Early Maladaptive Schema and
Self-Control Behaviour
for Individuals with Bipolar Disorder

Thesis submitted to The University of Leicester
Centre for Applied Psychology Clinical Section
Faculty of Medicine
in partial fulfilment of the degree of Doctor in Clinical Psychology

June 2004

Eleanor Carpenter
Acknowledgements

Special thanks go to Dr. Sandra George, for her inspiration, guidance and support throughout this project, and for sparking my interest in bipolar disorder all those years ago. Appreciation goes to Dr. Steve Allen for his expert tuition, time and patience. I am grateful for the generosity of all the clients who took part in this research. It is their experiences that we learn from. A huge thanks to all my friends and family for their support, especially Yann, without whose unfailing love and encouragement my sanity would never have remained in tact!
## Contents

Contents of Appendices ................................................................. ii

List of Figures ................................................................. iii

List of Tables ................................................................. iv

Abstract ..................................................................................... v

1. Introduction ................................................................................. 1
   1.1 Bipolar disorder
   1.2 Overview of the treatment of bipolar disorder
   1.3 Cognitive style of individuals with bipolar disorder
   1.4 Cognitive behavioural model of bipolar disorder
   1.5 Early maladaptive schema and schema-focussed therapy
   1.6 Self-control behaviours (learned resourcefulness) and bipolar disorder
   1.7 Summary
   1.8 Research questions

2. Method .................................................................................... 42
   2.1 Design
   2.2 Participants
   2.3 Procedure
   2.4 Instruments

3. Results .................................................................................... 53
   3.1 Descriptive statistics
   3.2 Mood
   3.3 Self-Control Behaviour (SCB)
   3.4 Early maladaptive schema (EMS)
   3.5 Relationship between EMS and SCB
   3.6 Supplementary hypothesis testing
   3.7 Relationship of results to hypotheses

4. Discussion .................................................................................. 72
   4.1 Summary of main findings
   4.2 Interpretation of research findings
   4.3 Clinical relevance
   4.4 Strengths of this study
   4.5 Limitations of this study
   4.6 Summary of suggestions for future research
   4.7 Summary of conclusions

5. References ................................................................................. 96

6. Appendices ............................................................................. 108
### Contents of Appendices

<table>
<thead>
<tr>
<th>Appendix</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appendix A</td>
<td>DSM-IV criteria for bipolar disorder</td>
<td>109</td>
</tr>
<tr>
<td>Appendix B</td>
<td>Recruitment letter</td>
<td>110</td>
</tr>
<tr>
<td>Appendix C</td>
<td>Information sheet for potential participants</td>
<td>111</td>
</tr>
<tr>
<td>Appendix D</td>
<td>Consent forms for potential participants</td>
<td>113</td>
</tr>
<tr>
<td>Appendix E</td>
<td>Demographics questionnaire</td>
<td>115</td>
</tr>
<tr>
<td>Appendix F</td>
<td>Internal State Scale (ISS)</td>
<td>116</td>
</tr>
<tr>
<td>Appendix G</td>
<td>Self-Control Behaviour Schedule (SCBS)</td>
<td>117</td>
</tr>
<tr>
<td>Appendix H</td>
<td>Young Schema Questionnaire – short form (YSQ-S1)</td>
<td>120</td>
</tr>
<tr>
<td>Appendix I</td>
<td>Internal reliability table for the YSQ-S1</td>
<td>123</td>
</tr>
<tr>
<td>Appendix J</td>
<td>Descriptive statistics for the YSQ-S1</td>
<td>124</td>
</tr>
<tr>
<td>Appendix K</td>
<td>EMS correlation matrix</td>
<td>125</td>
</tr>
</tbody>
</table>
List of Figures

<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Figure 1</td>
<td>Cognitive-behavioural model of bipolar disorder</td>
<td>17</td>
</tr>
<tr>
<td>Figure 2</td>
<td>Proposed explanatory model of bipolar disorder. (Taken from Ball, Mitchell, Malhi, Skillecorn &amp; Smith, 2003.)</td>
<td>32</td>
</tr>
<tr>
<td>Figure 3</td>
<td>Self-regulatory process and activation of self-control behaviours</td>
<td>37</td>
</tr>
<tr>
<td>Figure 4</td>
<td>Error bar chart illustrating means and 95% confidence intervals (CI) for the total SCB score in each of the mood state groups.</td>
<td>57</td>
</tr>
<tr>
<td>Figure 5</td>
<td>Prevalence of EMS subtypes in the bipolar sample</td>
<td>61</td>
</tr>
<tr>
<td>Figure 6</td>
<td>Error bar chart illustrating means and 95% confidence intervals (CI) for the total EMS score in each of the mood state groups.</td>
<td>63</td>
</tr>
</tbody>
</table>
List of Tables

Table 1. Labels attributed to schema domains and early maladaptive schemas (Young, Klosko & Weishaar, 2003) 24

Table 2. Summary of participant demographics 43

Table 3. Cronbach’s alpha coefficients for the Internal State Scale (ISS). 46

Table 4. Types of medication taken by participants. 55

Table 5. Mean subscale scores of The Internal State Scale (ISS) 56

Table 6. One-way analysis of variance (ANOVA) and associated effect size for effect of mood state on self-control behaviour. 58

Table 7. Means and standard deviations for the bipolar group in the present study compared to normative data using a z test. 60

Table 8. Kruskal-Wallis Test of Mood differences based on the ISS with grouping variable EMS total score (n = 41) including all 15 schemas. 62

Table 9. Kruskal-Wallis Test of Mood differences based on the ISS with grouping variable EMS total score (n = 41) for the conditional schemas only 63

Table 10. Significant Correlations of Self-Sacrifice and Unrelenting Standards EMS 64

Table 11. Correlation matrix for YSQ-S1 subscales with SCBS total score (n = 41) including partial correlation matrix controlling for mood. 65

Table 12. Correlation matrix for YSQ-S1 subscales, SCBS total score, and demographics (n = 41). 67
Early Maladaptive Schema and Self-Control Behaviour for Individuals with Bipolar Disorder

Abstract

Aims and objectives
Bipolar disorder is a severe and enduring mental illness with a high incidence of long-standing interpersonal and psychosocial difficulties that extend beyond the features of manic and depressive episodes. Research into the cognitive style of individuals with a bipolar disorder suggests depressogenic/optimistic attributional style, perfectionism, sociotropy, autonomy and maladaptive schemas play an important role in the disorder, and how individuals cope with it. The presence of early maladaptive schema (EMS) in the bipolar population has so far not been researched. The aim of the present study was to investigate what types of schema are pertinent for this group, and the relationship between schema and individuals' coping style (self-control behaviours).

Method
A within participant design involved 41 individuals with a diagnosis of bipolar disorder completing the Young Schema Questionnaire-short form, the Self-Control Behaviour Schedule, and the Internal State Scale. Data were analysed using correlation and analysis of variance. EMS data were compared to normative EMS data.

Results
Self-Sacrifice and Unrelenting Standards were significantly prevalent for this sample. Emotional Deprivation was found to be present, but not significantly different from other EMS. There was a significant relationship between EMS and self-control behaviour.

Conclusions
The clinical and research implications for the psychological assessment and treatment of individuals with a bipolar disorder are discussed. Individuals with bipolar disorder showed overall significantly higher levels of EMS compared to the normal population. The most prevalent EMS found in this bipolar group were Unrelenting Standards and Self-Sacrifice. The clinical and research implications are discussed, particularly in relation to using the YSQ-S1 and schema-focussed therapy with people with a diagnosis of bipolar disorder.

†Thesis submitted to The University of Leicester Psychology Department, Clinical Section, by Eleanor Carpenter. June 2004
1. Introduction

This section provides the reader with a brief introduction to bipolar disorder, including epidemiology, aetiology, and treatment. An overview of the research base on the cognitive style in bipolar disorder is discussed, along with a presentation of the cognitive behavioural model. A proposal is put forward for a more integrative model to explain the onset and course of the disorder, involving the concept of early maladaptive schema (Young, 1990). The theoretical and clinical implications for this are discussed and an outline of the research questions addressed in this study are presented.

1.1 Bipolar disorder

Bipolar disorder is a severe and enduring form of mental illness, characterised by a series of affective highs and lows with some states combining feelings of mania and depression (known as mixed state). The illness usually follows a cyclical pattern of relapse, with a significant proportion of individuals experiencing inter-episode subsyndromal symptoms. It is thought that throughout the course of the illness, a "kindling effect" occurs meaning that episodes of mania and depression require less and less provocation from known triggers over time. Episodic triggers are most commonly stress, changes in routine, and physical illness.

Bipolar Disorders are thought to have an incidence of 1.2% (Goodwin & Jamison, 1990) although increasing numbers of people are being diagnosed with this disorder (George, 1998; Tohen & Grundy, 1999). Unlike unipolar depression, bipolar disorder is thought to effect equal numbers of males and females. The national strategic
framework for mental health cites bipolar disorder as one of the 10 leading causes of disability worldwide in adults aged between 15 and 44 years of age (Murray & Lopez, 1996). There has been an unusually high rate of suicide attempts in this population (compared to other forms of psychiatric disturbance such as schizophrenia and chronic depression). For example, Goodwin and Jamison (1990) found that in a sample of fifteen studies, suicide attempts varied from 20% to 56%. Individuals with a bipolar disorder are at heightened risk of experiencing employment difficulties, alcohol and substance misuse, social dysfunction (including marital conflict, separation and divorce) and general hopelessness. Research has shown that individuals with a bipolar disorder have a reduced social network, and in particular have fewer “confiding relationships” (Scott, 1995). Goodwin and Jamison (1990) point out that the sense of loss of a relationship for this group is more likely to be accompanied by feelings of guilt or shame, indicating a heightened attribution towards rejection. Socio-economic consequences of untreated bipolar disorder are therefore significant.

It is hypothesised that there are many contributing factors to the onset of bipolar disorder, including genetic factors, biochemical factors, life stress and cognitive style. There is of course an environmental factor involved in the inheritance of bipolar disorder. Twin studies however also indicate a higher risk of bipolar disorder developing in the children of individuals with a diagnosis (e.g. Bertelsen, 1979; Bertelsen, Harvald & Hauge, 1977; Vehmanen, Kaprio & Loennqvist, 1995) further supporting the genetic link theory. There is a range of neurochemical hypotheses that have been studied, although no theory is supported by research over and above any other. For a review of this literature see Bauer & McBride (1996). The traditional
explanatory model of bipolar disorder purports the individual is born with a genetic predisposition to developing the condition, but that it is triggered by stressful life events, illness or substance misuse.

Biological factors cannot fully account for differences in the manifestation of the illness, or in the timing and frequency of symptoms. Researchers have examined the interaction of circadian rhythms and life stress in bipolar episodes (e.g. Ehlers, Frank & Kupfer, 1988; Healy & Williams, 1988). This research has contributed to the theory that stress destabilises critical biological rhythms and renders the individual more vulnerable to episodes of mania and depression. More recent research suggests that it is the interaction between stressful life events and cognitive style that may predict symptomatology in bipolar disorder (Reilly-Harrington, Alloy, Fresco & Whitehouse, 1999). This will be discussed in more detail later in this section (page 8).

To further add to the complex presentation of bipolar disorder (and its management) there is a high incidence of co-morbidity. Among all psychiatric diagnoses, bipolar disorder is second only to antisocial personality disorder in terms of concurrent substance misuse (Newman, Leahy, Beck, Reilly-Harrington & Gyulai, 2002). Estimates range from 21% to as high as 61%. It has been suggested that rather than using substances to self-medicate, individuals are more likely to use stimulants to enhance their 'high', which is consistent with reports of mania leading to an increased desire for stimulation (Tohen & Zarate, 1999). Substance misuse has repeatedly been shown to have a negative impact on medication compliance, medication effectiveness, and the severity and frequency of symptoms.
There is also a high incidence of anxiety disorders, estimated to be at least twice that found in the unipolar depressed population (Himmloch, 1999). Research suggests that the prevalence of personality disorders in individuals with bipolar disorder is approximately 50% (Peselow, Sanfilipo, & Fieve, 1995). More specifically, the authors found that clusters B and C Axis II disorders (e.g. histrionic, narcissistic, antisocial, borderline, obsessive-compulsive, avoidant and dependent disorders) are twice as prevalent as cluster A disorders (paranoid, schizoid and schizotypal). This signifies a high likelihood of long-standing difficulties that go beyond those of a typical affective disorder (such as unipolar depression). The results of this study should be interpreted in the context of other published research however, some of which reports dissimilar findings. Studies that employed standardised instruments, as was the case for Peselow and colleagues (Structured Interview for DSM-III Personality Disorder) tended to find higher rates of personality disorder than studies that used a less structured approach (e.g. Koenigsberg, Kaplan, Gilmore & Cooper, 1985; Fogel & Westlake, 1990). A less structured approach seemed to find rates of approximately 9% to 23%.

These differences highlight, among other things, the difficulty of using the concept of personality disorders to categorise psychological problems. DSM-IV criteria list predominantly behavioural symptomatology and their descriptions do not indicate the complex dynamic between entrenched patterns of relating to others and core self-beliefs.
1.2 Overview of the treatment of bipolar disorder

Despite its increasingly recognised severity and chronicity, there is evidence to suggest that current treatments for bipolar disorder are sub optimal (e.g. Manic Depression Fellowship, 2001). Since the introduction of lithium in 1949, clinicians and researchers have focused on pharmacological approaches to the treatment of bipolar disorder. More recent studies suggest however that while mood stabilisers can be extremely effective for many, treatment with medication alone fails to prevent recurrence of further episodes in a substantial proportion of individuals (Prien, Kupfer, & Mansky, 1984). Medication also fails to address the significant residual functional deficits associated with its long-term course (Coryell, Scheftner, Keller, & Endicott, 1993). Moreover, many individuals are reluctant to commit themselves to the long-term use of medication. Basco and Rush (1996) write that the most common reason for failure in pharmacotherapy is patient non-compliance. They carried out a meta-analysis of lithium studies and their findings showed a 40-60% chance of non-compliance at any given point during treatment.

Given the fact that bipolar disorder is considered to be a life-long illness that causes significant psychological distress to both the individual and their family, as well as having a high socio-economic cost (Das Gupta & Guest, 2002), the development of alternative or adjunctive psychotherapies appears necessary. However, progress in this area has been slow. Lam, Jones, Hayward and Bright, (1999) propose two main reasons for this. Firstly, as mentioned above, somatic conceptualisations of bipolar disorder that have focused on genetic and biological factors have dominated the research agenda. Secondly, a misconception has persisted that individuals with bipolar disorder return to their normal level of psychological and social functioning
between episodes, and that prognosis is good. Goldberg, Harrow, & Grossman (1995) for example, suggest that there is a need to challenge this idea, as do Gittler, Swendsen, Heller, & Hammen (1995), who report that up to 50% of people with a diagnosis of bipolar disorder continue to experience levels of subsyndromal symptoms that are sufficient to cause substantial distress and disruption between major episodes. Individuals receiving standard treatment for a bipolar illness (which is conventionally medication and/or hospitalisation) typically have not had any support between major episodes, and this is the time that psychotherapy might be considered most appropriate.

There has been a strengthening body of research over the past few decades that has been designed to develop and measure the outcome of psychotherapies for long-term mental health problems, such as schizophrenia and chronic depressive disorders. Cognitive behaviour therapy has been shown to be an effective short-term psychotherapy for unipolar depression (e.g. Beck, Rush, Shaw & Emery, 1979; DeRubeis & Crits-Christoph, 1998), and in recent years, its application has expanded to the treatment of long-standing problems, such as personality disorders, eating disorders, and various anxiety disorders. There is now a growing body of research that is looking to establish an empirical basis for the practice of psychotherapies for people with a bipolar disorder. Research has focused on individual and group psychoeducation, group therapy, cognitive behavioural therapy, couples therapy, and interpersonal and social rhythm therapy (IPSRT). However, there is a notable lack of sturdy research so far, and much of the literature over the past 10-15 years appears to be reporting case vignettes, descriptions of untested techniques, uncontrolled studies, and with small numbers (e.g. Palmer, Williams & Adams, 1995; Zaretsky, Segal &
Gemar, 1999). There are a few notable exceptions that have employed more rigorous research methodology involving randomised controlled trials (e.g. Cochran, 1984; Perry, Tarrier, Morriss, McCarthy & Limb, 1999; Scott, 2001). The focus of such therapeutic outcome is often circumscribed to specific targets, for example increasing medication compliance, rather than enhancing overall psychological well-being (as may be the focus of CBT for other types of psychological distress, such as unipolar depression). A recent randomised control trial with 103 participants demonstrated favourable outcome for using CBT for relapse prevention (Lam, Watkins, Hayward, Bright, Wright, Kerr, Parr-Davis & Sham, 2003). The authors found that the CBT group (compared to the control group who received medication and regular psychiatric follow-up) had significantly fewer bipolar episodes, on average shorter episodes, fewer hospital admissions, and higher social functioning over the twelve-month period.

For a comprehensive review of the literature on psychological therapies for bipolar disorder, see Swartz & Frank (2001). Despite the scarcity of robust research, all authors appear to conclude that psychotherapy can be a useful adjunct to medication for the treatment of bipolar disorder, although there is a general consensus that further empirical data is required. No meta-analyses of psychological therapies for bipolar disorder have been conducted and this is a gap in the research that needs to be addressed.
1.3 Cognitive Style of individuals with a bipolar disorder

To date, little research has been done on the role of cognitive processes in bipolar disorders, for the reasons outlined above. Current research is focusing increasingly on cognitive factors of bipolar disorder however, such as attributional styles, perfectionism, elevations in sociotropy and autonomy, and maladaptive schemas. These findings will be discussed in turn and then their implications hypothesised.

1.3.1 Attributional Style

A common depressogenic attributional style has been identified whereby depressed individuals attribute negative events to causes that are internal (self-blame), stable (unchangeable) and global (likely to affect other areas of their life). Research from attribution theory has found support for predispositional cognitive factors as a mediating link between life events and the activation of manic and depressive symptoms. Alloy, Reilly-Harrington, Whitehouse and Zechmeister (1999), ascertained that this connection is particularly evident for individuals with bipolar disorder who tend to make depressogenic attributions. The authors found that in combination with life events, a depressogenic attributional style predicted increases in depressive symptoms, whereas an optimistic attributional style (whereby individuals attribute positive events to internal, stable, global factors) predicted increases in manic or hypomanic symptoms. This finding suggests the cognitive vulnerability-stress hypothesis of the Hopelessness theory of depression might also extend to the prediction of manic or hypomanic symptoms.

