood. Participants will have a range of different mood levels. This project is also being conducted as part of the Doctorate in Clinical Psychology at The University of Edinburgh.
What Does The Study Entail?
As part of this study we would like to ask you to fill in some questionnaires relating to mood, anxiety, and beliefs you may or may not have about yourself and others. You will be asked to rate how well some of the questions describe you. Examples of such questions are 'I find myself clinging to people I'm close to, because I'm afraid they'll leave me' and 'I always feel on the outside of groups'. You will be asked to fill out these questionnaires at home so you can take your time completing them. It is estimated that this should take around 30-45 minutes. You can return them, sealed in a stamped addressed envelope provided. Alternatively you may wish to hand them to reception if you are attending the department. In this instance, the researcher will collect them. You will not be required to put your name on the questionnaires as they will be coded so that the researcher, Fiona Gibney, and psychologist, Caroline Guthrie, are the only people who can identify them as your own.

Do I have to take part?
It is up to you to decide whether or not to take part. If you do, you will be given this information sheet to keep and will be asked to sign a consent form. You are free to withdraw at any time and without giving a reason. A decision to withdraw at any time, or a decision not to take part, will not affect the standard of care you receive. This study is entirely separate from any contact you may be having with the department.

What will happen to the information collected in the study?
If you are willing to take part in the study all information about you and the responses that you give on the questionnaires will be confidential with no names or personal information being used in the write up of the study. The information you give will be collated with other responses to assess whether mood influences how people respond to questions on the Young Schema Questionnaire-Short Form. The information you provide will not be shared with your clinical psychologist unless you specifically request that this happens. In this instance you may choose to indicate this on the questionnaires.

Will my taking part in this study be kept confidential?
Yes. All information which is collected about you during the course of the research will be kept strictly confidential. Data will be stored on a password protected computer with no personal identifying information. Returned consent forms and questionnaires will be stored separately in locked filing cabinets. All identifying information will be removed from the questionnaires. Access to the questionnaires will only be granted to the principle researcher, Fiona Gibney, and clinical psychologist, Caroline Guthrie. If you reveal information that gives cause for concern regarding your safety or the safety of others, the researcher and clinical psychologist may be obliged to breach confidentiality in an attempt to ensure the safety and wellbeing of yourself or others.
What are the possible discomforts or risks?

Some questions in the questionnaires may identify areas of difficulty or feelings that you had not fully considered before. If this happens and you are having difficulty coping with them please feel welcome to contact either myself, Fiona Gibney, principle researcher and trainee clinical psychologist, or Caroline Guthrie, clinical psychologist, who may provide advice and support. Additionally, you may choose to discuss any issues during your routine contact with the Clinical Psychology Department.

Outside support: The Samaritans provide a 24 hour support line if you are in crisis, despairing or suicidal. Telephone: 0845 790 90 90. Web: www.samaritans.org.uk

What are your rights?

Participation in the study is entirely voluntary and you are free to refuse to take part or to withdraw from the study at any time without having to provide a reason. Your decision whether or not to participate in the study will have no influence on any current or future psychological or medical care you receive. It will also have no influence on your relationship with any health care staff you are involved with.

The Tayside Committee on Medical Research and Ethics, which has responsibility for scrutinising all proposals for medical research on humans in Tayside, has examined the proposal and has raised no objections from the point of view of medical ethics. The committee will also receive regular reports from NHS Tayside Monitors who will examine the records of the research while it is in progress.

If you are willing to take part in this study please complete the consent form on the next page and return it to Fiona Gibney at the address below by (date). When we receive your consent form we will send you the questionnaires to complete. If you wish a copy of the overall results from the study you can get this on request from contacting the number below. The study will be completed by August 2006.

Complaints

If you have a concern about any aspect of this study, you should ask to speak with the researchers who will do their best to answer your questions (see contacts below). If you remain unhappy and wish to complain formally, you can do this through the NHS Complaints Procedure. Details can be obtained from the hospital.
If you have any difficulties or further questions please contact me on the number below, or leave a message for me to get back to you.

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Dept. Clinical Psychology
Murray Royal Hospital
Muirhall Road
Perth, PH 2 7BH
Tel: 01738 562383

Caroline Guthrie
Clinical Psychologist
Dept. Clinical Psychology
Murray Royal Hospital
Muirhall Road
Perth, PH2 7BH
Tel: 01738 562383

Thank you for taking time to read and consider the above information. If you are willing to take part in the study please take time to carefully read and complete the consent form to indicate your consent to participate.
The Effect of Depression and Mood on Filling Out The Young Schema Questionnaire-Short Form.

Participant Information Sheet

You are being invited to take part in a research study as someone who will meet one of the following criteria: (a) you may have been treated for depression by your GP, (b) you may be currently receiving psychological treatment in Tayside, or (c) you have never experienced an episode of depression and subsequent treatment. We believe this study to be of potential importance. However, before you decide whether or not you wish to participate, we need to be sure that you understand why we are doing this study and what it would involve if you agreed. We are therefore providing you with the following information. Please take time to read this information carefully and be sure to ask any questions you might have. In addition, talk to others about the study if you wish. We will do our best to explain and to provide any further information you may require now or in the future. You do not have to make any immediate decision. Ask us if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part.