Previous studies of depression have found that negative cognitive styles improve as the depression lifts (either as a result of psychotherapy, pharmacotherapy or
naturally). Tentative findings from Alloy et al.'s (1999) study demonstrated that these attributional styles are as evident in euthymic bipolar individuals (i.e. inter-episode), as they are in individuals with unipolar depression, suggesting that this cognitive feature is a trait, rather than a state phenomenon. If attributional style is a trait (i.e. individuals have either a depressogenic or an optimistic attributional style) this does little to explain the affective shift between the mood states during the course of bipolar disorder.

The findings that a depressogenic attributional style is evident as a trait phenomenon should be interpreted with caution also due to their small and exclusive sample size (41 undergraduate students) and the fact that authors relied on self-reported life events, seemingly not taking into account reporting biases due to mood state (ten of their participants were found to be hypomanic). Interestingly, their findings are, however, compatible with the traditional psychodynamic view of mania or hypomanic as being a "defence" or counteraction to underlying depressive tendencies (e.g. Freeman, 1971).

1.3.2 Perfectionism

Perfectionism is the pursuit of excessively high personal standards and rigid adherence to them (Shafran & Mansell, 2001). Perfectionistic individuals tend to evaluate their self-worth in terms of their ability to achieve these high standards and motivation for achievement is fear of failure, rather than desire to succeed. When the level of perfectionistic thinking is high, this fear of failure can often lead to avoidance or procrastination (hindering, among other things, effective problem-solving). Unsurprisingly therefore, there is a strong link between perfectionism, low
self-esteem and depression. Globally, perfectionism encompasses a set of cognitions regarding expectations of self and others, interpretations of events and evaluations of oneself and others. Subtypes have been described as socially prescribed perfectionism (the belief that others set high standards for the self) and other-oriented perfectionism (the belief that others should attain the high standards set for them by oneself). Shafran & Mansell (2001) dismiss the idea of subtypes of perfectionism, rather finding that these are features of perfectionism, and not distinguishable per se.

There is a consensus in the literature on perfectionism developing as a result of four main types of early experience:

1. Overtly critical and demanding parents;
2. Parental expectations and standards of performance are excessively high and criticism is indirect;
3. Parental approval is absent, inconsistent or conditional; and
4. Perfectionistic parents acting as models for perfectionistic attitudes and behaviours.

(Barrow & Moore, 1983)

Perfectionism has been noted in several writings to be a salient feature of bipolar disorder. Lam, Wright and Smith (2004) conducted a study into dysfunctional assumptions of euthymic individuals with a bipolar disorder (n = 143) compared to unipolar depression (n = 109). They found significant differences between the two groups on factors labelled “goal-attainment”, “dependency” and “achievement”. Goal attainment refers to a set of beliefs regarding the desire to have positive affect all the time, of having complete control over one’s own feelings, the value of being
able to solve problems quickly and without a great deal of effort, and the ability to
excel at anything if one tries hard enough. There are therefore clear links with goal
attainment and the concept of perfectionism. Goal attainment beliefs were found in
their study to be significantly more prevalent in the bipolar group.

Scott (1995) noted that high levels of perfectionism are a common underlying
personality trait in individuals with the illness. Newman and his colleagues write of
perfectionism comprising a set of beliefs that can make an individual vulnerable to
dysphoria and despair because it refers to a punitive, unreasonable demand that
things must work out perfectly, along with the belief that nothing else is satisfactory
(Newman et al., 2002). This can lead to a number of clinically salient problems.

Scott (1995) highlighted that this may adversely affect individuals’ ability to accept
the diagnosis and to adhere to medication, as experiences are likely to be viewed as a
personal failure. In a recent study, Scott, Stanton, Garland and Ferrier (2000)
compared the cognitive functioning of 41 euthymic bipolar patients with 20 healthy
control participants. Their study used a comprehensive battery of assessment
measures, comprising the Hamilton Rating Scale for Depression, the
Autobiographical Memory Test, the Mean Ends Problem-solving procedure, the
Beck Depression Inventory, the Dysfunctional Attitude Scale, the Sociotropy
Autonomy Scale and the Rosenberg Self-Esteem Questionnaire. It was the first study
to simultaneously explore key components of Beck’s cognitive vulnerability to
depression in people with a bipolar disorder. A backward step-wise logistic
regression was used to identify cognitive variables that best classified participants as
healthy controls or people with a bipolar disorder. They found that, along with over
general memory, perfectionism was the most robust predictor of membership to the
bipolar group. Newman et al. (2002) suggest that because individuals with a bipolar illness experience more than the average amount of difficulties in their lives, this strive for perfection is likely to lead to exacerbated feelings of failure. There is also evidence that perfectionism in individuals seeking therapy can make the development of an optimal therapeutic relationship all the more difficult to achieve (Zuroff, D.C., Blatt, S.J., Sotsky, S.M., Krupnick, Martin, Sanislow, & Simmons, 2000).

It has been hypothesised that perfectionism plays a role in hindering the problem-solving abilities of individuals who are suicidal (e.g. Blatt, 1995; Scott et al., 2000). Given that suicidality is excessively common for individuals with a bipolar disorder, as mentioned previously, a reduced capacity to problem-solve during times of suicidal ideation is likely to intensify distress and render the individual at greater risk of self-harm. Scott et al. (2000) found that, as has been shown to be the case for unipolar depression, individuals with bipolar disorder in their study (n=41 euthymic patients compared to 20 control subjects) were poor problem-solvers. It is unclear as to whether individuals did not possess problem-solving skills, or whether they were unable to access them. The authors noted a high incidence of over-general autobiographical memory retrieval (again consistent with unipolar depression) and postulated that problem solving may be hindered because of an inability to recall incidents of positive coping in the past. This is considered to be a trait, not a state, phenomenon. Problem solving is also likely to be hindered by maladaptive schema and, at a more macro level, modes (Beck, 1996), as discussed below (page 16).
1.3.3 Sociotropy – Autonomy

Individuals with bipolar disorder have been found to score highly on both dimensions of sociotropy (reliance on relationships with others for gratification, motivation, direction, and modification of ideas and behaviours) and autonomy (reliance on independence, freedom and achievement), (Scott et al., 2000). Again, this is consistent with the cognitive style present in unipolar depression. Newman et al. (2002) write:

Patients with high degrees of sociotropy are hypothesised to be vulnerable to affective disorders when they are confronted with interpersonal difficulties and losses, whereas those with a high degree of autonomy are thought to be more vulnerable when their sense of freedom and achievement is thwarted.

This theory is highly compatible with bipolar disorder as individuals are at a greater risk of suffering interpersonal difficulties and losses (vocational, financial, and in terms of self-identity), and of having their freedom and achievements thwarted through illness experiences.

Beck (1983) postulated that autonomy is more likely to be present during hypomania, when the individual is striving for greater achievement, and sociotropy is more likely to be present during a depressive episode when there is greater emphasis on seeking love and approval from others. This theory remains untested however and suggests that both phenomena are states, not traits. High levels of sociotropy are hypothesised to render individuals yet more vulnerable to perceived or actual rejection, or abandonment by others, whereas autonomy is thought to leave the individual vulnerable to frustration by others or to personal failure (Moore & Blackburn, 1994). In a study investigating the relationship of sociotropy and autonomy to symptoms, cognition and personality in depressed patients, Moore and
Blackburn (1994) found a significant association between sociotropy and the
dysfunctional attitudes relating to “need for social approval” and “perfectionism”.
Autonomy was also strongly associated with perfectionism.

1.3.4 Maladaptive Schema

The role of schemas in bipolar disorder is discussed more comprehensively below
(page 15). However, it is pertinent at this stage to draw together existing literature on
the types of schema that are thought to be prevalent in this population. Beck
describes schemas as fundamental, negative beliefs that implicitly guide cognitive
processing (and therefore also influence affective, physiological, and behavioural
reactions). They function at a deeper level to automatic thoughts, but still require
activation from a stimulating internal or external event.

The presence of sociotropy and autonomy in the bipolar population has already been
suggested. Beck et al. (2002) associate a high degree of sociotropy with the schemas
of unlovability, abandonment and dependence, whereas a tendency towards a high
degree of autonomy is associated with the schemas of incompetence, defectiveness
and, more tentatively, mistrust. There are data to support a specificity hypothesis of
schemas that differentiate emotional and behavioural difficulties (e.g. Leung & Poon,
2001). Personality factors such as self-criticism, interpersonal sensitivity and
perfectionism have been found to be more prevalent in individuals with bipolar
disorder compared to unipolar depression.

However, to date, no research has sought to identify patterns of schema that are
pertinent to individuals with a bipolar disorder, as has been the case for unipolar
depression (for example believing the self to be worthless) and for anxiety disorders (for example believing the world to be a threatening place and the self to be unable to cope with the threat). This is a gap in the current research literature.

1.4 Cognitive behavioural model of bipolar disorder

In Beck’s cognitive theory of depression, negative self-schema organised around themes of inadequacy, failure, loss, and worthlessness serve as risk factors for depressive episodes, which are activated by life events that are deemed stressful by the individual (Beck, 1967). Schemas interact with perceptions of specific life events (stressful or otherwise) to result in a subjective experience that collaborates with the individuals’ biological state to determine affect and behaviour. The interaction between schema and life event is precipitated by biases in information processing that favours the schema. In this way, schemas are conceptualised as maladaptive cognitive biases and distortions.

Although research has found similar cognitive biases in unipolar depression and bipolar disorder, individuals with a bipolar disorder are capable of extreme shifts in their thought content. Beck developed his theory of depression further to hypothesise that mania is characterised by positive self-schema, consisting of unrealistically positive attitudes about themselves, the world, and their future (Beck, 1976). This is known as the Linear Schematic Processing Model. For example, during an episode of depression a negative schema is triggered, directing memory retrieval towards experiences of loss or rejection and biasing attention towards the possibility of failure. Beck believed that during mania, or hypomania, a positive schema is triggered, leading the individual to overestimate self-worth and self-capabilities.
Newman et al. (2002) observed that individuals with bipolar disorder appear to maintain consistent maladaptive schemas that shift polarity along with their moods. For example, if the schema is one of "unlovability", during a depressed episode the individual may feel hated by those around him/her, and during a manic episode, this may shift to feeling loved and adored by everyone. There are thought processes that therefore present as states (long-standing core beliefs) and as traits (responses to environmental triggers and biological activation). The interaction between these states and traits is not adequately explained in the original model, nor does it appear to take into account mixed state bipolar disorder, during which the individual experiences both symptoms of mania and depression concurrently.

Beck subsequently revised this paradigm to what is termed the Integrative Model, to include the concepts of "modes" and "charges" (Beck, 1996; Newman et al., 2002). A mode is an integration of schemas, over-learnt behavioural habits, and entrenched emotional responses. It is a way for the individual to synchronically respond to internal and external demands. Like schemas, modes are primarily automatic and require activation. In other words, modes are triggered by life events and internally driven goals. The result is a state, be it depressed, manic, or mixed. The state is a programmed strategy (coping style) to carry out basic survival skills. This also fits with the psychodynamic view of mania as a defence against distressing id impulses on the ego (e.g. Freeman, 1971). In other words, when faced with a situation that is perceived to be threatening, a state is triggered to try to defend against this threat. The state is considered to be dysfunctional as once triggered, a series of cognitive, affective, behavioural and biological systems are activated which fuel the state further (a vicious cycle ensues), rather than allowing the state to be used only when
necessary. This cycle is depicted by Basco & Rush (1996) in Figure 1, and it incorporates the stress-diathesis model of vulnerability and mood state maintenance.

During episodes of depression and mania there are significant changes in the process and content of cognitions. Commonly experienced changes occur in the speed, clarity, organisation of thought (affecting judgement and insight), and it is biased towards negative content in depression or positive/paranoid content in mania. Emotional systems are activated accordingly; typically this will encompass dysphoria in depression and euphoria or irritability in mania. As hopelessness is a feature of depression, anger can be a feature of mania. Such cognitive and affective shifts will lead to a decrease in psychosocial functioning, for example reduced activity or interpersonal conflict. Common resulting psychosocial problems include financial difficulties, problems with intimacy (withdrawal from contact or
promiscuity being the extremes of each polarity) and interfamilial conflict. Such difficulties can trigger the biological stress response, resulting in sleep disturbance and circadian rhythm disruption (both salient features of bipolar disorder). The accumulation of these cognitive, affective, behavioural, psychosocial and biological difficulties serves to stimulate the mood state (drive the mania further upwards or deepen the depression). A misconception has persisted that individuals with bipolar disorder return to their normal level of psychological and social functioning between episodes, and that prognosis is good. Goldberg, Harrow, & Grossman (1995) for example, suggest that there is a need to challenge this idea, as do Gittler, Swendsen, Heller, & Hammen (1995), who report that up to 50% of people with a diagnosis of bipolar disorder continue to experience levels of subsyndromal levels symptoms that are sufficient to cause substantial distress and disruption between major episodes.

The “charge” in Beck’s model refers to the intensity of the activation of the mode or of the schemas. Intensity is thought to be affected by the salience of the stressor, how entrenched the schema is, and by the extent of biological dysregulation. In this way, cognitive factors are not seen as merely indicators of a bipolar episode, but are integral features of the development of symptoms themselves, and involved in the causal cycle of symptoms. This conceptualisation is shared with a cognitive theory of personality disorders (Beck, Freeman, & Associates, 1990; Layden, Newman, Freeman & Morse, 1993).

As mentioned, the cognitive behavioural model of bipolar disorder includes cognitive, as well as genetic, vulnerabilities as a factor in onset of the condition. Although Beck and his colleagues suggest that childhood influences have a role in
the development of schemas, they do not seem to elaborate upon this important factor. The theory thus far has not aimed to investigate how individuals specifically develop certain patterns of thinking about themselves and other people, in terms of normal childhood development.

Traditional cognitive therapy was developed to reduce the symptoms of Axis I disorders and there is a substantial evidence base to suggest that it is effective in helping individuals to alter discrete dysfunctional behaviours. Indeed, cognitive behaviour therapy is cited in the national service framework as the first line treatment for depression, eating disorders, panic disorder, obsessive compulsive disorder and deliberate self-harm (DoH, 2000). Subsequently attempts have been made to fit this therapy to treat more long-standing, complex difficulties. Linehan has argued that standard cognitive behaviour therapy for patients with conditions as complex as borderline personality disorder is unlikely to be effective (Linehan, 1993). As mentioned previously, it is estimated that the prevalence of individuals with a bipolar disorder who also present comorbidly with a personality disorder is approximately 50% (Peselow, Sanfilipo, & Fieve, 1995) and their cognitive styles tend to present as being more maladaptive than those with Axis I disorders such as unipolar depression.

The presence of an entrenched cognitive style and long-standing interpersonal and psychological difficulties may present particular challenges for using traditional CBT. For a concise review of outcome studies for different types of psychological therapies for bipolar disorder see Swartz & Frank (2001). The authors reviewed published reports of therapy used with this client group and found that for CBT,
outcome varied from “no change” to “reduction in symptoms”, suggesting that while highly effective for some, traditional CBT approaches (as one might expect) are not helpful for all. Traditional CBT requires individuals to be motivated to make suggested changes in their behaviour and to be able to identify and challenge their beliefs. Young notes that some patients are unable to access their cognitions and emotions and may be reluctant to learn self-control strategies that are at odds with their deeply held beliefs about themselves and other people. Moreover, there may be reasons for individuals to actively avoid their cognitions and emotions, (perhaps avoidance has been reinforced due to temporary relieve of painful emotions). Learnt avoidance of behaviours that are necessary for therapeutic progress will hinder the CBT process. Cognitive rigidity is a strong feature of personality disorders according to DSM IV (American Psychiatric Association, 1994). Psychological flexibility is required to be able to consider altering long-standing patterns of affect, cognition and behaviour. This is difficult when such patterns are considered by the individual to be ego-syntonic.

The use of the therapeutic relationship in CBT has been a subject of debate recently, with some authors purporting to place more emphasis on it than has been the case in more traditional accounts of CBT. It is now widely regarded as an important ingredient of therapy, regardless of orientation or practice. It is a notable feature of CBT that patient and therapist are required to work in collaboration. Despite this however, CBT does not tend to provide a forum in which the therapeutic relationship is openly explored or explicitly used for direct therapeutic gain. Individuals with long-standing personality difficulties often have difficulty forming relationships (e.g.
Millon, 1981) and this is yet another factor that will hinder therapeutic progress (Keijser, Schaap & Hoogduin, 2000).

1.5 Early maladaptive schema and schema-focused therapy

1.5.1 Development of schema therapy

Young developed an alternative therapy to traditional CBT in order to try to address some of the deficits described above. He expanded on CBT by drawing on more experiential techniques used in other therapies such as Gestalt and some psychoanalytic schools. Compared to traditional CBT, there is a greater emphasis on exploring the developmental origins of psychological problems, on emotive techniques, the therapeutic relationship and on maladaptive coping styles. It is designed to address long-standing psychological difficulties, rather than acute psychiatric symptomatology. Young (1999) argues that the traditional cognitive conceptualisation of schemas is incomplete, especially when working with complex and challenging cases, because it ignores the presence of early maladaptive schemas. Young defines early maladaptive schemas as "...extremely stable and enduring themes that develop during childhood, are elaborated throughout an individuals’ lifetime, and are dysfunctional to a significant degree" (Young, 1999). Moreover, as schemas originate in the first few years of life, as a result of dysfunctional experiences, their presence and strength often result in high levels of disruptive affect and chronic dysfunctional patterns of interaction throughout the individual’s lifetime. This description is often synonymous with long-standing personality problems, but may also be true for those with a diagnosis of bipolar disorder.
1.5.2 Early Maladaptive Schemas

Early maladaptive schemas are, in broad terms, a set of emotional and cognitive patterns by which individuals make sense of their life experiences. They are representations of knowledge formed in early life that are stored in memory structures. They continue to be elaborated on through later life experiences, even when they are no longer applicable. This is as the individual struggles to maintain "cognitive consistency" (Young, Klosko & Weishaar, 2003), a desire to preserve a consistent view of oneself and the world, even if it is inaccurate. Young proposes that as a result of distressing childhood experiences in the context of an individual's natural temperament, schemas are a reality-based representation of the child's environment, but as maturation occurs and the environment changes, they become maladaptive. They lie at the core of what psychiatry term personality disorders. Early maladaptive schemas are defined by Young and his colleagues as:

- A broad, pervasive theme or pattern
- Comprised of memories, emotions, cognitions, and bodily sensations
- Regarding oneself and one's relationships with others
- Developed during childhood or adolescence
- Elaborated throughout one's lifetime and
- Dysfunctional to a significant degree

(Young, Klosko & Weishaar, 2003)

Schemas are considered to be dimensional, meaning that they have different levels of severity and pervasiveness; the more severe the schema, the greater the number of situations that activate it. The concept of schemas is one pertaining to cognitive therapy, but there different explanations of this concept from differing schools of thought. The model of early maladaptive schemas that Young proposes is compared to that of the traditional cognitive behaviour model (according to Beck, e.g. 1996) in Section 1.5.6 below.
1.5.3 Development of Early Maladaptive Schema

In contrast to traditional cognitive behavioural theory, schema theory includes detailed proposals as to how early maladaptive schemas are developed. Four types of early life experiences are postulated to foster the acquisition of early maladaptive schemas as they result in the frustration of the core emotional needs of the child. They are experienced in the context of the individual's innate temperament, which determines whether or not the child is likely to identify with and internalise certain aspects of significant others (parent figures). For reasons of word limitations an in-depth explanation of the development of early maladaptive schemas is not possible, therefore a brief outline is given with an explanation of key terminology and concepts. For a more comprehensive rationale, refer to Young, Klosko & Weishaar, (2003).