What is the background to the study?

This study is being conducted through The Department of Clinical Psychology in Tayside and The University of Edinburgh. We would like to investigate factors that may influence the way a person responds to a questionnaire commonly used in clinical psychology (The Young Schema Questionnaire-Short Form). Psychologists often use this questionnaire to assess clients' difficulties and also as part of therapy. By gaining a clearer understanding of such influences, we hope that this will aid therapists in their use of the questionnaire and their interpretation of their clients' responses. Specifically, we are investigating the effect of mood upon responding to this questionnaire and will be approaching potential participants who may and may not be experiencing depressed mood. Participants will have a range of different mood levels. This project is also being conducted as part of the Doctorate in Clinical Psychology at The University of Edinburgh.
What Does The Study Entail?
As part of this study we would like to ask you to fill in some questionnaires relating to mood, anxiety, and beliefs you may or may not have about yourself and others. You will be asked to rate how well some of the questions describe you. Examples of such questions are 'I find myself clinging to people I'm close to, because I'm afraid they'll leave me' and 'I always feel on the outside of groups'. You will be asked to fill out these questionnaires at home so you can take your time completing them. It is estimated that this should take around 30-45 minutes. You can return them, sealed in a stamped addressed envelope provided. You will not be required to put your name on the questionnaires as they will be coded so that the researcher, Fiona Gibney, and psychologist, Caroline Guthrie, are the only people who can identify them as your own.

Do I have to take part?
It is up to you to decide whether or not to take part. If you do, you will be given this information sheet to keep and will be asked to sign a consent form. You are free to withdraw at any time and without giving a reason. A decision to withdraw at any time, or a decision not to take part, will not affect the standard of any future care you may receive. This study is entirely separate from any contact you have with health services.

What will happen to the information collected in the study?
If you are willing to take part in the study all information about you and the responses that you give on the questionnaires will be confidential with no names or personal information being used in the write up of the study. The information you give will be collated with other responses to assess whether mood influences how people respond to questions on the Young Schema Questionnaire-Short Form. The information you provide will not be shared with any other health professionals.

Will my taking part in this study be kept confidential?
Yes. All information which is collected about you during the course of the research will be kept strictly confidential. Data will be stored on a password protected computer with no personal identifying information. Returned consent forms and questionnaires will be stored separately in locked filing cabinets. All identifying information will be removed from the questionnaires. Access to the questionnaires will only be granted to the principle researcher, Fiona Gibney, and clinical psychologist, Caroline Guthrie. If you reveal information that gives cause for concern regarding your safety or the safety of others, the researcher and clinical psychologist may be obliged to breach confidentiality in an attempt to ensure the safety and wellbeing of yourself or others.
**What are the possible discomforts or risks?**

Some questions in the questionnaires may identify areas of difficulty or feelings that you had not fully considered before. If this happens and you are having difficulty coping with them please feel welcome to contact either myself, Fiona Gibney, principle researcher and trainee clinical psychologist, or Caroline Guthrie, clinical psychologist, who may provide advice and support. Additionally, you may choose to discuss any issues during your routine contact with the Clinical Psychology Department.

Outside support: The Samaritans provide a 24 hour support line if you are in crisis, despairing or suicidal. Telephone: 0845 790 90 90. Web: www.samaritans.org.uk

**What are your rights?**

Participation in the study is entirely voluntary and you are free to refuse to take part or to withdraw from the study at any time without having to provide a reason. Your decision whether or not to participate in the study will have no influence on any current or future psychological or medical care you receive. It will also have no influence on your relationship with any health care staff you are involved with.

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If you are willing to take part in this study please complete the consent form on the next page and return it to Fiona Gibney at the address below by (date). When we receive your consent form we will send you the questionnaires to complete. If you wish a copy of the overall results from the study you can get this on request from contacting the number below. The study will be completed by August 2006.

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The Effect of Depression and Mood on Filling Out The Young Schema Questionnaire-Short Form.

University Participant Information Sheet

You are being invited to take part in a research study as a healthy volunteer control for comparison with people who are currently, or were previously depressed and treated in Tayside with psychological therapy and/or medication. We believe it to be of potential importance. However, before you decide whether or not you wish to participate, we need to be sure that you understand why we are doing this study and what it would involve if you agreed. We are therefore providing you with the following information. Please take time to read this information carefully and be sure to ask any questions you might have. In addition, talk to others about the study if you wish. We will do our best to explain and to provide any further information you may require now or in the future. You do not have to make any immediate decision. Ask us if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part.

What is the background to the study?