1.5.4 Schema domains

In schema theory, 18 schemas are grouped into five broad categories of unmet emotional needs that are termed “schema domains”. Young and Brown (1990) developed a tool called the Young Schema Questionnaire to identify early maladaptive schemas. It has been used in a range of studies and has shown good reliability and validity (e.g. Schmidt, Joiner, Young & Telch, 1995; Rittenmeyer, 1997; Carine, 1997; & Lee, Taylor & Dunn, 1999). Although not designed to measure specific DSM-IV personality disorders, individual schemas have been found to be significantly associated with theoretically relevant personality disorders. For example, Mistrust/Abuse is highly associated with paranoid personality disorder; Dependence is associated with dependent personality disorder; Insufficient Self-Control/Self-Discipline is associated with borderline personality disorder; and
Unrelenting Standards is associated with obsessive-compulsive personality disorder (Schmidt, Joiner, Young & Telch, 1995).

The schema domains and early maladaptive schemas that have been identified are presented in Table 1.

<table>
<thead>
<tr>
<th>Schema domain: -</th>
<th>Early maladaptive schema: -</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disconnection and Rejection</td>
<td>Abandonment/Instability</td>
</tr>
<tr>
<td></td>
<td>Mistrust/Abuse</td>
</tr>
<tr>
<td></td>
<td>Emotional Deprivation</td>
</tr>
<tr>
<td></td>
<td>Defectiveness/Shame</td>
</tr>
<tr>
<td></td>
<td>Social Isolation/Alienation</td>
</tr>
<tr>
<td>Impaired Autonomy and Performance</td>
<td>Dependence/Incompetence</td>
</tr>
<tr>
<td></td>
<td>Vulnerability to Harm or Illness</td>
</tr>
<tr>
<td></td>
<td>Enmeshment/Undeveloped Self</td>
</tr>
<tr>
<td>Impaired Limits</td>
<td>Failure</td>
</tr>
<tr>
<td>Other-Directedness</td>
<td>Entitlement/Grandiosity</td>
</tr>
<tr>
<td></td>
<td>Insufficient Self-Control/Self-Discipline</td>
</tr>
<tr>
<td>Overvigilance and Inhibition</td>
<td>*Subjugation</td>
</tr>
<tr>
<td></td>
<td>*Self-Sacrifice</td>
</tr>
<tr>
<td></td>
<td>*Approval-Seeking/Recognition-Seeking</td>
</tr>
<tr>
<td></td>
<td>Negativity/Pessimism</td>
</tr>
<tr>
<td></td>
<td>*Emotional Inhibition</td>
</tr>
<tr>
<td></td>
<td>*Unrelenting</td>
</tr>
<tr>
<td></td>
<td>Standards/Hypercriticalness</td>
</tr>
<tr>
<td></td>
<td>Punitiveness</td>
</tr>
</tbody>
</table>

* Conditional schemas (require activation)

Table 1. *Labels attributed to schema domains and early maladaptive schemas* (Young, Klosko & Weishaar, 2003)

*Abandonment/Instability* relates to the belief that people significant to the individual are unreliable and unpredictable, and hence relationships with them are unstable.
There is a fear that people important to them will leave them for someone better or are likely to die.

*Mistrust Abuse* encapsulates the belief that others will intentionally harm the individual in order to fulfil their own gains, (hurt, humiliate, manipulate or take advantage of them).

*Emotional Deprivation* involves the expectation that others will not meet the individual’s desire for a normal degree of emotional support. Young identified three main forms of emotional deprivation: deprivation of nurturance, of empathy, and of protection.

With *Defectiveness Shame* the individual experiences themselves as damaged, flawed and inferior, and believes that they would be unlovable to significant others if their inner flaws (*e.g.* selfishness, aggressive impulses, unacceptable sexual desires) or outer flaws (*e.g.* unattractive appearance, social awkwardness) were exposed.

*Social Isolation Alienation* is the feeling of being isolated from the rest of the world and fundamentally different from other people.

*Dependence Incompetence* reflects the belief that the individual is incapable of carrying out everyday responsibilities without help from others. Individuals with this schema often present as being particularly passive or helpless.

*Vulnerability to Harm or Illness* is the exaggerated fear of harm and a belief that the individual is helpless to prevent it. Fears are focussed around three main types of catastrophe: medical, emotional (*e.g.* the fear of losing control or “going mad”), and external (*e.g.* crime, natural disasters)

Individuals with the *Enmeshment* schema are known to be deprived of normal social development and individuation due to excessive emotional involvement with
significant others. There is a sense of dependency on the other person, or a sense that the other is dependent on them.

*Failure* is the belief that the individual has failed and will fail due to their own inadequacies. Others are seen as more intelligent and more capable.

*Entitlement/grandiosity* is the belief that the individual is superior to others and is entitled to special privileges. There is a focus on dominating others and expecting their needs to be met, regardless of the cost to others.

*Insufficient self-control/self-discipline* shows a pervasive difficulty exercising self-control and an inability to experience frustration in order to achieve a goal. There is a lack of regulating the expression of emotions and impulses.

The *Subjugation* schema leads the individual to surrender control to others to avoid retaliation or abandonment. The two main forms of this schema are subjugation of needs (suppressing preferences or desires) and subjugation of emotions (suppressing one's own emotional responses). The individual feels that his/her own needs are invalid or less important than the needs of others. There is demonstrably excessive compliance and this can lead to a build up of emotion (usually anger), which leads to behavioural problems such as outbursts of anger, psychosomatic symptoms or withdrawal of affection.

The *Self-sacrifice* schema involves voluntarily placing greater importance on meeting the needs of others, beyond one's own needs. This is generally done in order to avoid causing others pain and oneself guilt, to gain self-esteem, or maintain an emotional connection with someone who they consider to need their support.

Individuals with the *Approval-Seeking Recognition Seeking* schema value their own self-worth according to others' reactions to them. There is often an excessive
preoccupation with money, status, appearance or success as a means of gaining approval from others.

*Negativity Pessimism* refers to an excessively negative outlook on life, believing that everything will eventually “go wrong”, ignoring any positive signs. This view of life is a pervasive distortion and is coupled with an unwarranted fear of making mistakes. Individuals with this schema are often hypervigilant, anxious, indecisive and dissatisfied.

*Emotional Inhibition* involves a fear of being criticised or losing control of one’s impulses. In order to avoid this, the individual will restrict their spontaneous actions and feelings, particularly in interaction with others. The most common areas of inhibition involve inhibition of anger, inhibition of positive impulses (*e.g.* joy, affection, excitement *etc.*), and difficulty expressing vulnerability.

*Unrelenting standards/hypercriticalness* is the belief that one must strive to meet very high, internalised standards of behaviour to avoid criticism. Individuals with this schema are often highly critical of themselves and of other people. It relates to the concept of perfectionism, but also incorporates a preoccupation with time and efficiency, as well as emphasising rigidity of life rule.

*Punitiveness* is the conviction that people (including oneself) should be punished for making mistakes.

An individual may hold one or many of these schemas at any one time. In Schema Theory, the pattern of schemas active at any one time is termed the *schema mode*.

As can be seen in Table 1, some of the early maladaptive schemas identified by Young and his colleagues operate in a similar way to Beck’s concept of underlying assumptions in that they require activation to have effect. The majority of them
however are considered to be unconditional. These schemas are developed earliest in childhood, reflecting the adverse experiences of the infant. They are considered to be fixed and constant. Conditional schemas often develop as attempts to get relief from the unconditional schemas, in other words they are secondary. The unconditional schemas are stable ‘ways of being’, whereas the conditional schemas are ‘ways of doing’ and can be activated as a way of trying to cope with the unconditional schemas.

1.5.5 Schema operations

The fundamental concepts of schemas are termed by Young et al. (2003) as schema perpetuation, schema coping styles, coping responses, and schema healing. These concepts are briefly outlined below.

*Schema perpetuation* includes all the cognitions, behaviours and affect that reinforce a particular schema. Generally they are categorised into three groups: cognitive distortions, self-defeating life patterns, and schema coping styles. The concept of cognitive distortions is one familiar to traditional cognitive therapy, and involves a bias in information processing to fit the schema (the ‘self-fulfilling prophecy’). Affectively, the individual may block emotions connected with the schema, thereby reducing the likelihood that the schema is at a level of conscious awareness that can be challenged. Behaviourally, the individual engages in self-defeating patterns, unconsciously selecting relationships and situations that perpetuate the schema. As mentioned earlier, it is a fundamental need for individuals to maintain a stable view of themselves and the world. In this sense schemas “fight for their survival” (Young, Klosko & Weishaar, 2003).
Schema coping styles refer to behaviours that are triggered as a way for the individual to cope with threat (frustration of core emotional needs, or the fear of intense emotions the schema evokes). They correspond to the basic threat responses (fight, flight and freeze), and are overcompensation, avoidance, and surrender.

Although coping styles are considered to be trait phenomenon, the coping responses initiated by the style are state behaviours, and Young (1999) argues that what is evident in DSM-IV descriptions of ‘personality disorders’ are lists of coping responses to early maladaptive schema.

Coping responses are the specific behaviours or strategies through which the coping styles of overcompensation, avoidance and surrender are expressed. They are thought to be idiosyncratic and, unlike the coping style learnt by an individual, they are a state phenomenon.

Schema healing involves abating the memories, emotions, bodily sensations and cognitions that comprise a schema and is thus the aim of schema-focussed therapy. Because memories of events cannot be eradicated, it is considered that the unconditional schemas cannot completely heal, rather they can become less activated, and the associated affect less intense.

1.5.6 Comparison with traditional CBT theory

Young’s concept of a schema mode (Young, Klosko & Weishaar, 2003) differs from that postulated by Beck (1996) in that it is more related to concepts of dissociation and “ego states”. Young uses the concept of mode to differentiate schemas and coping styles as traits (enduring, consistent patterns) and states (shifting patterns of
activation and deactivation). Young’s concept of early maladaptive schema (Young, Klosko & Weishaar, 2003) is more synonymous with Beck’s concept of mode in that when activated, they involve not only cognitions but also affective, motivational and behavioural systems. In this sense, early maladaptive schemas are a more comprehensive way of regarding psychological functioning, but there are many similarities between the theories.

Young (1999) proposes a schema-focused therapy that integrates cognitive, behavioural, gestalt, and interpersonal techniques, using the concept of early maladaptive schemas as the focal point. This approach has a greater emphasis on the therapeutic relationship as a vehicle for change than the traditional cognitive therapy approach. It uses therapy sessions to look more closely at early childhood experiences and through the use of imagery and role-playing, often aims to induce high level of affect in sessions. Another difference from cognitive therapy is duration. Because the express aim is to address deeply entrenched, change-resistant schemas, the course of treatment is often longer (Young, 1999). To date, no research has been carried out to look at the effectiveness of schema-focused therapy with people with a bipolar disorder. There are, however, reports of successful applications of this model for other psychiatric problems such as relapse prevention in recurrent depression; anxiety disorders; avoidant, dependent, compulsive, passive-aggressive, histrionic, borderline, and narcissistic personality disorders; substance misuse disorders during the recovery phase; and with individuals with a history of eating disorders, chronic pain, or childhood abuse with related PTSD (McGinn, Young & Sanderson, 1995). These reports are clinical anecdotes rather than substantiated evidence from controlled studies. Young points out that there is a general lack of
research into psychotherapies for personality disorders, and he postulates that this is due to a difficulty in defining a personality disorder into suitable research terms, when many clients tend to fit into more than one DSM-IV category (Young et al., 2003).

1.5.7 Early Maladaptive Schema and Bipolar Disorder

It appears therefore as though Young's Schema theory may be a useful way of regarding some of the complex psychosocial difficulties involved in bipolar disorder. As discussed, there is increasing evidence that the domains and schemas proposed by Young and his colleagues are accurately measuring what they purport to. There is also growing evidence to suggest that the cognitive style (schemas) of individuals with this condition play a key role in how stressful life events are processed, medication compliance, how illness experiences are viewed, functional recovery and adjustment to the illness.

In a recent article, Ball, Mitchell, Malhi, Skillecorn & Smith (2003) proposed the development of a new explanatory model and treatment for bipolar disorder, based on schema theory. Their model highlights not only genetic and biological factors in the development of bipolar disorder, but also takes into account temperament and early developmental experiences. Ball et al. (ibid) considered the development of early maladaptive schema to be the result of both temperament and early experiences (as Young suggests). They suggested that the schema influence both how the individual interprets and copes with stressors, and well as adjustment and adaptation to the experiences of the illness (Ball et al., 2003). This model is presented in Figure
2. Proposed is a two-way relationship between schemas and how the individual adapts and adjusts to the illness.

According to models of illness, adaptation involves a range of beliefs regarding the self and one's future that influence how the individual attempts to cope (Williams, 1997). The three main types of reaction that have been researched in physical illness are reactance (either withdrawal or confrontation), acceptance (adapting to the role of being an ill person), and reorientation (coming to terms with the illness and adapting one's life accordingly, ensuring one's self-identity is not defined by the illness), (Little, Jordens & Sayers, 2001).

---

**Figure 2. Proposed explanatory model of bipolar disorder.** *(Taken from Ball, Mitchell, Malhi, Skillecorn & Smith, 2003.)*
This proposed explanatory model of bipolar disorder is as yet an unresearched proposition, based on what is already known about the disorder. An interesting question that so far that is left largely unanswered is what types of early maladaptive schemas are likely to be a feature of bipolar disorder.

To summarise the current literature review, research suggests that personality disorder symptoms (according to DSM IV) are likely to exist for approximately 50% of individuals with bipolar disorder. The most frequently present are clusters B and C (histrionic, narcissistic, antisocial, borderline, obsessive-compulsive, avoidant and dependent). Depressogenic and optimistic attributional styles have been found to be traits in the bipolar population, as has perfectionism, sociotropy and autonomy. Sociotropy has strong associations with the schemas of unlovability, abandonment, dependence, self-criticism, perfectionism and need for approval. Autonomy has strong associations with incompetence and defectiveness schemas. There are therefore robust indicators of particular types of schema most likely to have developed for this client group.

According to Young’s classification of schemas, one would expect to find a presence of Emotional Deprivation (associated with autonomy), Defectiveness/Shame (associated with sociotropy) and Unrelenting Standards/Hypercriticalness (perfectionism and goal-attainment). These schema-types are explored in some detail below.

1.5.7.1 Emotional Deprivation. There are three types of emotional deprivation, as described by Young et al. (2003): deprivation of nurturance (a lack of warmth,
attention, and physical affection); deprivation of empathy (one is not listened to or understood); and deprivation of protection (a lack of guidance and protection provided from other people). There is a pervasive feature among this group of not asking for their emotional needs to be met by others, because there is an expectation that others will not meet them. In this sense, Emotional Deprivation is similar to the concept of autonomy, as the individual aims to be self-reliant and independent. This is concurrent with the literature on individuals with bipolar disorder displaying lower levels of dependency compared to both individuals with unipolar depression and compared to normal controls (e.g. Rosenfarb, Becker, Khan & Mintz, 1998).

1.5.7.2 Defectiveness-Shame. Individuals with this schema believe that they are "defective, flawed, inferior, bad, worthless, or unlovable" (Young et al., 2003). They are often hypersensitive to criticism or rejection. This feature has been noted in previous research to be particularly pertinent for individuals with a bipolar disorder. Benazzi (2000) found that compared to unipolar depressed patients, bipolar patients experienced significantly higher interpersonal rejection sensitivity (a personality trait defined by DSM-IV as presenting functional impairment, unstable relationships, reaction to rejection or criticism by maladaptive behaviours and avoidance of relationships for fear of rejection (American Psychiatric Association, 1994)). Individuals with the Defectiveness/Shame schema also present as being competitive in nature as they frequently compare themselves to others. Young and his colleagues (Young et al., 2003) note that Unrelenting Standards can be a manifestation of the Defectiveness/Shame schema, as the individual struggles to compensate for feelings of worthlessness by trying to be 'perfect'.
1.5.7.3 Unrelenting Standards/Hypercriticalness. This schema is highly related to the concept of perfectionism. Individuals believe that they must continually strive to meet extremely high standards, not to meet the approval of other people, but rather to meet their own internalised ideology. There is an ‘all-or-nothing’ facet in cognition, as they believe that their standards are either met fully, or they have failed. The prevalence of perfectionism in bipolar disorder has been discussed above in Section 1.3.2 and so will not be expanded further here.

1.6 Self-control behaviours (learned resourcefulness) and Bipolar Disorder

Schemas are thought to contribute to the use of faulty coping strategies that reinforce and perpetuate the very problems that support the formation of the schemas in the first place (known often as the “self-fulfilling prophecy”) (Young et al., 2003). Individuals show varying ways of trying to cope with the symptoms of a bipolar illness. It has been suggested that individuals with more adaptive coping strategies to deal with the onset of an episode of either mania or depression (a prodrome) are more likely to function well in spite of their illness (Lam & Wong, 1997). Results from Lam & Wong’s study (1997) on prodromes and coping strategies in bipolar disorder suggest that “good copers” use spontaneous cognitive behavioural techniques as coping strategies. Some examples of responses to open-ended questions about coping strategies that placed respondents in the “good copers” group included such reports such as: “Engage in calming activities”; “Modify excessive behaviour”; “Delay impulsive actions”; “Take medication as agreed with the doctor”; and “Monitor my mood or action”. In a subsequent study, how well individuals coped with mania prodromes in particular was found to be an important variable as it predicted relapse (Lam, Wong & Sham, 2001).
As Ball et al.'s (2003) study suggested, there is a link between cognitive and schematic style and adaptation and adjustment to the illness. Lam and his colleagues suggest that the Self-Control Behaviour Schedule (Rosenbaum, 1980) is a useful tool to use in the assessment of how individuals with a bipolar disorder use cognitions to: control physiological and emotional responses; apply problem-solving strategies; are able to delay immediate gratification; and of their perceived self-efficacy (Lam, Jones, Hayward & Bright, 1999).