This study is being conducted through The Department of Clinical Psychology in Tayside and The University of Edinburgh. We would like to investigate factors that may influence the way a person responds to a questionnaire commonly used in clinical psychology (The Young Schema Questionnaire-Short Form). Psychologists often use this questionnaire to assess clients’ difficulties and also as part of therapy. By gaining a clearer understanding of such influences, we hope that this will aid therapists in their use of the questionnaire and their interpretation of their clients’ responses. Specifically, we are investigating the effect of mood upon responding to this questionnaire and will be approaching potential participants who may and may not be experiencing depressed mood. Participants will have a range of different mood levels. This project is also being conducted as part of the Doctorate in Clinical Psychology at The University of Edinburgh.
What Does The Study Entail?
As part of this study we would like to ask you to fill in some questionnaires relating to mood, anxiety, and beliefs you may or may not have about yourself and others. You will be asked to rate how well some of the questions describe you. Examples of such questions are 'I find myself clinging to people I'm close to, because I'm afraid they'll leave me' and 'I always feel on the outside of groups'. You will be asked to fill out these questionnaires at home so you can take your time completing them. It is estimated that this should take around 30-45 minutes. You can return them, sealed in a stamped addressed envelope provided. You will not be required to put your name on the questionnaires as they will be coded so that the researcher, Fiona Gibney, and psychologist, Caroline Guthrie, are the only people who can identify them as your own.

Do I have to take part?
It is up to you to decide whether or not to take part. If you do, you will be given this information sheet to keep and will be asked to sign a consent form. You are free to withdraw at any time and without giving a reason. A decision to withdraw at any time, or a decision not to take part, will not affect the standard of any future care you may receive. This study is entirely separate from any contact you have with health services.

What will happen to the information collected in the study?
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Yes. All information which is collected about you during the course of the research will be kept strictly confidential. Data will be stored on a password protected computer with no personal identifying information. Returned consent forms and questionnaires will be stored separately in locked filing cabinets. All identifying information will be removed from the questionnaires. Access to the questionnaires will only be granted to the principle researcher, Fiona Gibney, and clinical psychologist, Caroline Guthrie. If you reveal information that gives cause for concern regarding your safety or the safety of others, the researcher and clinical psychologist may be obliged to breach confidentiality in an attempt to ensure the safety and wellbeing of yourself or others.
What are the possible discomforts or risks?

Some questions in the questionnaires may identify areas of difficulty or feelings that you had not fully considered before. If this happens and you are having difficulty coping with them please feel welcome to contact either myself, Fiona Gibney, principle researcher and trainee clinical psychologist, or Caroline Guthrie, clinical psychologist, who may provide advice and support. Additionally, you may choose to discuss any issues during your routine contact with the Clinical Psychology Department.

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If you are willing to take part in this study please complete the consent form on the next page and return it to Fiona Gibney at the address below by (date). When we receive your consent form we will send you the questionnaires to complete. If you wish a copy of the overall results from the study you can get this on request from contacting the number below. The study will be completed by August 2006.

Complaints

If you have a concern about any aspect of this study, you should ask to speak with the researchers who will do their best to answer your questions (see contacts below). If you remain unhappy and wish to complain formally, you can do this through the NHS Complaints Procedure. Details can be obtained from the hospital.
If you have any difficulties or further questions please contact me on the number below, or leave a message for me to get back to you.

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Thank you for taking time to read and consider the above information. If you are willing to take part in the study please take time to carefully read and complete the consent form to indicate your consent to participate.
Appendix 3

Consent Form for Currently Depressed and Recovered Depressed Participants
The Effect of Mood and Depression Status on Responses to The Young Schema Questionnaire (Short Form)

Consent Form

Please tick (✓) appropriate box

Have you read and understood the Participant Information Sheet? Yes □ No □

Have you been given an opportunity to ask questions and further discuss this study? Yes □ No □

Have you received satisfactory answers to all of your questions? Yes □ No □

Have you now received enough information about this study? Yes □ No □

Who have you spoken to? Dr/Mr/Mrs/Miss ..............................................................

Do you understand that your participation is entirely voluntary? Yes □ No □

Do you understand that you are free to withdraw from this study:

- At any time? Yes □ No □
- Without having to give a reason for withdrawing? Yes □ No □
- Without this affecting your present or future medical care? Yes □ No □

Do you agree to any information used in this study being retained for use in future research? Yes □ No □ Not applicable □
Note that it is a statutory requirement that if you agree to take part in the study, your research records and, if necessary, your medical records are available for scrutiny by monitors of the sponsor organisation (which may be the NHS, University or a commercial organisation funding the study) and, in the case of clinical trials of medicines, the UK Regulatory Authorities.

Do you agree to take part in this study?  
Yes □  No □

Participant's signature .................................................................

Date.................................................................................................

Participant's name in block capital letters ........................................

Telephone contact (Participant) ...................................................... (Home)

Signature witnessed by .................................................................Date .................................................................

Witness name in block capital letters ..............................................