The Self-Control Behaviour Schedule is designed to measure learned resourcefulness, a term defined by Rosenbaum and Jaffe as:

"...an acquired repertoire of behaviours and skills (mostly cognitive) by which a person self-regulates internal responses (such as emotions, pain, and cognitions) that interfere with the smooth execution of a target behaviour."

(Rosenbaum & Jaffe, 1983, pp. 215)

This repertoire is considered to be learned from the moment of birth.

The concept of learned resourcefulness originated from Kanfer's theory of self-regulation (Kanfer, 1977; 1986). The premise of learned resourcefulness is that any effort at coping with stressful events involves attempts at conscious self-regulation. Disruption of ongoing habitual activities has been postulated by Kanfer to activate the self-regulatory process. The self-regulatory process consists of three phases: representation, evaluation, and action. During the representational phase, automatic emotions and/or cognitions are triggered in response to the disruptions in ongoing activities, thoughts, or plans. During the second phase, the meaning of the disruption in terms of its impact on well-being is consciously and purposefully evaluated and an assessment is made as to whether it can be coped with. Whether a specific disruption
is considered to be stressful or not is determined by the person’s cognitive evaluations of the disruption (Lazarus & Folkman, 1984). The final phase, the action phase, consists of active responses that minimise or reduce the interfering effects that emotional and cognitive responses have on the performance of a target behaviour. A simplification of this is depicted in Figure 3.

Learned resourcefulness is postulated to play a major role in the action phase of the self-regulatory process (Rosenbaum, 1988). In other words, those individuals who score highly on measures of learned resourcefulness are more successful in reducing the interfering effects of stress reactions on ongoing behaviours.

![Diagram of the self-regulatory process](image)

**Figure 3. Self-regulatory process and activation of self-control behaviours (based on findings from Kanfer, 1977)**

Learned helplessness theory has been criticised for placing importance on the consequences that stem from individuals’ attributions of causality and judgements of their ability to control a given outcome, and ignoring the attributions regarding one’s
ability to cope with the outcome (e.g. Rosenbaum & Ben-Ari, 1985). Although there are some similarities, learned resourcefulness differs from learned helplessness theory in that it does not focus on individuals’ perception of their ability to control external stimuli, but rather on the ability to affect internal responses to it. It has been shown that individuals with good self-control behaviours are orientated towards maximising their chances for success, whereas those with lower self-control are orientated towards avoiding further failure.

Rosenbaum (1993) identified two major functions of the self-control process. The first is termed ‘redressive’ self-control and is directed at controlling stress responses that interfere with the normal functioning of the person (for example using controlled breathing during anxiety). The second function is termed ‘reformative’ self-control and it facilitates the adoption of new behaviours that are likely to reduce stress in the future. This category of self-control involves behaviours that require delay of immediate gratification and the resistance of temptations (such as the desire to spend money during a manic prodrome of bipolar disorder). The redressive and reformative functions of self-control behaviours are designed (in evolutionary terms) to answer the basic survival needs of the individual. Cognitive behaviour therapy is concerned with facilitating enhancement of both redressive and reformative self-control behaviours, namely individuals are trained to cope better with stress, overcome anxiety, or lift a depressed mood.

Self-control behaviours are therefore relevant to the bipolar population as they involve the process by which individuals consciously decide to take charge of their own behaviour. This is important because clear changes in behaviour take place
during the prodromal phase of the illness. This concept is particularly applicable when considering a cognitive behavioural model of bipolar disorder, which encapsulates changes in behaviour, affect, cognitions and physiology. Self-control behaviours are, in Young’s terms, *coping responses* (Young, Klosko & Weishaar, 2003), (as discussed on page 29).

### 1.7 Summary

Bipolar disorder is a severe and enduring mental illness with a high incidence of long-standing interpersonal and psychosocial difficulties that extend beyond the features of manic and depressive episodes. Historically, treatment has focused on psychotropic medication, with a more recent body of research also suggesting cognitive-behavioural therapy (CBT) as a useful way of helping individuals adhere to medication, ward off relapse and cope better with the disabling effects of the condition. Research into the cognitive style of individuals with a bipolar disorder suggests depressogenic/optimistic attributional style, perfectionism, sociotropy, autonomy and maladaptive schemas play an important role in the development and maintenance of bipolar disorder as well as impacting on the individual’s ability to cope with the illness. The presence of early maladaptive schema is likely to challenge and sometimes frustrate the use of traditional CBT. Schema focused theory may be a useful way of conceptualising individual difficulties and provide a more integrative form of intervention (Young, 1990). The presence of early maladaptive schema in the bipolar population has so far not been researched, despite evidence to support a specificity hypothesis in psychiatric diagnoses of particular types of schema (Leung & Poon, 2001). There is not only a need to investigate what types of schema are pertinent for this group, but what impact the schemas have on
individuals' coping style (Ball, Mitchell, Malhi, Skillecorn & Smith, 2003). The Self-Control Behaviour Schedule (Rosenbaum, 1980) has been suggested as a pertinent and useful way of assessing ways of coping (according to a cognitive behavioural framework) for individuals with a bipolar disorder (Lam, Jones, Hayward & Bright, 1999).

1.8 Research Questions

The current research took the form of two studies. The first investigated the presence of early maladaptive schema (EMS) for individuals with a bipolar disorder. Based on the literature regarding the cognitive style of people with bipolar disorder, it was hypothesised that there were three EMS that were most likely to be present. The second part of the study investigated the relationship between the presence of EMS and individuals' ability to exercise self-control behaviour (SCB). It was predicted that those individuals who scored highly on measures of EMS would be poorer copers than those who did not score highly on measures of EMS.

More specifically, the following Hypotheses were tested:

H1: There will be a presence of early maladaptive schema in this bipolar sample.

1.1: The early maladaptive schema that will be most prevalent are:

Defectiveness/Shame, Emotional Deprivation, and Unrelenting Standards/Hypercriticalness.

H2: Early maladaptive schema will affect individuals' ability to engage in self-control behaviours.

2.1: Defectiveness/Shame will correlate negatively with self-control behaviours.
2.2: Emotional Deprivation will correlate negatively with self-control behaviours.

2.3: Unrelenting Standards/Hypercriticalness will correlate negatively with self-control behaviours.

1.8.1 Sub-hypotheses

H3: Early maladaptive schema will not be shown to be mood-state-dependent.

H4: Self-control behaviours will be dependent on mood-state.

H5: Number of years lived with bipolar disorder will correlate positively with conditional early maladaptive schema.

H6: Psychotherapy/Counselling will correlate negatively with early maladaptive schema.

H7: Psychoeducation will correlate negatively with self-control behaviours.
2. Method

2.1 Design

A cross-sectional within-participants design was employed to investigate i) the presence of early maladaptive schema for individuals with a bipolar disorder and ii) the relationship between early maladaptive schema (independent variables) and self-control behaviours (dependent variable).

2.2 Participants

A total of 41 individuals participated in the current study; 33 were female and 8 were male. The mean age of the sample was 45.61 years (S.D. = 10.77) with a range of 24 to 68 years old. The number of individuals with a diagnosis of bipolar disorder type I\(^1\) was 31 (76%), 3 individuals (7%) had a diagnosis of bipolar type II disorder\(^2\), and 7 individuals (17%) had a diagnosis of rapid cycling\(^3\) bipolar disorder. The Diagnostic and Statistical Manual – fourth edition (DSM-IV) criteria for bipolar disorder is included in Appendix A. The mean number of years since onset of the disorder was 23 (minimum 3 and maximum 41), and the mean number of years since diagnosis of bipolar disorder was 12 (minimum 1 and maximum 36). The number of participants who were white was 33, 6 were Asian/Asian British, and 2 were Black/Black British. 44% of the sample were married, 27% single, 17% divorced, 5% separated, 5% co-habiting and 2% widowed.

All individuals asked to participate had a diagnosis of bipolar disorder. Exclusion criteria

\(^1\) Experience of manic and depressive episodes
\(^2\) Experience of hypomanic and depressive episodes
\(^3\) Experience 4 or more episodes of mania/hypomania/depression in one year
were known organic brain impairment, drug misuse, current in-patients or those on home treatment. The consultant clinician manager of the service identified 3 clients who it was considered unethical to contact (due to their illness).

<table>
<thead>
<tr>
<th>Mean (S.D.) age years</th>
<th>46.9 (10.7)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male/Female (%)</td>
<td>8/33 (20/80)</td>
</tr>
<tr>
<td>Diagnosis (%)</td>
<td></td>
</tr>
<tr>
<td>Bipolar type I</td>
<td>31 (76)</td>
</tr>
<tr>
<td>Bipolar type II</td>
<td>3 (7)</td>
</tr>
<tr>
<td>Rapid cycling</td>
<td>7 (17)</td>
</tr>
<tr>
<td>Mean (S.D.) years since onset</td>
<td>22.3 (10.3)</td>
</tr>
<tr>
<td>Mean (S.D.) years since diagnosis</td>
<td>11.9 (10.3)</td>
</tr>
<tr>
<td>Marital Status (%)</td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>11 (27)</td>
</tr>
<tr>
<td>Married/cohabiting</td>
<td>20 (49)</td>
</tr>
<tr>
<td>Divorced/widowed</td>
<td>10 (24)</td>
</tr>
<tr>
<td>Received psychotherapy/counselling (%)</td>
<td>16 (39)</td>
</tr>
<tr>
<td>Received psychoeducation re bipolar disorder (%)</td>
<td>37 (90)</td>
</tr>
</tbody>
</table>

Table 2. Demographic descriptions of participants.

2.3 Instruments

2.3.1 Demographics

A demographics questionnaire (Appendix E) was developed by the current researcher to collect socio demographic data from participants. It contained questions regarding sex, age, marital status, children, ethnicity, diagnosis, duration of illness, and the type of formal support received for the illness (including psychotherapy, self-help and medication). Psychotherapy was defined as the individual receiving an unspecified number of sessions with a qualified therapist using any orientation (e.g. clinical psychologist, counsellor or other qualified therapist) and was distinguished from supportive visits to a nurse, general practitioner, psychiatrist or other health-care...
professional. The current researcher sought permission from participants to access their clinical records so that information could be verified by requesting they read and sign a consent form (Appendix D).

Both organizations from which participants were recruited offered psychoeducation as part of their service. The NHS service offered an eight-week group programme focusing on educating individuals about their illness and offering coping strategies based on the cognitive-behavioural model (around the concept of ‘early warning signs’ and relapse prevention). The charity organization also offered a similar programme. Questions regarding psychoeducation were therefore included on the demographics form.

2.3.2 Mood

2.3.2.1 Rationale for choice of measure. Self-report measures of mood state have been demonstrated to be both reliable and valid methods for assessing mood state in individuals with a bipolar disorder, including those with psychotic features and those having little or no insight into their illness (see Altman, 1998 for a review). There is a range of measures available to assess the severity of symptoms associated with mood state, both for mania and depression. Commonly used self-report questionnaires for depression are the Beck Depression Inventory (BDI-II; Beck, Steer & Brown, 1996), and the Hamilton Rating Scale for Depression (HRSD; Hamilton, 1960). For measuring symptoms of mania, the Self-Report Manic Inventory (SRMI; Shugar, Schertzer, Toner & DiGasbarro, 1992) and the Altman Self-Rating Mania Scale (ASRM; Altman,
Hedeker, Janiak, Peterson & Davis, 1994) have been used clinically and for research purposes. All of these measures report good reliability and validity.

The Internal State Scale (ISS; Bauer, Crits-Christoph, Ball, Dewees, McAllister, Alahi, Cacciola & Whybrow, 1991) was chosen for the present study, as it was the only reliable and valid questionnaire to simultaneously assess both manic and depressive symptoms. The ISS (as shown in Appendix F) is relatively brief and simple to complete, making it particularly suitable for research purposes when the respondent is also required to give time to complete a range of other measures. This is not its only advantage however. The ISS has more recently demonstrated the ability to distinguish mixed bipolar state (manic and depressive symptoms occurring concurrently), as well as mania and depression (Bauer, Vojta, Kinosian, Altshuler & Glick, 2000). Activation levels, as opposed to simple shift in affect towards a euphoric state, have been shown to have strong predictive validity of mania (e.g. Goodwin & Jamison, 1990). It is well documented that individuals are not only elated when manic, but also present as irritable, angry, and even show some symptoms of depression. The ISS is orientated towards this feature, placing emphasis on activation, but also simultaneously assessing depressive symptoms.

2.3.2.2 The Internal State Scale The Internal State Scale (ISS; Bauer et al., 1991) consists of 15 self-report 100mm visual analogue items to simultaneously assess the severity of manic, depressive, and mixed state symptoms (see Appendix F). The 15 items are divided into 4 subscales: Activation (ACT), Well-Being (WB), Perceived conflict (PC) and Depression Index (DI). According to Bauer's revised scoring criteria (Bauer, Vojta,
Kinosian, Altshuler & Glick, 2000) the subscale ratings are used to classify participants as depressed (ACT<155 + WB<125), hypomanic/manic (WB≥125 and ACT≥155), mixed state (ACT ≥155 + WB<125) or euthymic (WB≥125 and ACT<155). The ISS is not designed to attribute diagnosis, rather to describe the presence of symptomatology.

The psychometric properties of the ISS have been well established (e.g. Bauer et al., 1991; Cooke, Kruger, Shugar, 1996; Bauer, Vojta, Kinosian, Altshuler & Glick, 2000). Cronbach's coefficient alpha in the current sample is shown in Table 3. As can be seen, although alpha coefficients for the current study were generally slightly lower than those found by the scale's developers, they nevertheless reflect overall adequate internal consistency.

<table>
<thead>
<tr>
<th>ISS subscale</th>
<th>Alpha (current study)</th>
<th>Alpha (scale developer)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activation</td>
<td>0.71</td>
<td>0.92</td>
</tr>
<tr>
<td>Well-being</td>
<td>0.83</td>
<td>0.87</td>
</tr>
<tr>
<td>Perceived conflict</td>
<td>0.79</td>
<td>0.84</td>
</tr>
<tr>
<td>Depression index</td>
<td>0.87</td>
<td>0.81</td>
</tr>
</tbody>
</table>

Table 3. Cronbach's alpha coefficients for the Internal State Scale (ISS).

2.3.3 Coping

2.3.3.1 Rationale for choice of measure. A range of questionnaires designed to measure coping responses and coping styles have been developed for use in health-related psychology (notably in the areas of pain management and cancer). Examples include the COPE (Carver, Schemer & Weintraub, 1989), Medical Coping Modes Questionnaire...
(Rodrigue, Jackson & Perri, 2000); and Ways of Coping Questionnaire (Folkman & Lazarus, 1988). These types of questionnaire have been adapted for use with psychiatric illness, although that is not what they were originally designed to measure. A measure that is recommended for use with individuals with bipolar disorder due to the salience of self-control as a way of coping with the illness (Lam, Jones, Hayward & Bright, 1999) is The Self-Control Behaviour Schedule (SCBS; Rosenbaum, 1980). The SCBS is particularly suitable for use with investigation of a cognitive therapy concept as it reflects cognitive and behavioural methods of coping. It has been used in studies regarding therapy outcome in unipolar depression (e.g. Rehm, Kaslow & Rabin, 1987).

2.3.3.2 The Self-Control Behaviour Schedule (SCBS) (Appendix G). The Self-Control Behaviour Schedule (Rosenbaum, 1980) is a 36-item self-report questionnaire designed to assess the application of self-control behaviours to the solution of common behavioural problems. Self-control behaviours involve the use of cognitions and “self-statements” to control emotional and physiological responses, the application of problem-solving strategies, the ability to delay immediate gratification, and perceived self-efficacy. The questionnaire requires participants to indicate how descriptive of them each of the 36 statements are, based on a scale of +3 (“very characteristic of me, extremely descriptive”) to −3 (“very uncharacteristic of me, extremely nondescriptive”). A total score is obtained by the sum of the 36 responses. A high composite score is indicative of greater self-control. A copy of the SCBS is presented in Appendix G.
There is evidence that demonstrates the scale’s construct validity and reliability in a variety of settings (Flett, Blankstein, Bator & Pliner, 1989; Redden, Tucker & Young, 1983; Richards, 1985; Rosenbaum, 1980; Rosenbaum & Ben-Ari, 1985; Rosenbaum & Jaffe, 1983; Rosenbaum & Smira, 1986). Redden, Tucker & Young (1983) conducted a study into the psychometric properties of the SCBS and reported a Cronbach Alpha coefficient of .82. Cronbach alpha coefficient in the present study was 0.72, demonstrating an adequate level of internal consistency.

2.3.4 Schema

2.3.4.1 Rationale for choice of measure. Although schema and self-concepts in individuals with bipolar disorder is a neglected area to date, a small number of measures have been used in research. The Sociotropy-Autonomy Scale (Beck, Epstein, Harrison & Emery, 1983) has not been found to measure the autonomy component well (Robins, Hayes, Block & Kramer, 1995). The Dysfunctional Attitudes Scale (Weissman & Beck, 1978) is reported to be a more reliable measure of the concepts of sociotropy and autonomy (Newman et al. 2002), as well as measuring the strength of other belief-types (some considered to be adaptive and some maladaptive) that are specifically related to unipolar depression.

The Young Schema Questionnaire (Young & Brown, 1990) was developed to assess the early maladaptive schema for individuals with stable and entrenched personality difficulties; although as already discussed in the Introduction, it has been used with individuals with a range of other psychiatric diagnoses (such as eating disorders,
obsessive-compulsive disorder and anxiety disorders). Most of the research conducted so far has been on the (original) long version of the questionnaire through which it has been demonstrated to have a sound factorial structure that supported Young's hypotheses (Schmidt, Joiner, Young, & Telch, 1995). Subsequent research supports the properties of internal consistency, concurrent validity and discriminative power (Waller, Ohanian, Meyer & Osman, 2000). Research on the short form of the questionnaire also demonstrates good internal consistency and provides support for the construct validity (Welburn, Coristine, Dagg, Pontefract & Jordan, 2002).