THANK YOU for agreeing to take part in this research
Appendix 4

Consent Form for Never Depressed Participants
The Effect of Mood and Depression Status on Responses to The Young Schema Questionnaire (Short Form)

Consent Form

Please tick (✓) appropriate box

Have you read and understood the Participant Information Sheet? Yes ☐ No ☐

Have you been given an opportunity to ask questions and further discuss this study? Yes ☐ No ☐

Have you received satisfactory answers to all of your questions? Yes ☐ No ☐

Have you now received enough information about this study? Yes ☐ No ☐

Who have you spoken to? Dr/Mr/Mrs/Miss .................................................................

Do you understand that your participation is entirely voluntary? Yes ☐ No ☐

Do you understand that you are free to withdraw from this study:

- At any time? Yes ☐ No ☐

- Without having to give a reason for withdrawing? Yes ☐ No ☐

- Without this affecting your present or future medical care? Yes ☐ No ☐

Do you agree to any information used in this study Being retained for use in future research? Yes ☐ No ☐ Not applicable ☐
Note that it is a statutory requirement that if you agree to take part in the study, your research records and, if necessary, your medical records are available for scrutiny by monitors of the sponsor organisation (which may be the NHS, University or a commercial organisation funding the study) and, in the case of clinical trials of medicines, the UK Regulatory Authorities. 

Do you agree to take part in this study?  
Yes □  No □ 

Participant’s signature .................................................................
Date.................................................................................................
Participant’s name in block capital letters...........................................
Telephone contact (Participant) .............................................. (Home)
Signature witnessed by ........................................... Date................
Witness name in block capital letters ............................................

Please answer the next question by circling the appropriate response.

• Has there ever been a time that lasted at least a week when you felt extremely depressed or sad, that you didn’t care any more or didn’t enjoy anything?  YES/ NO

THANK YOU for agreeing to take part in this research
Appendix 5

The Young Schema Questionnaire-Short Form
INSTRUCTIONS:

Listed below are statements that a person might use to describe himself or herself. Please read each statement and decide how well it describes you. When you are not sure, base your answer on what you emotionally feel, not on what you think to be true. Choose the highest rating from 1 to 6 that describes you and write the number in the space before the statement.

RATING SCALE:
1 = Completely untrue of me
2 = Mostly untrue of me
3 = Slightly more true than untrue
4 = Moderately true of me
5 = Mostly true of me
6 = Describes me perfectly

1. _____ Most of the time, I haven't had someone to nurture me, share him/herself with me, or care deeply about everything that happens to me.

2. _____ In general, people have not been there to give me warmth, holding, and affection.

3. _____ For much of my life, I haven't felt that I am special to someone.

4. _____ For the most part, I have not had someone who really listens to me, understands me, or is tuned into my true needs and feelings.

5. _____ I have rarely had a strong person to give me sound advice or direction when I'm not sure what to do.

6. _____ I find myself clinging to people I'm close to, because I'm afraid they'll leave me.