The short form of Young Schema Questionnaire (YSQ-S1) however omits the schema-types of Approval-Seeking/Recognition-Seeking, Negativity/Pessimism, and Punitiveness. Following factor analysis, the five highest loading items for each EMS from the long form were used to comprise the YSQ-S1, (Schmidt et al., 1995).

2.3.4.2 Young's Schema Questionnaire – short form (Appendix H). Young's Schema Questionnaire – short form (YSQ-S1; Young, 1994) is designed to measure 15 early maladaptive schema (core beliefs), which are:

1. Abandonment/instability: the belief that people significant to the individual are unreliable and unpredictable, and hence relationships with them are unstable.
2. Mistrust/abuse: the belief that others will intentionally harm the individual, (hurt, humiliate, manipulate or take advantage of them).
3. Emotional deprivation: the expectation that others will not meet the individual’s desire for a normal degree of emotional support.
4. Defectiveness/shame: the individual experiences themselves as damaged, flawed and inferior, and believes that they would be unlovable to significant others if exposed.

5. Social isolation/alienation: the individual feels isolated from the rest of the world and fundamentally different from other people.

6. Dependence/incompetence: the belief that the individual is incapable of carrying out everyday responsibilities without help from others.

7. Vulnerability to harm or illness: exaggerated fear of harm and a belief that the individual is helpless to prevent it.

8. Enmeshment: the individual is deprived of normal social development and individuation due to excessive emotional involvement with significant others.

9. Failure: the belief that the individual has failed and will fail due to their own inadequacies.

10. Entitlement/grandiosity: the belief that the individual is superior to others and is entitled to special privileges.


12. Subjugation: the individual surrenders control to others to avoid retaliation or abandonment.

13. Self-sacrifice: voluntarily placing greater importance on meeting the needs of others, beyond one's own needs.

14. Unrelenting standards/hypercriticalness: the belief that one must strive to meet very high, internalized standards of behaviour to avoid criticism.
15. Overcontrol/emotional inhibition: excessive inhibition of spontaneous action, feeling, or communication to avoid shame.

(Young, 1999)

The YSQ-S1 contains 75 statements (5 for each schema-type) that the respondent is required to rate on a 6-point scale (1 = completely true of me, 2 = mostly true of me, 3 = slightly more true than untrue, 4 = moderately true of me, 5 = mostly true of me, 6 = describes me perfectly). Each rating of 5 or 6 equates to a score of 1 (the maximum score for each subscale is 5). Higher sub-scale scores indicate greater level of maladaptive beliefs. The YSQ-S1 is presented in Appendix H.

Young (1994) found that Cronbach’s alpha coefficients ranged from .76 to .93. Internal reliability coefficients were calculated for each of the 15 subscales of the YSQ-S1 in the present study. Cronbach’s alpha in the present study was found to range from 0.73 to 0.90, reflecting a good level of internal consistency. Cronbach’s alpha coefficients for all 15 subscales of the YSQ-S1 are presented in Appendix H.

2.4 Procedure

Participants were recruited via two sources:

1. An NHS service for people with a diagnosis of bipolar disorder.

Initially an advert was placed in the service newsletter to inform clients that the study was taking place. This was followed up by posting an information sheet and reply slip to all clients in the service requesting they indicate whether or not they would like to be
contacted to take part in the study (see Appendix B). A total of 66 service-users were approached by the current researcher to take part and 36 participants were recruited in this way, 6 replied to say that they did not wish to take part and 24 did not respond. The overall response rate for the present study was therefore 55%.

2. A local Manic Depression Fellowship (MDF) meeting.

The current researcher attended an MDF meeting to invite members with a diagnosis of bipolar disorder to take part. All members were given an information sheet and again requested to return a reply slip to indicate whether they wished to be contacted to take part. The meeting consisted of 8 individuals with a diagnosis of bipolar disorder and 5 of them agreed to take part (a response rate of 63%).

Ethics approval was awarded from the local research ethics committee. Participants were sent an Information Sheet (refer to Appendix C) with a reply slip requiring them to opt in to the study. All participants gave written informed consent to take part in the study and then met with the current researcher to complete a set of questionnaires. Meetings took place either at an NHS outpatient clinic or at the participant’s home, as decided by the participant.

Meetings took place with the current researcher and participant present. They completed the set of questionnaires together. The current researcher read through all the questionnaire items for the YSQ-S1 and the SCBS and marked the responses. Participants completed the ISS on their own, but still while the current researcher was present.
3. Results

This section presents: an introduction to the analysis; the descriptive statistics of the current study; findings for each of the measures used; the relationship between the different variables investigated; and the findings in relation to the hypotheses outlined in the Introduction.

Data from the current study were analysed using the statistical package for the social sciences (SPSS). The appropriateness of using parametric or nonparametric tests was explored initially. For parametric tests to be used, data must be normally distributed, measured on at least an interval scale and possess homogeneous variance (Lehman, 1991). It is recommended that graphs are used in the first instance to determine whether or not data is normally distributed (e.g. Pallant, 2001; Dancey & Reidy, 2002). The present data from the Young Schema Questionnaire – short form (YSQ-S1) was not normally distributed. Graphical illustration showed a positive skew. Attempts were made to transform the data using $\sqrt{(EMS + 0.5)}$, as recommended by Clark-Carter (1997). This transformation did not produce a sufficiently symmetrical distribution. Data analysis concerning Early Maladaptive Schema (EMS) was therefore conducted using nonparametric tests. There was one exception to this however. Means and standard deviations of EMS scores were obtained from normative data for comparison with the present study bipolar group. A z-test was employed to compare means as no nonparametric equivalent exists. Box and whisker plots revealed that the distributions of data from the Self-Control Behaviour Schedule (SCBS) and from the Internal State Scale (ISS) were approximately normally
distributed and that there were no extreme scores and so it was appropriate to use parametric tests for analyses that concerned only these measures.

The demographic data was a mixture of nominal data (e.g. sex, diagnosis etc.) and interval data (e.g. number of years since onset). The data from the ISS was interval data (measured on a likert scale). The SCBS and YSQ-S1 produced ordinal data (coded responses). Statistical analyses reflected these data types.

Given the relatively small sample size, measures of effect size are provided throughout in order to minimise the risk of Type II error. Where necessary, explanations are provided for how effect size was achieved, as many analyses employed non-parametric statistics. Reported effect size should be interpreted with caution when related to nonparametric statistics. It is assumed that the non-parametric results will have 95.5% of the power of the equivalent parametric analyses (Coolican, 2004).

3.1 Descriptive statistics

Demographic descriptions of the bipolar group of participants are summarised in table 2. The majority of participants (76%) had a diagnosis of bipolar disorder type I. A significant number reported to have undertaken psychotherapy or counselling, which pertained to historical incident as none of the participants were in therapy at the time of data collection. The high proportion of participants who had received psychoeducation for bipolar disorder (90%) reflected the fact that participants were drawn from services that included psychoeducation as a feature of their programmes. There is a significant difference between the mean number of years since participants
reported their illness first started and when a diagnosis was received \((t = 6.16, p = 0.000)\). This is a common feature of bipolar disorder and will be explored further in the Discussion.

Due to the uneven numbers of males and females in this group \((8/33)\) differences between the sexes could not be explored in this study. The number of males was thought to be sufficiently low as to render any statistics unreliable.

The number of participants taking regular psychotropic medication at the time of data collection was 39 out of the total 41. Table 4 illustrates the different types of medication taken by participants.

<table>
<thead>
<tr>
<th>Medication type</th>
<th>N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mood stabilisers</td>
<td>35 (85)</td>
</tr>
<tr>
<td>Neuroleptics</td>
<td>21 (51)</td>
</tr>
<tr>
<td>Antidepressants</td>
<td>9 (22)</td>
</tr>
<tr>
<td>Sleeping tablets</td>
<td>5 (12)</td>
</tr>
<tr>
<td>Anxiolytics</td>
<td>2 (5)</td>
</tr>
</tbody>
</table>

Table 4. Types of medication taken by participants.

3.2 Mood

At the time of data collection, 15 (38%) of participants were found to have mood state estimated to be euthymic, 10 (25%) manic/hypomanic, 9 (23%) depressed, and 6 (15%) in a mixed state, according to the ISS. It should be noted that the ISS is not a measure designed to attribute diagnosis of mood state. None of the participants were inpatients or receiving ‘home treatment’ at the time of data collection. Mean scores on all four subscales of the ISS are presented in Table 5. The scores from the current study are compared with normative data from a study by the questionnaire’s author (Bauer, Vojta, Kinosian, Altshuler & Glick, 2000). Bauer et al.’s (2000) study divided
86 participants with bipolar disorder into 4 groups: ‘euthymic’, ‘manic/hypomanic’, ‘mixed’ and ‘depressed’.

<table>
<thead>
<tr>
<th>Participant group</th>
<th>Activation</th>
<th>Wellbeing</th>
<th>Depression Index</th>
<th>Perceived Conflict</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current study</td>
<td>144.4 (93.3)</td>
<td>139.7 (68.9)</td>
<td>50.0 (51.6)</td>
<td>121.6 (95.0)</td>
</tr>
<tr>
<td>Norms - Euthymic</td>
<td>106.1 (72.2)</td>
<td>202.2 (49.8)</td>
<td>67.1 (24.6)</td>
<td>81.9 (60.0)</td>
</tr>
<tr>
<td>- Manic</td>
<td>218.8 (137.1)</td>
<td>177.0 (80.4)</td>
<td>96.4 (31.9)</td>
<td>172.0 (97.1)</td>
</tr>
<tr>
<td>- Mixed</td>
<td>243.6 (106.6)</td>
<td>109.2 (73.2)</td>
<td>90.8 (40.4)</td>
<td>194.2 (79.5)</td>
</tr>
<tr>
<td>- Depressed</td>
<td>143.3 (100.4)</td>
<td>69.8 (50.1)</td>
<td>78.0 (29.1)</td>
<td>175.3 (97.1)</td>
</tr>
</tbody>
</table>

The ranges of possible scores on each subscale are as follows (minimum – maximum): Activation 0 – 500; Wellbeing 0 – 300; Depression Index 0 – 200; Perceived Conflict 0 – 500.

Table 5. Mean subscale scores of The Internal State Scale (ISS) from the current study, compared to normative data from Bauer et al.'s (2000) study.

A one-way analysis of variance (ANOVA) was used to establish whether mood state had a significant influence on participants’ responses on measures of self-control and EMS, the results of which are presented below.

3.3 Self-Control Behaviour (SCB)

Participants’ scores on the SCBS ranged from -43 to +65, with a mean score of 19.85 (S.D. 24.94). This figure is slightly lower than established norms for this scale (based on normal populations from Israel and North America), the mean scores from which vary from 23 to 27, (Rosenbaum, 1980). A z-test was used to compare the difference between the mean SCB scores obtained from the bipolar sample in the present study with the mean SCB scores from the normative data. The calculation was obtained using the following equation:
\[ Z = \frac{\text{mean of sample} - \text{mean of population}}{\text{population standard deviation} / \sqrt{\text{sample size}}} \]

(Clark-Carter, 1997)

The bipolar sample in the present study scored significantly lower on SCB than the normative sample from the USA \((z = -2.00, p = 0.023)\), but the difference between the bipolar sample and the normative sample from Israel was not significant \((z = -1.43, p = 0.076)\). It should be noted however that the sample of the present study were not matched to groups yielding these normative data, in terms of ethnicity or clinical presentation.

A one-way analysis of variance (ANOVA) was performed to investigate whether self-reported self-control appeared to be mood-dependent.

![Error bar chart illustrating means and 95% confidence intervals (CI) for the total SCB score in each of the mood state groups.](image-url)

Figure 4. Error bar chart illustrating means and 95% confidence intervals (CI) for the total SCB score in each of the mood state groups.
As Figure 4 demonstrates, there was more variability in scores on SCB for individuals in a mixed state than in the other three mood-state groups. The ANOVA showed that any differences between groups were unlikely to have arisen by sampling error, assuming the null hypothesis to be true ($F_{(18.21)} = 7.758, p \leq 0.00, M_{S_{\text{mixed state}}} = 0.246$). Effect sizes were calculated by the equation:

$$\eta^2 = \frac{\text{Sum of squares between groups}}{\text{Total sum of squares}}$$ (Pallant, 2001)

and are included in the ANOVA summary table (Table 6).

<table>
<thead>
<tr>
<th>Mood state (ISS)</th>
<th>Sum of squares</th>
<th>df</th>
<th>Mean square</th>
<th>F</th>
<th>Eta squared ($\eta^2$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depressed</td>
<td>2.642 Between gps.</td>
<td>18</td>
<td>.147</td>
<td>.711</td>
<td>0.379</td>
</tr>
<tr>
<td></td>
<td>4.333 Within gps.</td>
<td>21</td>
<td>.206</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>6.975 Total</td>
<td>39</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manic/</td>
<td>3.400 Between gps.</td>
<td>18</td>
<td>.189</td>
<td>.967</td>
<td>0.453</td>
</tr>
<tr>
<td>Hypermanic</td>
<td>4.100 Within gps.</td>
<td>21</td>
<td>.195</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>7.500 Total</td>
<td>39</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mixed</td>
<td>4.433 Between gps.</td>
<td>18</td>
<td>.246</td>
<td>7.758**</td>
<td>0.869</td>
</tr>
<tr>
<td></td>
<td>.667 Within gps.</td>
<td>21</td>
<td>.032</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>5.100 Total</td>
<td>39</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Euthymic</td>
<td>5.008 Between gps.</td>
<td>18</td>
<td>.278</td>
<td>1.338</td>
<td>0.534</td>
</tr>
<tr>
<td></td>
<td>4.367 Within gps.</td>
<td>21</td>
<td>.208</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>9.375 Total</td>
<td>39</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

** Significant at the 0.01 level (2-tailed).

Table 6. One-way analysis of variance (ANOVA) and associated effect size for effect of mood state on self-control behaviour.

3.4 Early Maladaptive Schema (EMS)

Descriptive statistics for YSQ-S1 are presented in Appendix J. The mean total score is 17.63 (S.D. 11.09). Data from the present study were compared to normative data from a recent large-scale study ($N = 866$) carried out by Waller, Meyer, Beckley, Stopa & Young, (2004). Their study included 866 adults recruited from non-clinical sources (both undergraduate and non-student populations) in the UK. The participants
were not screened to exclude psychopathology in order to reflect the variety of presentation in the non-clinical population. The male/female ratio was skewed (as it was in the current study), with a total of 129 males and 746 females. The authors separated participants according to males and females, but for the purposes of the current study, their mean scores and standard deviations were combined to form one group for comparison. Age ranged from 18-59 years.

The bipolar group of participants was not an ideal match group for comparison with the bipolar group, as they are drawn from a non-clinical sample. The current study was exploratory in nature, as data for the bipolar population on measures of early maladaptive schema have thus far not been published. There is no normative data for a comparison group that would be considered more suitable, (such as unipolar depression). It was therefore considered useful to employ available normative data, although comparisons are made tentatively. This will be explored further in the Discussion section.

A z-test was used to compare the difference between the mean EMS scores obtained from the bipolar group in the present study with the mean EMS scores from the normative data. The results are presented in Table 7.

As can be seen, the bipolar group scored significantly higher than the normal population on measures of Emotional Deprivation, Abandonment, Mistrust, Social Isolation, Defectiveness/Shame, Dependence/Incompetence, Vulnerability to Harm and Illness, Enmeshment, Subjugation, Self-Sacrifice, and Entitlement. Interestingly, there was no significance between the scores on Unrelenting Standards. This schema-
type, along with the Subjugation schema, is indicated to have the strongest
representation in the normal population (Waller, Meyer, Beckley, Stopa & Young,
(2004).

<table>
<thead>
<tr>
<th>EMS</th>
<th>Bipolar Group Mean</th>
<th>Bipolar Group SD</th>
<th>Normative Data Mean</th>
<th>Normative Data SD</th>
<th>Z score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emotional Deprivation</td>
<td>3.29</td>
<td>1.63</td>
<td>2.14</td>
<td>1.68</td>
<td>4.39**</td>
</tr>
<tr>
<td>Abandonment</td>
<td>3.04</td>
<td>1.54</td>
<td>2.23</td>
<td>1.66</td>
<td>3.13**</td>
</tr>
<tr>
<td>Mistrust</td>
<td>2.84</td>
<td>1.30</td>
<td>2.38</td>
<td>1.60</td>
<td>1.84*</td>
</tr>
<tr>
<td>Social Isolation</td>
<td>3.09</td>
<td>1.34</td>
<td>2.12</td>
<td>1.75</td>
<td>3.55**</td>
</tr>
<tr>
<td>Defectiveness/Shame</td>
<td>2.39</td>
<td>1.41</td>
<td>1.72</td>
<td>1.25</td>
<td>3.44**</td>
</tr>
<tr>
<td>Failure to Achieve</td>
<td>2.08</td>
<td>1.11</td>
<td>2.16</td>
<td>1.64</td>
<td>-0.31</td>
</tr>
<tr>
<td>Dependence/Incompetence</td>
<td>2.31</td>
<td>1.02</td>
<td>1.94</td>
<td>1.40</td>
<td>1.69*</td>
</tr>
<tr>
<td>Vulnerability to Harm and Illness</td>
<td>2.74</td>
<td>1.24</td>
<td>1.96</td>
<td>1.53</td>
<td>3.26**</td>
</tr>
</tbody>
</table>

** Significant at the 0.01 level.
* Significant at the 0.05 level.

Table 7. Means and Standard Deviations for the bipolar group in this study compared to normative data using a z-test.

The Friedman's $X^2$ test was performed to rank scores for each individual schema-type in the present study. Unrelenting Standards and Self-Sacrifice were shown to be the most prevalent EMS in this bipolar sample. Any differences between groups were unlikely to have arisen by sampling error, assuming the null hypothesis to be true ($X^2 = 101.00, df = 14, p < 0.00$). Figure 5, below, demonstrates the distribution of EMS scores.
This test involves a large number of levels of independent variable (there are 15 different schemas), which is likely to increase the expectation of committing a type I error. The result should therefore be interpreted cautiously; bearing in mind it is likely to be conservative. According to Clark-Carter (1997), when there are a large number of independent variable levels, as is the case here, the result is similar to chi-squared.

In order to estimate the effect size for this test, the equation used for chi-squared was therefore adopted (Cohen, 1988), but the results should be interpreted with due caution. The aim is to provide a best estimate of effect size. The equation used estimates the Phi coefficient, known as Cramer’s Phi. The equation is:
Cramer's $\phi = \sqrt{\frac{X^2}{(N) df_{smaller}}}$

where $N =$ sample size and $df_{smaller} = (df - 1)$. The estimated effect size is therefore 0.42 which represents a medium to large effect size (Cohen, 1988).

In order to investigate whether self-reported EMS appeared to be mood-dependent, a Kruskal-Wallis one-way ANOVA was performed on all four mood states as measured by the ISS. The results of this statistical test are shown in Table 8.

<table>
<thead>
<tr>
<th></th>
<th>Manic/ Hypermanic</th>
<th>Mixed</th>
<th>Euthymic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depressed X^2</td>
<td>14.771</td>
<td>33.902*</td>
<td>20.835</td>
</tr>
<tr>
<td>Hypermanic X^2</td>
<td>17.680</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mixed X^2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Euthymic X^2</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Significant at the 0.05 level (2-tailed).

Table 8. Kruskal-Wallis Test of Mood differences based on the ISS with grouping variable EMS total score ($n = 41$) including all 15 schemas.

There was no significant difference in the median EMS total scored by participants falling into the euthymic, depressed, and manic groups. Participants in the mixed state group however differed significantly from the other mood state groups on total EMS score ($X^2 = 33.902$, $df = 18$, $p = 0.13$, $N = 41$). Again, Cramer's Phi was calculated as an estimate of effect size and was found to be 0.24. According to Cohen (1988) this represents a small effect size and may render the finding questionable. The means and 95% confidence intervals for total EMS score in each of the mood state groups are presented in Figure 6.
When the conditional schemas were removed (Subjugation, Self-Sacrifice, Emotional Inhibition, and Unrelenting Standards), Kruskal-Wallis ANOVA showed no significant difference in the median total EMS scores obtained by participants falling into the four mood state groups at the 95% level of confidence, as shown in Table 9 below.

<table>
<thead>
<tr>
<th>ISS Mood State</th>
<th>Depressed</th>
<th>Manic/ Hypermatic</th>
<th>Mixed</th>
<th>Euthymic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chi-Square</td>
<td>25.022</td>
<td>23.400</td>
<td>25.618</td>
<td>25.480</td>
</tr>
<tr>
<td>df = 24</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>None significant at the p&lt;0.05</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 9. Kruskal-Wallis Test of Mood differences based on the ISS with grouping variable EMS total score (n = 41) for the conditional schemas only
3.4.1 Correlation matrix for EMS

Correlational analyses (Spearman’s Rho) were conducted in order to investigate the relationships between schemas, as measured by the YSQ-S1, the results of which are presented in Appendix K. The schemas found to be prevalent in this group are presented in relation to significant associations with other schemas for exploration in the Discussion, as shown in Table 10.

<table>
<thead>
<tr>
<th></th>
<th>Self-Sacrifice</th>
<th>Unrelenting Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emotional Deprivation</td>
<td>.425**</td>
<td>.162</td>
</tr>
<tr>
<td>Mistrust/Abuse</td>
<td>.383*</td>
<td>.228</td>
</tr>
<tr>
<td>Social Isolation/Alienation</td>
<td>.331*</td>
<td>.127</td>
</tr>
<tr>
<td>Subjugation</td>
<td>.349*</td>
<td>-.001</td>
</tr>
<tr>
<td>Entitlement</td>
<td>.144</td>
<td>.396*</td>
</tr>
<tr>
<td>Insufficient Self-Control/Self-Discipline</td>
<td>.408*</td>
<td>-.094</td>
</tr>
</tbody>
</table>

* Significant at the 0.05 level (2-tailed).
** Significant at the 0.01 level (2-tailed).

Table 10. Significant Correlation Coefficients of Self-Sacrifice and Unrelenting Standards EMS

Self-Sacrifice (SS) schema was positively correlated with the schemas of Emotional Deprivation (ED), Mistrust/Abuse (MA), Social Isolation/Alienation (SI), Subjugation (SU), and Insufficient Self-Control/Self-Discipline (IS). Unrelenting Standards/Hypercriticalness (US) schema was positively correlated with Entitlement (ET).

3.5 Relationship between EMS and SCB

Spearman’s Rho was performed to investigate the relationship between EMS and SCB. The correlation matrix initially included all 15 schema-types and the SCB total score. This is presented in Table 11. There was a significant negative correlation between self-control behaviour and the schemas of Mistrust, Entitlement, and
Insufficient Self-Control/Self-Discipline (all at the 99% level of significance); and Vulnerability to Harm, Subjugation, and Abandonment, (all at the 95% level of significance).

### Self-Control Behaviour

<table>
<thead>
<tr>
<th>YSQ-S1 Subscales</th>
<th>Spearman’s Rho</th>
<th>Partial Correlation controlling for Mood</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emotional Deprivation</td>
<td>-0.231</td>
<td>-0.192</td>
</tr>
<tr>
<td>Abandonment</td>
<td>-0.329*</td>
<td>-0.307</td>
</tr>
<tr>
<td>Mistrust</td>
<td>-0.415**</td>
<td>-0.381*</td>
</tr>
<tr>
<td>Social Isolation</td>
<td>-0.297</td>
<td>-0.249</td>
</tr>
<tr>
<td>Defectiveness/Shame</td>
<td>-0.171</td>
<td>-0.123</td>
</tr>
<tr>
<td>Failure to Achieve</td>
<td>0.058</td>
<td>0.081</td>
</tr>
<tr>
<td>Dependence/Incompetence</td>
<td>-0.289</td>
<td>-0.286</td>
</tr>
<tr>
<td>Vulnerability to Harm and Illness</td>
<td>-0.461**</td>
<td>-0.442**</td>
</tr>
<tr>
<td>Enmeshment</td>
<td>-0.390*</td>
<td>-0.376*</td>
</tr>
<tr>
<td>Subjugation</td>
<td>-0.319*</td>
<td>-0.362*</td>
</tr>
<tr>
<td>Self-Sacrifice</td>
<td>-0.245</td>
<td>-0.236</td>
</tr>
<tr>
<td>Emotional Inhibition</td>
<td>-0.286</td>
<td>-0.265</td>
</tr>
<tr>
<td>Unrelenting Standards</td>
<td>-0.089</td>
<td>-0.008</td>
</tr>
<tr>
<td>Entitlement</td>
<td>-0.470**</td>
<td>-0.472**</td>
</tr>
<tr>
<td>Insufficient Self-Control/Self-Discipline</td>
<td>-0.438**</td>
<td>-0.446**</td>
</tr>
</tbody>
</table>

* Correlation is significant at the 0.05 level (2-tailed).
** Correlation is significant at the 0.01 level (2-tailed).

Table 11. Correlation matrix for YSQ-S1 subscales with SCBS total score (n = 41) including partial correlation matrix controlling for mood.
When mood was controlled for, using partial correlations, similar EMS scores showed to be negatively correlated with SCB, although they are at slightly different levels of significance. Vulnerability to Harm, Entitlement, and Insufficient Self-Control/Self-Discipline are strongly associated at the 99% level of significance whereas Enmeshment, Subjugation, and Mistrust are strongly associated at the 95% level of significance. Controlling for mood removes Abandonment as being negatively correlated with SCB. This is also shown in Table 11.

When the total EMS score is correlated with the total SCB score, there is a significant negative association (\( \rho = -0.546, p = 0.000 \), two-tailed test, \( N = 41 \)). This suggests, as predicted, that the greater the level of EMS, the lower the score on self-control behaviour. This is still the case when mood is controlled for using partial correlation (\( r = -0.546, p = 0.000 \), two-tailed test, \( N = 41 \)).

A summary of the results gained in relation to the main Hypotheses is presented in section 3.7 below.

### 3.6 Supplementary Hypotheses testing

Spearman’s Rho was performed to investigate the relationship between EMS, SCB and items from the demographics questionnaire that pertained an expected relationship to them. The correlation matrix is presented in Table 12. Investigation into the relationship between onset of the bipolar disorder and the severity of EMS included both the number of years since diagnosis and the self-reported number of years since onset of illness, along with the EMS total score and EMS subscales.
<table>
<thead>
<tr>
<th>EMS</th>
<th>Yrs since onset</th>
<th>Yrs since diagnosis</th>
<th>Self-help books</th>
<th>Psychotherapy</th>
<th>Psycho-education</th>
<th>Age</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emotional Deprivation</td>
<td>-.252</td>
<td>-.400*</td>
<td>-.036</td>
<td>.130</td>
<td>-.159</td>
<td>-.282</td>
</tr>
<tr>
<td>Abandonment</td>
<td>.024</td>
<td>.103</td>
<td>.113</td>
<td>.031</td>
<td>-.066</td>
<td>-.136</td>
</tr>
<tr>
<td>Mistrust</td>
<td>-.128</td>
<td>-.240</td>
<td>-.040</td>
<td>-.014</td>
<td>-.026</td>
<td>-.248</td>
</tr>
<tr>
<td>Social Isolation</td>
<td>-.159</td>
<td>-.304</td>
<td>.359*</td>
<td>.042</td>
<td>-.146</td>
<td>-.308*</td>
</tr>
<tr>
<td>Defectiveness/Shame</td>
<td>-.059</td>
<td>-.279</td>
<td>-.211</td>
<td>-.032</td>
<td>-.182</td>
<td>-.123</td>
</tr>
<tr>
<td>Failure to Achieve</td>
<td>-.066</td>
<td>-.201</td>
<td>-.132</td>
<td>-.131</td>
<td>-.025</td>
<td>-.037</td>
</tr>
<tr>
<td>Dependence/Incompetence</td>
<td>.191</td>
<td>-.003</td>
<td>-.136</td>
<td>-.069</td>
<td>-.148</td>
<td>.045</td>
</tr>
<tr>
<td>Vulnerability to Harm and Illness</td>
<td>.125</td>
<td>-.223</td>
<td>.245</td>
<td>-.005</td>
<td>-.171</td>
<td>-.004</td>
</tr>
<tr>
<td>Enmeshment</td>
<td>-.127</td>
<td>-.057</td>
<td>.179</td>
<td>.272</td>
<td>.219</td>
<td>-.196</td>
</tr>
<tr>
<td>Subjugation</td>
<td>-.128</td>
<td>.063</td>
<td>.217</td>
<td>.034</td>
<td>.201</td>
<td>-.205</td>
</tr>
<tr>
<td>Self-Sacrifice</td>
<td>-.136</td>
<td>-.289</td>
<td>-.029</td>
<td>-.011</td>
<td>-.025</td>
<td>.002</td>
</tr>
<tr>
<td>Emotional Inhibition</td>
<td>-.102</td>
<td>.069</td>
<td>.277</td>
<td>.286</td>
<td>.268</td>
<td>-.144</td>
</tr>
<tr>
<td>Unrelenting Standards</td>
<td>-.128</td>
<td>.084</td>
<td>.046</td>
<td>.124</td>
<td>.282</td>
<td>-.311*</td>
</tr>
<tr>
<td>Entitlement</td>
<td>-.072</td>
<td>-.094</td>
<td>-.009</td>
<td>.201</td>
<td>.312*</td>
<td>-.433**</td>
</tr>
<tr>
<td>Insufficient Self-Control/Self-Discipline</td>
<td>.093</td>
<td>-.102</td>
<td>.105</td>
<td>.265</td>
<td>.081</td>
<td>-.181</td>
</tr>
<tr>
<td>Self-Control Behaviour</td>
<td>.048</td>
<td>.101</td>
<td>-.085</td>
<td>-.205</td>
<td>-.024</td>
<td>.290</td>
</tr>
</tbody>
</table>

** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).

Table 12. Correlation matrix for YSQ-S1 subscales, SCBS total score, and demographics (n = 41).
Contrary to prediction, there was no significant relationship between EMS total score and years since onset of illness, with either self-reported onset (r = -.113, p = .517, two-tailed test) or with years since diagnosis (r = -.277, p = .102, two-tailed test). The correlation between whether participants had received psychotherapy/counselling or not and EMS yielded no significant relationship at the p<0.05 significance level. When SCB was correlated with whether or not participants had received psychoeducation pertaining to their bipolar illness, similarly no relationship was found at the p<0.05 significance level (r = -.024, p = .880, two-tailed test).

3.7 Relationship of Hypotheses to Results Gained

3.7.1 Hypothesis One (H1)

It was predicted that early maladaptive schema (EMS), as measured by the YSQ-S1, would be present for the individuals with bipolar disorder in this study. Based on the literature regarding cognitive style and bipolar disorder, the three EMS expected to be found in this group were: Unrelenting Standards, Emotional Deprivation, and Defectiveness/Shame. As predicted, Unrelenting Standards was found to be highly prevalent in this group, as was Self-Sacrifice, which was not predicted. Emotional Deprivation and Defectiveness/Shame were not shown to be prevalent in this sample. There was a significant difference found between the presence of EMS in this bipolar sample compared to a normal population from Waller et al.'s (2004) study. The current bipolar group scored significantly higher than the normal population on measures of Emotional Deprivation, Abandonment, Mistrust, Social Isolation, Defectiveness/Shame, Dependence/Incompetence, Vulnerability to Harm and Illness, Enmeshment, Subjugation, Self-Sacrifice, and Entitlement.
3.7.2 Hypothesis Two (H2)

According to schema theory (Young, 1990) Early Maladaptive Schema (EMS) are thought to impact considerably on coping behaviour. This is illustrated in Ball et. al’s (2003) proposed explanatory model of bipolar disorder. It was hypothesised in the present study that there would be a significant negative correlation between EMS and SCB (the process by which individuals consciously decide to take charge of their own behaviour). More specifically, it was hypothesised that the three most prevalent EMS for this group would show the strongest association with SCB.

In general, total EMS score was negatively correlated with SCBs, supporting Hypothesis 2, that the greater the degree of EMS, the lower the ability to self-control. Although some of the schema-types were significantly negatively correlated with SCB, the most prevalent EMS for this group were not. This Hypothesis was therefore not supported in the present study.

3.7.3 Hypothesis Three (H3)

The majority of Early Maladaptive Schema (EMS) (11 of the 15) are purported to be stable and enduring themes (do not require activation). It was therefore predicted that they would not be dependent on mood. This was suggested in part to be true as there was no significant relationship between EMS and depressed, manic, or euthymic state. This Hypothesis was disconfirmed by the significant positive correlation between EMS and mixed state, although the small effect size rendered the finding questionable. Hypothesis 3 can therefore not be completely rejected.
When the conditional schemas were removed (Subjugation, Self-Sacrifice, Emotional Inhibition, and Unrelenting Standards), there was no difference in the median total EMS scores obtained by participants falling into the four mood state groups. This suggests that, as predicted, the self-reported unconditional schemas are not influenced by mood state.

3.7.4 Hypothesis Four (H4)

It was hypothesised that self-reported Self-Control Behaviour (SCB) would be influenced by current mood state, predicting that individuals falling into the non-euthymic mood state groups would score lower on the measure of self-control behaviour. Hypothesis 4 was not supported for individuals in the depressed and manic mood state groups. Although their mean scores on SCB were found to be lower than that for the euthymic group, the difference was not found to be significant. The difference between the mixed state group compared to the other three groups however was significant, indicating mixed state mood impacted on self-reported SCB.

3.7.5 Hypothesis Five (H5)

There is believed to be a circular relationship between Early Maladaptive Schema (EMS) and illness experience, each impacting on the other. It was therefore hypothesised that the greater the time since onset of illness (accumulative more illness experiences), the more severe the EMS would be. No relationship was found in the present study therefore Hypothesis 5 was rejected.
3.7.6 Hypothesis Six (H6)

A consequence of psychotherapy may be that schemas are altered for the individual, whether this is done explicitly as in some forms of cognitive therapy, or as a by-product (as may be the case in more exploratory forms of psychotherapy). It was therefore predicted that there would be a significant negative correlation between psychotherapy received and EMS. Hypothesis 6 was not supported; no significant relationship between psychotherapy and EMS was found.

3.7.7 Hypothesis Seven (H7)

It was hypothesised that those individuals who had received formal psychoeducation regarding their bipolar disorder would score higher on the measure of SCB. Similarly, no such relationship was found in the current study.
4. Discussion

The current study aimed to investigate the presence of early maladaptive schema in a sample of participants with bipolar disorder. Data was collated from 41 individuals using questionnaires. In this section, a brief summary of the main research findings is presented initially. This is followed by an exploration of these findings, highlighting features that support previous research, and those that add to them. The clinical implications of the findings are discussed. Strengths and limitations of the study are acknowledged and suggestions for future research outlined.

4.1 Summary of main findings

4.1.1 Early Maladaptive Schema (EMS)

The two most prevalent EMS in the current sample of participants with bipolar disorder were Unrelenting Standards and Self-Sacrifice. Compared to the normal population, the bipolar sample in the present study scored more highly on measures of Emotional Deprivation, Abandonment, Mistrust, Social Isolation, Defectiveness/Shame, Dependence/Incompetence, Vulnerability to Harm and Illness, Enmeshment, Subjugation, Self-Sacrifice, and Entitlement. The unconditional EMS (i.e. those that are considered to be stable, as opposed to conditional EMS that require activation from internal or external events), were not found to be mood-dependent. No relationship was found between whether individuals had received psychotherapy and strength of EMS.
4.1.2 Self-Control Behaviour (SCB)

There was a significant relationship between the presence of EMS and lower SCB overall, but no specific relationship was found between the most prevalent EMS in this sample and SCB. Mixed state mood was significantly correlated with SCB, whereas depressed, hypomanic and euthymic mood states were not. There was no relationship found between whether individuals had received psychoeducation or not and SCB. This finding is highly questionable however, as the differences between the group sizes between those who had received psychoeducation (n = 37) and those that had not (n = 4) were too large to allow for a meaningful comparison.

4.2 Interpretation of research findings

4.2.1 Presence of Early Maladaptive Schema (EMS)

As hypothesised, there was a presence of EMS in the bipolar sample. Compared to the normal population there was a significant difference in the total EMS scores between the two groups. This finding supports the cognitive behavioural model of bipolar disorder, which states that schemas play an important role in the presentation of the condition. Ball et al.'s (2003) proposed model of bipolar disorder postulates more specifically that EMS are a prominent feature of the condition, and this, in general terms, was also supported by the findings from the present study. More specifically, the EMS of Unrelenting Standards, Emotional Deprivation and Defectiveness/Shame were predicted to be a feature in the bipolar group.

Again, it is important when interpreting the results to note that the current bipolar group of participants were not matched against the normal participants group in Waller et al.'s (2004) study. Both groups are from the UK and both vary in age and
sex, although the normal population were a non-clinical group and were not screened for any mental or physical illnesses (that could be compared to bipolar disorder in terms of psychological effects of a long-term illness).