7. _____ I need other people so much that I worry about losing them.
8. I worry that people I feel close to will leave me or abandon me.
9. When I feel someone I care for pulling away from me, I get desperate.
10. Sometimes I am so worried about people leaving me that I drive them away.
11. I feel that people will take advantage of me.
12. I feel that I cannot let my guard down in the presence of other people, or else they will intentionally hurt me.
13. It is only a matter of time before someone betrays me.
14. I am quite suspicious of other people's motives.
15. I'm usually on the lookout for people's ulterior motives.
16. I don't fit in.
17. I'm fundamentally different from other people.
18. I don't belong; I'm a loner.
19. I feel alienated from other people.
20. I always feel on the outside of groups.
21. No man/woman I desire could love me one he/she saw my defects.
22. No one I desire would want to stay close to me if he/she knew the real me.
23. I'm unworthy of the love, attention, and respect of others.
24. I feel that I'm not lovable.
25. I am too unacceptable in very basic ways to reveal myself to other people.
26. Almost nothing I do at work (or school) is as good as other people can do.
27. I'm incompetent when it comes to achievement.
28. Most other people are more capable than I am in areas of work and achievement.
29. I'm not as talented as most people are at their work.
30. I'm not as intelligent as most people when it comes to work (or school).
31. I do not feel capable of getting by on my own in everyday life.
32. I think of myself as a dependent person, when it comes to everyday functioning.
33. I lack common sense.
34. My judgment cannot be relied upon in everyday situations.
35. I don’t feel confident about my ability to solve everyday problems that come up.
36. I can’t seem to escape the feeling that something bad is about to happen.
37. I feel that a disaster (natural, criminal, financial, or medical) could strike at any moment.
38. I worry about being attacked.
39. I worry that I’ll lose all my money and become destitute.
40. I worry that I’m developing a serious illness, even though nothing serious has been diagnosed by a physician.
41. I have not been able to separate myself from my parent(s), the way other people my age seem to.
42. My parent(s) and I tend to be overinvolved in each other’s lives and problems.
43. It is very difficult for my parent(s) and me to keep intimate details from each other, without feeling betrayed or guilty.
44. I often feel as if my parent(s) are living through me—I don’t have a life of my own.
45. I often feel that I do not have a separate identity from my parent(s) or partner.
46. I think that if I do what I want, I’m only asking for trouble.
47. I feel that I have no choice but to give in to other people’s wishes, or else they will retaliate or reject me in some way.
48. In relationships, I let the other person have the upper hand.
49. I’ve always let others make choices for me, so I really don’t know what I want for myself.
50. I have a lot of trouble demanding that my rights be respected and that my feelings be taken into account.
51. I’m the one who usually ends up taking care of the people I’m close to.
52. ____ I am a good person because I think of others more than of myself.
53. ____ I'm so busy doing for the people that I care about, that I have little time for myself.
54. ____ I've always been the one who listens to everyone else's problems.
55. ____ Other people see me as doing too much for others and not enough for myself.
56. ____ I am too self-conscious to show positive feelings to others (e.g., affection, showing I care).
57. ____ I find it embarrassing to express my feelings to others.
58. ____ I find it hard to be warm and spontaneous.
59. ____ I control myself so much that people think I am unemotional.
60. ____ People see me as uptight emotionally.
61. ____ I must be the best at most of what I do; I can't accept second best.
62. ____ I try to do my best; I can't settle for "good enough."
63. ____ I must meet all my responsibilities.
64. ____ I feel there is constant pressure for me to achieve and get things done.
65. ____ I can't let myself off the hook easily or make excuses for my mistakes.
66. ____ I have a lot of trouble accepting "no" for an answer when I want something from other people.
67. ____ I'm special and shouldn't have to accept many of the restrictions placed on other people.
68. ____ I hate to be constrained or kept from doing what I want.
69. ____ I feel that I shouldn't have to follow the normal rules and conventions other people do.
70. ____ I feel that what I have to offer is of greater value than the contributions of others.
71. ____ I can't seem to discipline myself to complete routine or boring tasks.
72. ____ If I can't reach a goal, I become easily frustrated and give up.
73. _____ I have a very difficult time sacrificing immediate gratification to achieve a long-range goal.

74. _____ I can't force myself to do things I don't enjoy, even when I know it's for my own good.

75. _____ I have rarely been able to stick to my resolutions.

*is
Appendix 6

Visual Analogue Mood Scale
Please rate your current mood by placing a cross (X) at a position on the line below that best represents how you feel. Please also indicate a number between 0-100 that would represent your current mood (0 indicates your lowest mood and 100 indicates your best mood).
Appendix 7

Beck Depression Inventory
## Instructions: This questionnaire consists of 21 groups of statements. Please read each group of statements carefully, and then pick out the one statement in each group that best describes the way you have been feeling during the past two weeks, including today. Circle the number beside the statement you have picked. If several statements in the group seem to apply equally well, circle the highest number for that group. Be sure that you do not choose more than one statement for any group, including Item 16 (Changes in Sleeping Pattern) or Item 18 (Changes in Appetite).

### 1. Sadness

<table>
<thead>
<tr>
<th>Number</th>
<th>Statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>I do not feel sad.</td>
</tr>
<tr>
<td>1</td>
<td>I feel sad much of the time.</td>
</tr>
<tr>
<td>2</td>
<td>I am sad all the time.</td>
</tr>
<tr>
<td>3</td>
<td>I am so sad or unhappy that I can't stand it.</td>
</tr>
</tbody>
</table>

### 2. Pessimism

<table>
<thead>
<tr>
<th>Number</th>
<th>Statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>I am not discouraged about my future.</td>
</tr>
<tr>
<td>1</td>
<td>I feel more discouraged about my future than I used to be.</td>
</tr>
<tr>
<td>2</td>
<td>I do not expect things to work out for me.</td>
</tr>
<tr>
<td>3</td>
<td>I feel my future is hopeless and will only get worse.</td>
</tr>
</tbody>
</table>

### 3. Past Failure

<table>
<thead>
<tr>
<th>Number</th>
<th>Statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>I do not feel like a failure.</td>
</tr>
<tr>
<td>1</td>
<td>I have failed more than I should have.</td>
</tr>
<tr>
<td>2</td>
<td>As I look back, I see a lot of failures.</td>
</tr>
<tr>
<td>3</td>
<td>I feel I am a total failure as a person.</td>
</tr>
</tbody>
</table>

### 4. Loss of Pleasure

<table>
<thead>
<tr>
<th>Number</th>
<th>Statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>I get as much pleasure as I ever did from the things I enjoy.</td>
</tr>
<tr>
<td>1</td>
<td>I don't enjoy things as much as I used to.</td>
</tr>
<tr>
<td>2</td>
<td>I get very little pleasure from the things I used to enjoy.</td>
</tr>
<tr>
<td>3</td>
<td>I can't get any pleasure from the things I used to enjoy.</td>
</tr>
</tbody>
</table>

### 5. Guilty Feelings

<table>
<thead>
<tr>
<th>Number</th>
<th>Statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>I don't feel particularly guilty.</td>
</tr>
<tr>
<td>1</td>
<td>I feel guilty over many things I have done or should have done.</td>
</tr>
<tr>
<td>2</td>
<td>I feel quite guilty most of the time.</td>
</tr>
<tr>
<td>3</td>
<td>I feel guilty all of the time.</td>
</tr>
</tbody>
</table>

### 6. Punishment Feelings

<table>
<thead>
<tr>
<th>Number</th>
<th>Statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>I don't feel I am being punished.</td>
</tr>
<tr>
<td>1</td>
<td>I feel I may be punished.</td>
</tr>
<tr>
<td>2</td>
<td>I expect to be punished.</td>
</tr>
<tr>
<td>3</td>
<td>I feel I am being punished.</td>
</tr>
</tbody>
</table>

### 7. Self-Dislike

<table>
<thead>
<tr>
<th>Number</th>
<th>Statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>I feel the same about myself as ever.</td>
</tr>
<tr>
<td>1</td>
<td>I have lost confidence in myself.</td>
</tr>
<tr>
<td>2</td>
<td>I am disappointed in myself.</td>
</tr>
<tr>
<td>3</td>
<td>I dislike myself.</td>
</tr>
</tbody>
</table>

### 8. Self-Criticalness

<table>
<thead>
<tr>
<th>Number</th>
<th>Statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>I don't criticize or blame myself more than usual.</td>
</tr>
<tr>
<td>1</td>
<td>I am more critical of myself than I used to be.</td>
</tr>
<tr>
<td>2</td>
<td>I criticize myself for all of my faults.</td>
</tr>
<tr>
<td>3</td>
<td>I blame myself for everything bad that happens.</td>
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</tbody>
</table>

### 9. Suicidal Thoughts or Wishes

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<thead>
<tr>
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<tbody>
<tr>
<td>0</td>
<td>I don't have any thoughts of killing myself.</td>
</tr>
<tr>
<td>1</td>
<td>I have thoughts of killing myself, but I would not carry them out.</td>
</tr>
<tr>
<td>2</td>
<td>I would like to kill myself.</td>
</tr>
<tr>
<td>3</td>
<td>I would kill myself if I had the chance.</td>
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### 10. Crying

<table>
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<th>Number</th>
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<tbody>
<tr>
<td>0</td>
<td>I don't cry anymore than I used to.</td>
</tr>
<tr>
<td>1</td>
<td>I cry more than I used to.</td>
</tr>
<tr>
<td>2</td>
<td>I cry over every little thing.</td>
</tr>
<tr>
<td>3</td>
<td>I feel like crying, but I can't.</td>
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</tbody>
</table>
11. Agitation
0 I am no more restless or wound up than usual.
1 I feel more restless or wound up than usual.
2 I am so restless or agitated that it's hard to stay still.
3 I am so restless or agitated that I have to keep moving or doing something.

12. Loss of Interest
0 I have not lost interest in other people or activities.
1 I am less interested in other people or things than before.
2 I have lost most of my interest in other people or things.
3 It's hard to get interested in anything.

13. Indecisiveness
0 I make decisions about as well as ever.
1 I find it more difficult to make decisions than usual.
2 I have much greater difficulty in making decisions than I used to.
3 I have trouble making any decisions.

14. Worthlessness
0 I do not feel I am worthless.
1 I don't consider myself as worthwhile and useful as I used to.
2 I feel more worthless as compared to other people.
3 I feel utterly worthless.

15. Loss of Energy
0 I have as much energy as ever.
1 I have less energy than I used to have.
2 I don't have enough energy to do very much.
3 I don't have enough energy to do anything.

16. Changes in Sleeping Pattern
0 I have not experienced any change in my sleeping pattern.
1a I sleep somewhat more than usual.
1b I sleep somewhat less than usual.
2a I sleep a lot more than usual.
2b I sleep a lot less than usual.
3a I sleep most of the day.
3b I wake up 1–2 hours early and can't get back to sleep.

17. Irritability
0 I am no more irritable than usual.
1 I am more irritable than usual.
2 I am much more irritable than usual.
3 I am irritable all the time.

18. Changes in Appetite
0 I have not experienced any change in my appetite.
1a My appetite is much less than usual.
1b My appetite is somewhat greater than usual.
2a My appetite is somewhat less than before.
2b My appetite is much greater than usual.
3a I have no appetite at all.
3b I crave food all the time.

19. Concentration Difficulty
0 I can concentrate as well as ever.
1 I can't concentrate as well as usual.
2 It's hard to keep my mind on anything for very long.
3 I find I can't concentrate on anything.