4.2.2 Unrelenting Standards

As predicted, Unrelenting Standards was a strong feature of the bipolar sample. This supports existing research into the cognitive style of individuals with a bipolar disorder that cites perfectionism (e.g. Scott, 1995; Scott, Stanton, Garland and Ferrier, 2000; Newman et al. 2002; Blatt, 1995) and extreme goal-attainment attitudes (e.g. Lam, Wright & Smith, 2004; Johnson et al. 2000) as being prevalent traits.

An interesting finding from the present study is that there was no significant difference between the level of Unrelenting Standards found in the bipolar sample compared to the normal population. The authors of the normative study found that this schema was also the most prevalent in the normal population (Waller et al., 2004). This brings into question a number of salient points regarding the concept of perfectionism in relation to bipolar disorder, the measurement of EMS, and the design of the present study. The last two points will be discussed in more detail later in this section.

If it were the case that there is a similar prevalence of perfectionism found in the normal population compared to the bipolar sample, it may be that there is a feature of perfectionism, in combination with other bipolar illness-related phenomenon which serve to exacerbate difficulties. Newman et al. (2002) suggest that because individuals with a bipolar illness experience more than the average amount of
difficulties in their lives, this strive for perfection is likely to lead to exacerbated feelings of failure.

Scott (1995) highlighted that perfectionism may adversely affect individuals’ ability to accept the diagnosis and to adhere to medication, as experiences are likely to be viewed as a personal failure. It may be the case therefore that for the normal population, a certain level of perfectionism could be experienced as non-disruptive (or even productive), whereas for individuals living with a bipolar illness, which entails by definition an increase in adverse life events, it creates difficulties that are seen at a clinical level. It may also be the case that in the normal population other (adaptive) schema exist which balance out any possible negative effects of Unrelenting Standards. This has been suggested by Padesky (2001) to be a likely phenomenon in the non-clinical population, but was not measured in the normative study.

In the present study a significant positive correlation was found between Unrelenting Standards and Entitlement (the belief that one is superior to others and entitled to special privileges). Young et al. (2003) suggest that this schema combination is common among narcissistic individuals. Although there is a suggested link between narcissism and bipolar disorder, this has been found to be a state phenomenon only apparent during a manic episode, and not prevalent in euthymic individuals (e.g., Stormberg, Ronningstam & Gunderson, 1998).

4.2.3 Emotional Deprivation
Contrary to prediction, Emotional Deprivation was not found in the present study to be a feature of bipolar disorder. Although it was the third most prevalent schema
(after Unrelenting Standards and Self-Sacrifice), the difference between this and other schema was not significant. This may reflect a methodological issue. As discussed in the results section, a Friedman’s $X^2$ test used with a large number of levels of independent variables (from the 15 different schema) is likely to increase the expectation of committing a type II error (Clark-Carter, 1997). This suggests that there is a possibility that the results are conservative and it may be that if the study was repeated with larger participant numbers this schema would be more significantly prevalent. This is of course not possible to predict with any certainty, but is a question better addressed by further research with larger participant numbers.

Compared to the normative data, Emotional Deprivation was significantly more prevalent for the bipolar sample. This also lends support to the suggestion that it may be a feature of the disorder, although it is unclear as to whether a difference would be found between bipolar disorder and other clinical groups such as unipolar depression. Again, it is important to refer to previous research findings that have suggested autonomy to be a more salient feature of bipolar disorder (Beck, 1983). If indeed there are similarities between the concepts of autonomy and Emotional Deprivation, as is postulated in the present study, then this would also suggest that the latter would be a feature of the bipolar sample. This is also the case for previous research that has found dependency to be lower in individuals with a bipolar disorder.

4.2.4 Defectiveness/Shame

Similarly, Defectiveness/Shame was not found to be a feature of the current sample of participants with bipolar disorder. This schema was ranked lower according to prevalence, as the tenth most evident of the fifteen EMS. This suggests that contrary
to prediction Defectiveness/Shame is not a feature of this bipolar group, and possibly would not be found to be so even if the statistical analyses had been more powerful.

The low prevalence of the Defectiveness/Shame schema in the present study, despite the prediction based on existing literature that it would be a feature, brings into question the use of a self-report questionnaire for assessment. The YSQ-S1 will be discussed more fully later in this section. It is worth noting here however that Defectiveness/Shame is perceived as a deep-rooted schema type (developed from early childhood criticism and rejection) that may motivate the individual to evading exposure for fear of the other person’s rebuff (a feature of external shame). In the present study the questionnaire was completed with the current researcher and it is possible that respondents may have been more reluctant to answer honestly about such deeply held beliefs about themselves. It is also possible that individuals were unaware of this schema type themselves. As Young et al. (2003) note, individuals often avoid, or attempt to overcompensate for, the Defectiveness/Shame schema. This is most commonly seen in narcissistic presentations and where the individuals may be unaware of its existence.

Defectiveness/Shame was found to be significantly more prevalent in the bipolar sample compared to the normal population. This finding is consistent with what is known about core beliefs in affective disorders. What is unclear from the present study is whether the bipolar sample would differ significantly compared to unipolar depression. As mentioned, interpersonal rejection sensitivity (American Psychiatric Association, 1994) has been shown to be a more prevalent feature of bipolar disorder compared to unipolar depression. However, this does not fully explain the concept of
Defectiveness/Shame. It is likely that this schema type is prevalent throughout the range of presentations observed by clinicians in mental health settings, particularly depression (e.g. Gilbert, 1998).

4.2.5 Self-Sacrifice

Although not predicted in the present study, Self-Sacrifice was found to be a common schema type in the bipolar sample. This is an interesting finding that does not appear to be well supported in the literature. Self-Sacrifice is a schema type reflecting an excessive desire to meet the needs of other people beyond one's own needs. It is described by Young as a voluntary style of relating to others, borne out of a genuine desire to prevent others feeling pain, but also as a way of relating to others who are perceived to be 'needy' (Young et al., 2003). The individual with this schema type can experience guilt if they do not put others' needs before their own. It is connected to a heightened sensitivity to the pain of others and what Young terms a highly "empathic temperament".

Previous research on bipolar disorder, using neuropathological and structural neuroimaging, has shown deficits in recognising emotion in facial expressions of others (e.g. Gur, Erwin & Gur, 1992) whereas other studies have indicated a bias towards the recognition of sad facial expressions (e.g. Philips, 2003). This may provide some support for the idea that individuals with bipolar disorder may be drawn towards those they perceive as being more needy. There may also be a link here with the concept of interpersonal rejection sensitivity as discussed in relation to Emotional Deprivation (page 34). Indeed, Young and his colleagues have found that Self-
Sacrifice is usually coupled with Emotional Deprivation, as individuals meet the needs of others at the expense of their own needs.

There is an interesting observation to be made however regarding the completion of the YSQ-S1. The statements relating to Self-Sacrifice are presented in such a way as to make them more appealing to be rated by individuals. Rating on such statements may be a factor for individuals presenting a more 'likeable' self. This will be discussed in more detail in relation to limitations of the present study (section 4.4).

Self-Sacrifice was rated more highly in the bipolar sample compared to the normal population. It would be interesting to investigate whether this concept was prevalent in other clinical groups where shame is a feature, such as unipolar depression. In order to attempt to explore what the concept of Self-Sacrifice is measuring in this sample, this schema was compared with other EMS. The correlation of all EMS in this sample shows that Self-Sacrifice is significantly positively correlated with Emotional Deprivation, Mistrust/Abuse, Social Isolation, Subjugation, and Insufficient Self-Control/Self-Discipline (Appendix J). There was no significant correlation with Defectiveness/Shame. It has already been suggested that Defectiveness/Shame may not have been reliably measured by the YSQ-S1 in the present study. However, if it is assumed that Defectiveness/Shame has been reliably measured in the present study, then the fact that it is not correlated with Self-Sacrifice may suggest the latter is a genuine measure of a selfless desire to attend to the needs of others (as opposed to a narcissistic grandiosity of believing the self to be a powerful support for other, 'weaker', people). However, as has already been discussed, this is brought into question by the very nature of shame being orientated towards concealment and
therefore it is not possible to say with any certainty what Self-Sacrifice is really measuring in the present study. This is a criticism that will be discussed further (page 88).

4.2.6 EMS and mood state

Overall it was found that the mixed state group had greater variability in their total EMS scores, and had a higher mean EMS score. The effect size for this relationship was found to be small however, which brings into question the importance of this result. There were only five participants that fell within the mixed state group and it is unlikely that this is a big enough sample to allow for accurate inferences to be made. When the conditional schemas were removed, there was no significant difference between the mood state groups and therefore the hypothesis that EMS are not mood-dependent was supported. This is in line with previous research suggesting EMS are stable and enduring themes (Young, 1990). Although the strength of EMS may fluctuate over time due to the influence of major life events and experiences, they are not subject only to being activated by internal or external events. In other words, they are not considered to be latent until activated (such as is thought to be the case for the traditional CBT concept of schemas). The findings from the present study therefore support Young's proposal that the majority of the EMS are unconditional, but suggests that Subjugation, Self-Sacrifice, Emotional Inhibition, and Unrelenting Standards/Hypercriticalness are likely to be more conditional upon mood state (Young et al., 2003). This finding also lends some support to more recent research on the cognitive style of individuals with bipolar disorder that has found a significant presence of dysfunctional core beliefs inter-episode (e.g. Alloy et al., 1999; Lam et
al., 2004), whereas previously research suggested that individuals returned to a 'normal' level of functioning (Goodwin & Jamison, 1990).

4.2.7 Relationship between EMS and SCB

The SCBS (Rosenbaum, 1980) is designed to assess how individuals use cognitions to control physiological and emotional responses, apply problem-solving strategies, are able to delay immediate gratification, and their level of perceived self-efficacy. SCBs are relevant to the bipolar population as they involve the process by which individuals consciously decide to take charge of their own behaviour. This is important because clear changes in behaviour take place during the prodromal phase of the illness. This concept is particularly applicable when considering a cognitive behavioural model of bipolar disorder, which encapsulates changes in behaviour, affect, cognitions and physiology.

The second focus of the present study was to investigate one of the possible implications of EMS for the way individuals cope with their experiences of bipolar disorder. As Ball et al.'s study suggests, there is a link between cognitive and schematic style and adaptation and adjustment to the illness (Ball et al., 2003). Schemas are thought to contribute to the use of faulty coping strategies that reinforce and perpetuate the very problems that support the formation of the schemas in the first place (known often as the "self-fulfilling prophecy"). Individuals show varying ways of trying to cope with the symptoms of a bipolar illness. It has been suggested that individuals with more adaptive coping strategies to deal with the onset of an episode of either mania or depression (a prodrome) are more likely to function well in spite of their illness (Lam & Wong, 1997).
The present study found a significant negative association between the total EMS score and the total SCB score. As predicted, this suggests that a greater level of dysfunctional core beliefs (EMS) is associated with less ability to exercise self-control behaviours. This finding held when mood was controlled for. This suggests that regardless of mood state, EMS may interfere with the effective execution of SCBs.

More specifically, there was a significant relationship found between SCB and the schemas of Mistrust, Entitlement, Insufficient Self-Control/Self-Discipline, Vulnerability to Harm, Subjugation, and Abandonment. According to Young, coping responses are idiosyncratic to individuals (Young et al., 2003). In other words, individuals with the same EMS are still prone to adopting unique strategies for coping. It is therefore unlikely that particular schema types lead to particular SCBs. What is perhaps more interesting is that in the present study, there were seven EMS that did not significantly correlate individually with SCB: Emotional Deprivation, Social Isolation, Defectiveness/Shame, Failure to Achieve, Dependence/Incompetence, Self-Sacrifice, Emotional Inhibition, and Unrelenting Standards. This brings into question the proposed model by Ball et al. (2003), which suggests that EMS do interact with how individuals cope with illness experience. The SCBS is a measure of how individuals employ SCBs to cope with everyday difficulties. It may be that different coping strategies are employed when it comes to coping with illness-related experiences, and that these are influenced more strongly by EMS. However, there does not appear to be any evidence in the existing literature to support this hypothesis. According to Young’s theory, the coping style adopted by individuals is a fixed trait phenomenon, even though the particular strategies used in any given situation (coping responses) are changeable (Young et al., 2003).
When the effect of mood was controlled for, the majority of schema were shown to be negatively correlated with SCB (except for Abandonment). This supports the suggestion that the EMS may affect coping responses regardless of mood state and again reinforces the likelihood that EMS are stable and enduring themes.

4.3 Clinical relevance

4.3.1 Unrelenting Standards

Although in the present study Unrelenting Standards was not found to be more prevalent than in the normal population, it has been suggested that perfectionism is likely to cause specific difficulties for this client group, due to the nature of illness-related experiences. Specifically, it is thought to adversely affect individuals' ability to accept the diagnosis and to adhere to medication, as experiences are likely to be viewed as a personal failure (Scott, 1995). Newman et al. (2002) suggest that because individuals with a bipolar illness experience more than the average amount of difficulties in their lives, this striving for perfection is likely to lead to exacerbated feelings of failure.

Findings from the present study indicate that there is also evidence that perfectionism in individuals seeking therapy can make the development of an optimal therapeutic relationship all the more difficult to achieve (Zuroff, D.C., Blatt, S.J., Sotsky, S.M., Krupnick, Martin, Sanislow & Simmons, 2000), and this further supports the use of a therapy that places emphasis on the therapeutic relationship and addressing underlying core beliefs prior to the introduction of suggested coping strategies. Given that suicidality is excessively common for individuals with a bipolar disorder, a reduced capacity to problem-solve during times of suicidal ideation due to a high
level of perfectionism (e.g. Blatt, 1995; Scott et al., 2000) is likely to intensify distress and render the individual at greater risk of self-harm. It is therefore important not simply to measure features of cognitive style in isolation, but to explore their relationship with each other, and with other illness-related phenomenon.

4.3.2 Self-Sacrifice

The implications for Self-Sacrifice being a prevalent EMS in the bipolar population are less clear than other findings from the current study, but some tentative suggestions based on the findings from this and previous studies will be put forward.

A common prodromal feature of hypomania is that individuals become more activated (as already discussed in relation to the Internal State Scale), and this often involves taking on more responsibilities, and accepting tasks and work from others (e.g. Goodwin & Jamison, 1990). Recognising this increase in activity levels and resisting saying “yes” to all requests put forward by others is often a part of relapse prevention work. Individuals with bipolar disorder often find it a challenge to say no to others’ requests, partly because they are fighting against the strong urge of hypomania and partly because letting other people down often results in feelings of guilt (Lam et al., 1999). The Self-Sacrifice schema may present additional difficulties when working with individuals to reduce their acceptance of others’ requests. As already noted, schemas “fight for survival” in order for the individual to maintain a constant sense of self (they are seen as ego-syntonic by the individual). Attempts to teach coping strategies that are perceived to be ego-dystonic (i.e. not meeting the needs of others in order to meet one’s own needs) could, without careful exploration, be asking the client to adopt a coping strategy that is perceived to have greater costs
than benefits. Schema-focussed therapy may be a helpful way for therapist and client to explore the presence of Self-Sacrifice and the implications it may have for successful relapse prevention.

4.3.3 Informing therapeutic intervention

As current treatments for bipolar disorder are thought to be suboptimal (e.g. Manic Depression Fellowship, 2001), there is a clear need for psychological therapy to be developed for this client group. Although CBT has been found to be effective for many individuals in research trials thus far, many of the studies have involved case vignettes, descriptions of untested techniques, uncontrolled studies, and have used small sample sizes (e.g. Palmer, Williams & Adams, 1995; Zaretsky, Segal & Gemar, 1999). The focus of larger, more rigorous outcome trials has often been circumscribed to specific targets, for example increasing medication compliance, rather than enhancing overall psychological well-being (as may be the focus of CBT for other types of psychological distress, such as unipolar depression). The results from Lam et al.'s (2003) randomised controlled trial of CBT for relapse prevention of bipolar episodes do show promising results. It was evident that this approach did not prove successful for a minority of individuals however. The control group did experience a higher rate of relapse (75%) compared to the CBT group (44%), but this does not explain why 44% of the CBT group still continued to relapse and did not benefit as much from the therapeutic approach as others.

It may be that schema-focussed therapy, based on the concept of EMS, could be a viable alternative to traditional cognitive behaviour therapy for some individuals with bipolar disorder. This is supported by Ball et al.'s proposed explanatory model of
bipolar disorder (Ball et al., 2003). The Royal Australian and New Zealand College of Psychiatrists Clinical Practice Guidelines Team (2004) has recently cited schema-focussed therapy as being a recommended approach for relapse prevention, reducing the severity and duration of episodes and promoting adaptation to the illness for individuals with bipolar disorder. However, it is important to note that no large scale trials have been carried out to suggest that schema-focussed therapy in particular (compared to traditional CBT) is more effective. Royal colleges have based their information on clinical experience and postulations, rather than sound research findings (e.g. from randomised controlled trials). This is a gap in the field that is required to be addressed before more confident claims can be made. As already discussed, however, there are particular features of the bipolar population that may make CBT less effective for a significant minority. Results of the present study suggest that these features may be encapsulated by the concept of EMS.

The YSQ-S1 is reported to be a reliable and valid measure for the assessment of EMS and therefore may be a useful screening tool during the assessment phase of treatment. As findings from the present study suggest however, there may be some caution required when using it with clients. Some criticisms of the YSQ-S1 will be further explored later in this section (page 88).

4.4 Strengths of the present study

The results from the present study add to the developing research base regarding the psychological phenomenon of bipolar disorder. More specifically, the current study leads to further investigation of the cognitive style of this clinical group and link findings with possible implications for clinical practice. No published study thus far
has sought to explore the concept of EMS in bipolar disorder using the YSQ-S1. Despite some of the criticisms outlined in section 4.4, the measures used in the present study were all reported to have good reliability, validity and internal consistency.

Compared to much of the previous research, the sample size in the present study, is relatively large. The bipolar disorder population are difficult to engage as research participants: due to the nature of the disorder many individuals are in depressed or manic phases of the illness, have co-morbid diagnoses, or engage in heavy drug or alcohol misuse, rendering the validity of self-reported data less reliable. Previous research based on this client group has tended to use individuals with a diagnosis of bipolar disorder type II, which is the milder form of the illness. The present study has engaged participants with primarily a diagnosis of bipolar disorder type I. As the more severe form of the illness, it is thought to be more commonly seen in mental health services (such as the services from which participants were recruited in the present study).