20. Tiredness or Fatigue
0 I am no more tired or fatigued than usual.
1 I get more tired or fatigued more easily than usual.
2 I am too tired or fatigued to do a lot of the things I used to do.
3 I am too tired or fatigued to do most of the things I used to do.

21. Loss of Interest in Sex
0 I have not noticed any recent change in my interest in sex.
1 I am less interested in sex than I used to be.
2 I am much less interested in sex now.
3 I have lost interest in sex completely.
Appendix 8

Beck Anxiety Inventory
Here is a list of common symptoms of anxiety. Please carefully read each item in the list. Indicate how much you have been bothered by each symptom during the PAST WEEK, INCLUDING TODAY, by placing an X in the corresponding space in the column next to each symptom.

1. Numbness or tingling.
2. Feeling hot.
3. Wobbliness in legs.
4. Unable to relax.
5. Fear of the worst happening.
6. Dizzy or lightheaded.
7. Heart pounding or racing.
8. Unsteady.
11. Feelings of choking.
14. Fear of losing control.
15. Difficulty breathing.
17. Scared.
18. Indigestion or discomfort in abdomen.
19. Faint.
20. Face flushed.
21. Sweating (not due to heat).
Appendix 9

Descriptive Statistics
Appendix 9

Descriptive Statistics

Table 9.1 CD Group Descriptive Statistics For Distribution of Measures and Subscales

<table>
<thead>
<tr>
<th>Measure</th>
<th>N</th>
<th>Min</th>
<th>Max</th>
<th>Mean</th>
<th>Std. Dev</th>
<th>Skewness Statistic</th>
<th>Skewness Std. Error</th>
<th>Kurtosis Statistic</th>
<th>Kurtosis Std. Error</th>
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Table 9.2 RD Group Descriptive Statistics For Distribution of Measures and Subscales

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Table 9.3 ND Group Descriptive Statistics For Distribution of Measures and Subscales

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<td>1.34</td>
<td>0.7</td>
<td>0.33</td>
<td>0.08</td>
<td>0.51</td>
<td>0.11</td>
<td>0.99</td>
</tr>
<tr>
<td>Subjugation</td>
<td>20</td>
<td>0</td>
<td>0.96</td>
<td>0.4</td>
<td>0.29</td>
<td>0.13</td>
<td>0.51</td>
<td>-0.9</td>
<td>0.99</td>
</tr>
<tr>
<td>Self-Sacrifice</td>
<td>20</td>
<td>0.34</td>
<td>1.44</td>
<td>0.9</td>
<td>0.36</td>
<td>0.2</td>
<td>0.51</td>
<td>-1.44</td>
<td>0.99</td>
</tr>
<tr>
<td>Unrelenting Standards</td>
<td>20</td>
<td>0.18</td>
<td>1.39</td>
<td>0.97</td>
<td>0.35</td>
<td>-0.93</td>
<td>0.51</td>
<td>-0.02</td>
<td>0.99</td>
</tr>
<tr>
<td>Emotional Inhibition</td>
<td>20</td>
<td>0</td>
<td>1.03</td>
<td>0.36</td>
<td>0.36</td>
<td>0.47</td>
<td>0.51</td>
<td>-1.28</td>
<td>0.99</td>
</tr>
</tbody>
</table>
Appendix 10

Non-Parametric Results
Appendix 10

Non-Parametric Results

Recovered Depressed participants' responses on the Beck Anxiety Inventory (BAI) were positively skewed outside the normal limits of distribution. Additionally, 7 of the 15 subscales of the Young Schema Questionnaire-Short Form (YSQ-S) had at least one group with skewed data. Therefore, non-parametric analyses were carried out on these data sets.

Mann-Whitney independent samples tests were carried out on BAI scores to compare scores between currently depressed (CD), recovered depressed (RD), and never depressed (ND) participants. In order to reduce the likelihood of a type 1 error through multiple comparisons, the significance level of 0.05 was assessed to account for 3 comparisons and was set at 0.017. Results showed that there was a significant difference between CD and RD participants, CD and ND participants, and no differences between RD and ND participants. Table 10.1 displays these findings. These results were as expected in relation to the screening procedure for the presence or absence of anxiety symptoms, and the allocation of participants to groups. These findings also support the findings from parametric tests (chapter 7, pp 77-86).

Table 10.1 Mann-Whitney Paired Comparisons

<table>
<thead>
<tr>
<th></th>
<th>CD vs RD</th>
<th>CD vs ND</th>
<th>RD vs ND</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAI</td>
<td>( U=2^{**}, p&lt;0.001 )</td>
<td>( U=2^{**}, p&lt;0.001 )</td>
<td>( U=121, p=0.7 )</td>
</tr>
</tbody>
</table>

*Significant at the 0.05 level (adjusted level = 0.003), two-tailed

**Significant at the 0.01 level (adjusted level = 0.017), two-tailed
To compare differences between groups on the abnormally distributed subscales of the YSQ-S, a Kruskal-Wallis one-way analysis of variance was conducted on each subscale. Significant differences were found in 6 of 7 subscales: abandonment ($x^2 = 19.7$, $p < 0.001$), defectiveness ($x^2 = 23.6$, $p < 0.001$), social isolation ($x^2 = 27.2$, $p < 0.001$), dependence/incompetence ($x^2 = 12.9$, $p = 0.002$), vulnerability to harm ($x^2 = 13.2$, $p = 0.001$), self-sacrifice ($x^2 = 7.66$, $p = 0.02$). There were no significant differences between groups on the subscale enmeshment ($x^2 = 0.32$, $p = 0.9$). Mann-Whitney tests were then carried out for paired comparisons. Again, the significance level in the paired comparisons was adjusted to 0.017 to detect differences at the 0.05 level. Table 10.2 displays the results of the paired comparisons. The results supported the findings of the parametric analyses. Table 10.3 presents the results of the parametric analyses for ease of cross referencing findings.
Table 10.2 Mann-Whitney Paired Comparisons.

<table>
<thead>
<tr>
<th></th>
<th>CD vs RD</th>
<th>CD vs ND</th>
<th>RD vs ND</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total scores</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Abandonment</td>
<td>$U=43^*, p&lt;0.001$</td>
<td>$U=50^*, p&lt;0.001$</td>
<td>$U=115, p=0.56$</td>
</tr>
<tr>
<td>Mistrust/Abuse</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emotional Def</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Defectiveness</td>
<td>$U=44.5^*, p=0.001$</td>
<td>$U=39.5^*, p&lt;0.001$</td>
<td>$U=89, p=0.09$</td>
</tr>
<tr>
<td>Social isolation</td>
<td>$U=48^*, p=0.003$</td>
<td>$U=22^*, p&lt;0.001$</td>
<td>$U=63.5^*, p=0.011$</td>
</tr>
<tr>
<td>Dependence/Inc</td>
<td>$U=57^*, p=0.006$</td>
<td>$U=82.5^*, p=0.001$</td>
<td>$U=127.5, p=0.92$</td>
</tr>
<tr>
<td>Vulnerability</td>
<td>$U=62.5^*, p=0.012$</td>
<td>$U=75^*, p=0.001$</td>
<td>$U=111, p=0.47$</td>
</tr>
<tr>
<td>Enmeshment</td>
<td>$U=126, p=0.86$</td>
<td>$U=183.5, p=0.58$</td>
<td>$U=122.5, p=0.72$</td>
</tr>
<tr>
<td>Failure</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Entitlement</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Insufficient S C</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Subjugation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-sacrifice</td>
<td>$U=129, p=0.97$</td>
<td>$U=112^*, p=0.017$</td>
<td>$U=67.5, p=0.02$</td>
</tr>
<tr>
<td>Unrelenting Stds</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emotional Inhib</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Significant at the 0.05 level (adjusted level = 0.003), two-tailed
**Significant at the 0.01 level (adjusted level = 0.017), two-tailed

Table 10.3 Tukey’s Honestly Significant Difference Test of Paired Comparisons

<table>
<thead>
<tr>
<th></th>
<th>CD vs RD</th>
<th>CD vs ND</th>
<th>RD vs ND</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total scores</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Abandonment</td>
<td>$0.74^*, p &lt; 0.001$</td>
<td>$0.85^*, p &lt; 0.001$</td>
<td>$0.11, p = 0.8$</td>
</tr>
<tr>
<td>Mistrust/Abuse</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emotional Def</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Defectiveness</td>
<td>$0.67^*, p &lt; 0.001$</td>
<td>$0.87^*, p &lt; 0.001$</td>
<td>$0.2, p = 0.4$</td>
</tr>
<tr>
<td>Social isolation</td>
<td>$0.65^*, p &lt; 0.001$</td>
<td>$1.03^*, p &lt; 0.001$</td>
<td>$0.38^*, p = 0.05$</td>
</tr>
<tr>
<td>Dependence/Inc</td>
<td>$0.55^*, p = 0.001$</td>
<td>$0.57^*, p &lt; 0.001$</td>
<td>$0.02, p = 0.9$</td>
</tr>
<tr>
<td>Vulnerability</td>
<td>$0.43^*, p = 0.02$</td>
<td>$0.56^*, p &lt; 0.001$</td>
<td>$0.13, p = 0.67$</td>
</tr>
<tr>
<td>Enmeshment</td>
<td>$0, p = 1$</td>
<td>$0, p = 1$</td>
<td>$0.01, p = 1$</td>
</tr>
<tr>
<td>Failure</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Entitlement</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Insufficient S C</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Subjugation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-sacrifice</td>
<td>$0, p = 1$</td>
<td>$0.31^*, p = 0.03$</td>
<td>$0.31, p = 0.06$</td>
</tr>
<tr>
<td>Unrelenting Stds</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emotional Inhib</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Significant at the 0.05 level, two-tailed
**Significant at the 0.01 level, two-tailed