4.5 Limitations of the present study

4.5.1 Sample of participants

The current study benefited from recruiting a relatively large number of individuals with a type I diagnosis of bipolar disorder. However (for a number of reasons), they are not necessarily representative of the bipolar disorder population at large. Firstly, the study only represents those individuals who were motivated to take part. According to the response rate, 45% and 37% of individuals from the NHS service and the self-help group respectively elected not to take part. It is not known whether
there were certain characteristics shared by those who did not take part that would have altered the findings. For example, it may be that a greater presence of EMS for those individuals deterred them from taking part (as a greater degree of EMS contributes towards reduced functioning).

Secondly, the majority of participants had received psychoeducation regarding bipolar disorder that consisted of either an eight-week group programme led by clinical psychologists (as was the case for participants recruited from the NHS service), or similar information received in the form of self-help material (as was the case for participants recruited from the self-help organisation). The majority of individuals in the UK with bipolar disorder are unlikely to receive such support (Hill, Shepherd & Hardy, 1998), and are therefore less likely to have been informed of CBT-based coping strategies. Similarly, a significant proportion of participants in the present study (36%) had received some form of psychological therapy. This may be more than is seen in the general population, although no figures were available for comparison. This criticism was addressed in the present study by comparing questionnaire scores with whether or not individuals had received psychoeducation or psychological therapy, and no significant associations were found.

4.5.2 Measures

Some of the difficulties using the YSQ-S1 have already been outlined. The findings from the present study indicate that it is not always clear what underlying psychological processes are being measured when Early Maladaptive Schema (EMS) are identified. This is largely due to the self-report nature of the questionnaire. For example, if shame is an issue for an individual the likelihood of an honest response is
diminished (external shame leads the respondent to fear the judgement of the current researcher). The questionnaire consists of seventy-five statements, five for each of the different EMS (Appendix G). The majority of statements appear to have a particularly negative presentation, as they focus heavily on aspects such as aversive childhood experiences (e.g. “In general, people have not been there to give me warmth, holding and affection”), negative self-attributes (e.g. “I am unworthy of the love, attention, and respect of others”) and dysfunctional relationship styles (e.g. “I have not been able to separate myself from my parent(s), the way other people my age seem to”). However, the questions relating to Self-Sacrifice appear to be presented in such a way as to make them seem more attractive attributes (e.g. “I am a good person because I think of others more than of myself”). These statements are placed towards the end of the questionnaire and it may be the case that respondents are drawn to rating them more highly as a way of balancing the negative profile they presented up to that point. This hypothesis is further supported by the concept of shame as discussed above. Respondents may defend against their belief that the researcher will be holding a disparaging view of them (external shame) by attempting to present a more ‘likable’ self. This is an observation made by the present author, and not one that has been discussed in previous research. Suggestions for future research are presented in section 4.5.

Even if the respondent was providing an honest response, it may be the case as Young has identified, that the EMS are not recognised by the individual and therefore go undetected (Young et al., 2003). It has been noted by previous authors that one of the difficulties of assessing schemas by use of questionnaire is that conscious awareness and self-reports are relied upon to detect underlying or unconscious structures (e.g.
Muran, Samstag, Segal & Winston, 1998; Welburn et al., 2002). This is a difficulty pertinent to research and differs from clinical assessment where the YSQ-S1 would be carried out in the context of an in-depth interview of the individuals' overall history and presenting difficulties. For future research, it would therefore be advisable to combine the use of YSQ-S1 with clinical interview or observer ratings.

The principle criticism of the SCBS in the present study, as previously noted, is that it may be that different coping strategies are employed when it comes to coping with illness-related experiences (as opposed to everyday situations) and that these are influenced more strongly by EMS. The SCBS implies cross-situational consistency, although it does not provide specific situational variables in the statements. Nelson & Hayes (1981) suggest that, "care must be taken...to include specific situations in questions...if situation-specific information is to be generated". An alternative measure for the purposes of future research would be to use the Coping with Prodromal Symptoms Interview (Lam & Wong, 1997). This would be a more focussed piece of research with strong clinical implications for assessment and intervention.

4.5.3 Methodological issues

4.5.3.1 Control group. A major disadvantage of the present study was the lack of a viable control group. Control groups utilised in previous bipolar research have included chronic unipolar depression, schizophrenia and diabetes (for comparison with a group that suffers from a long-term illness). The concept of EMS has thus far not been investigated in these populations and therefore a comparison based on existing research was not possible. Much of the research into the cognitive style of
individuals with bipolar disorder has however used unipolar depression as a comparison group. The differences between the two groups have therefore been outlined in the Introduction of the present study and allow comparisons to be made. Notable differences have been found between the two groups for example on measures of perfectionism, dependency, interpersonal rejection sensitivity and need for approval.

For the purposes of the present study, normative data from the UK was used as a comparison for the bipolar sample. This has obvious disadvantages as a comparison group because the effects of having a long-term illness are not controlled for. It does however allow for some tentative conclusion to be drawn about the nature of EMS, as have already been outlined.

4.5.3.2. Statistical analyses. The present study was exploratory in nature, as the concept of EMS in bipolar disorder has not previously been researched, and this meant that the direction of the results could not be predicted with complete confidence. Two-tailed significance values were therefore used throughout the study, and this may have meant that some interesting differences in the data may not have been detected (type II error) at the 0.05 significance level. An attempt to address this difficulty was made by calculating the effect size of results, as well as the probability levels. It is recommended however that future research be conducted using directional hypotheses where possible, and with larger sample sizes.

Because of the skewed distribution of the EMS data, even following transformation, it was necessary to use non-parametric statistics. This will, in addition to the small
sample size, reduce the power efficiency of the analysis. A higher participant number
is recommended for future research to increase the likelihood of a normal distribution
being reached and to increase the power of the analyses.

4.6 Summary of suggestions for future research

The present study could be replicated with several changes in order to increase the
power of the analyses and allow for more confident generalisability. Changes could
be made in both the sample and the measures used, and these are summarised below.
Subsequently, ideas for research that continue from the present study are presented.

4.6.1 Sample

Firstly, a larger sample size could be employed. Secondly, participants could be
recruited from services that do not offer such a psychological approach (i.e. using
individuals who receive only a pharmacological intervention). This would be more
likely to produce findings from a sample that had not received psychoeducation or
psychotherapy. Thirdly, it would be interesting to compare findings from a bipolar
sample with a matched control group, such as unipolar depression.

4.6.2 Measures

4.6.2.1 Self-control: It has already been noted that the SCBS is not a situation-specific
measure of coping. Future research investigating the impact of EMS on coping in the
bipolar population would benefit from using a questionnaire that measures coping
with specific illness-related situations. The coping with prodromal symptoms
interview (Lam & Wong, 1997) would be a worthwhile tool to use.
4.6.2.2 Schema: It would be of interest to compare scores on the YSQ-S1 with observer ratings as well as clinical interview. This could help to investigate whether or not participants’ responses tend to reflect their true clinical profile, or indeed if by the very nature of EMS, individuals are either drawn to portraying a more likeable self, or are not aware enough of their schema to be able to report them. There may be a difference between scores when data is collected by a known clinician (who has spent time building a therapeutic alliance) compared to a researcher who is asking for ratings specifically for the purposes of research rather than for direct therapeutic gain on the part of the respondent. A further alternative for future research would be to rewrite the Self-Sacrifice statements with a more negative bias (in line with the other schema statements) and investigate whether a difference in responding is found. Alternatively, an additional scale could be used to estimate whether or not individuals are responding in order to present a more likeable self, for example by using the Social Desirability Scale (Crowne & Marlowe, 1960).

4.6.3 Continuation of research findings

The clinical implications for the present study pertain to choosing an effective form of psychological therapy for individuals with a bipolar disorder. It is hypothesised that the presence of EMS is likely to impede the use of traditional CBT, whereas schema-focussed therapy may be more effective. It would be interesting first of all to use the YSQ-S1 as an additional screening measure for individuals taking part in an outcome trial for CBT for bipolar disorder, to investigate whether or not those who score more highly on EMS benefit the least from the CBT. Subsequent research could investigate the effectiveness of using schema-focussed therapy in comparison to traditional CBT.
Furthermore, investigations into Ball et al.'s (2003) proposed explanatory model of bipolar disorder would provide credence for their claims. More specifically, the relationship between EMS and how individuals filter life events and stressors would be an interesting study.

4.7 Summary of conclusions

The present study was the first to explore the concept of Early Maladaptive Schema (EMS) in the bipolar population. Results indicate that Unrelenting Standards and Self-Sacrifice are prevalent features of this clinical group. This finding both supports existing research into prevalent traits of individuals with bipolar disorder (regarding perfectionism, goal-attainment, interpersonal rejection sensitivity, and biases towards the recognition of sad facial expressions) but also offers some new considerations. The difficulty of assessing schemas using self-report questionnaires has been highlighted in the present study, notably due to i) the nature of EMS being underlying, unconscious structures and ii) the possibility of individuals being reluctant to expose EMS that are perceived to be less attractive (external shame). Results are unable to discount the possibility that Emotional Deprivation is also a feature of this group, and research is required to investigate this further in other bipolar samples. Unconditional EMS were found to be unrelated to mood state, which supports Youngs' (1990) claims.

EMS were indicated to have a significant effect on SCB overall, although many of the individual EMS did not correlate significantly with SCB. This emphasises the need to measure ‘coping’ behaviours that are situation-specific and suggests that for future research, measures of coping would benefit from being directly related to illness-
related experiences. This would allow for a more focussed piece of research that tests a part of Ball et al.'s (2003) proposed explanatory model of bipolar disorder: the relationship between EMS and adjustment and adaptation to the illness.
5. References


Collaborative Study Group comparing lithium carbonate, imipramine, and a lithium carbonate-imipramine combination. *Archives of General Psychiatry*, 41, 1096-1104.


6. Appendices

Appendix A. DSM-IV criteria for bipolar disorder
Appendix B. Recruitment letter
Appendix C. Information sheet for potential participants
Appendix D. Consent forms for potential participants
Appendix E. Demographics questionnaire
Appendix F. Internal State Scale (ISS)
Appendix G. Self-Control Behaviour Schedule (SCBS)
Appendix H. Young Schema Questionnaire – short form (YSQ-S1)
Appendix I. Internal reliability table for the YSQ-S1
Appendix J. Descriptive statistics for the YSQ-S1
Appendix K. EMS correlation matrix
Appendix A. A summary of DSM-IV criteria for bipolar disorder

Mood disorders classification

Depressive disorders
Major depressive disorder (MDD)
Dysthymic disorder
Depressive disorder

NOS
Secondary to a general medical condition
Substance-induced

Bipolar disorders
Bipolar disorder I: manic episode(s) or mixed episode(s) and major depressive episode
Bipolar disorder II: major depressive episode(s) and hypomanic episode(s)
Bipolar disorder NOS
Cyclothymia: hypomanic symptoms and depressive symptoms

(American Psychiatric Association, 1994)
Dear

Your name has been passed to me by Dr XXX at the XXX Service as somebody who may be interested in taking part in a research project that I am currently undertaking.

Improving the treatment of bipolar disorder and bringing about changes to the way services are delivered can only be done by good research. You may be aware that the treatment offered by the XXX Service has already gone through rigorous research to ensure that it brings about the desired changes to well being in the safest and most effective way possible. But, as you know, there is still a long way to go. There is wide variation in an individual's response to treatment. For example, not everybody benefits from the current treatments available. Indeed, they may continue to suffer from problem mood swings or experience difficulties with medication. Others, on the other hand, seem to do very well. Understanding more clearly the factors involved in these differences will help to bridge the gap in these different treatment responses and ensure that the lives of all those affected by the condition are improved. This is why your help is needed. We need to understand, from as many individuals as possible, what their experiences are. Help from you could prove invaluable in improving the understanding of this condition and promoting future treatment and service developments. You can make a difference!

Enclosed is an information sheet giving details of the research, and what taking part involves. I would be grateful if you could take the time to read through this sheet and send back the reply slip to let me know if you would like to take part. I am happy to visit you at home or to meet with you at XXX House to complete the questionnaires; whichever is more convenient for you.

Your time is much appreciated.

Yours sincerely,

Eleanor Carpenter
Trainee clinical psychologist
(The University of Leicester)
Appendix C. Information sheet for potential participants

You are being invited to take part in a research study. Before you decide it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. 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.

Thank you for reading this.

Title of the study: The Relationship Between Early Maladaptive Schemas and Self-Control Behaviours for Individuals with a Bipolar Disorder.
(This means that the study will investigate the relationship between the way individuals with a bipolar disorder view themselves, other people and the world around them, and how they cope with everyday problems.)

1. What is the purpose of the study?
We all have “schemas”, which are like filters through which we view ourselves, other people, and the world around us. Everyone’s schemas are slightly different and are shaped by our personality and our upbringing. This study aims to investigate whether the schemas of individuals with a bipolar disorder influences how they cope with their illness. The study will hopefully be completed and written up for publication within 10 months.

2. Why have I been chosen?
All clients of XXX Service are being invited to take part.

3. Do I have to take part?
It is up to you to decide whether or not to take part. If you do decide to take part you will be given this information sheet to keep and be asked to sign a consent form. If you decide to take part you are still 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.

4. What will I have to do?
You will be asked to meet with the researcher to fill in some questionnaires about how you see your mood at that time, about how you tend to cope with problems in your life, and about how you view yourself, other people, and the world around you. This meeting will take approximately one hour. It can be held at XXX, at a time that is convenient for you.
5. What are the possible benefits of taking part?
This study is designed to help healthcare professionals understand bipolar disorder better from a psychological (as opposed to medical) point of view. This should lead to a better provision of therapy for individuals.

6. Will my taking part in this study be kept confidential?
All information that is collected about you during the course of the research will be kept strictly confidential. Any information about you that leaves XXX will have your name and address removed so that you cannot be recognised from it.

7. What will happen to the results of the research study?
The results of the study will be written up and submitted to a journal for publication, so that other colleagues can benefit from its findings. No individuals will be identified in the write-up. The results of the questionnaire responses from all participants will be used collectively, so no one individual will be analysed.
A summary of the findings will be written up as a report that can be sent to you on request.

8. Who is organising and funding the research?
This study is being carried out as a requirement of the researcher's doctorate training course in clinical psychology. Leicestershire Partnership NHS Trust is funding the costs of this study.

9. Who has reviewed the study?
This study has been reviewed by West Birmingham Local Research Ethics Committee and by the Research and Development Manager of Leicestershire Partnership NHS Trust.
The study is supervised by Dr. XXX (consultant clinical psychologist at XXX Service), and by the University of Leicester Clinical Psychology Department.

10. Contacts for Further Information
For further information please contact Eleanor Carpenter or Dr. XXX at XXX Service on XXX XXX

If you have any concerns about the study and wish to contact someone independent, you may telephone Ella Wright on 0121-507-5712
CONSENT FORM

Title of Project: The Relationship Between Early Maladaptive Schemas and Self-control Behaviours for Individuals with a Bipolar Disorder

Name of Researcher: Eleanor Carpenter

Please initial boxes

1. I confirm that I have read and understand the information sheet dated 10/08/03 (version 1) for the above study and have had the opportunity to ask questions.

2. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason, without my medical care or legal rights being affected.

3. I agree to take part in the above study.

Name of Patient Date Signature

Researcher Date Signature

1 for patient; 1 for researcher; 1 to be kept with XXX service notes

Early Maladaptive Schemas and Self-control Behaviours Eleanor Carpenter
10/08/03
CONSENT FORM For Clinical File Access

Title of Project: The Relationship Between Early Maladaptive Schemas and Self-control Behaviours for Individuals with a Bipolar Disorder

Name of Researcher: Eleanor Carpenter

Please initial box

I agree to allow Eleanor Carpenter access to my clinical files to obtain information necessary for this research project. I understand that this information will be treated confidentially.

Name of Patient ____________________________ Date ____________________________ Signature ____________________________

Researcher ____________________________ Date ____________________________ Signature ____________________________

1 for patient; 1 for researcher; 1 to be kept with XXX Service notes

Early Maladaptive Schemas and Self-control Behaviours

10/08/03

Eleanor Carpenter
Appendix E. Demographics Questionnaire

DEMOGRAPHICS

□ SEX male / female □ AGE (in years): ______

□ MARITAL STATUS
Married Divorced Single Co-habiting

□ CHILDREN
None 1-3 4-5 6+

□ ETHNICITY
White: Mixed: Asian/Asian British: Black/Black British: Chinese/Other:
British White and Black Caribbean Indian Caribbean Chinese
Irish White and Black African Pakistani African Other
Other White and Asian Bangladeshi Other

□ DIAGNOSIS
BD Type I BD Type II Rapid Cycling Other:

□ ONSET OF ILLNESS:

□ NUMBER OF HOSPITALISATIONS:

□ NUMBER OF EPISODES:

□ MEDICATION:
(continue overleaf)

□ SUPPORT RECEIVED FOR BIPOLAR DISORDER

<table>
<thead>
<tr>
<th></th>
<th>Previous (State how long ago)</th>
<th>Current (Duration)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Support group/MDF group</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MDS Newsletter</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-help books</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(state which)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medication</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychological therapy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(duration &amp; type)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education about BD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(duration &amp; type)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CPN contact</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(regularity)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other (please state)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix F. Internal State Scale (ISS)

The Internal State Scale

For each of the following statements, please mark an ‘X’ at the point on the line that best describes the way you have felt over the past 24 hours. While there may have been some change during that time, try to give a single summary rating for each item.

<table>
<thead>
<tr>
<th></th>
<th>Not at all/ Rarely</th>
<th>Very much so/ Much of the time</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Today my mood is changeable</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>2. Today I feel irritable</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>3. Today I feel like a capable person</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>4. Today I feel like people are out to get me</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>5. Today I actually feel great inside</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>6. Today I feel impulsive</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>7. Today I feel depressed</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>8. Today my thoughts are going fast</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>9. Today it seems like nothing will ever work out for me</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>10. Today I feel overactive</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>11. Today I feel as if the world is against me</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>12. Today I feel ‘sped up’ inside</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>13. Today I feel restless</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>14. Today I feel argumentative</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>15. Today I feel energised</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>16. Today I feel</td>
<td>Depressed/ Down</td>
<td>Normal</td>
</tr>
</tbody>
</table>

Appendix G. The Self-Control Behaviour Schedule (SCBS)

The Self-Control Behaviour Schedule
(Rosenbaum, 1980)

Date: _______________ Participant Number: __________

Please indicate how characteristic or descriptive each of the following statements is of you by using the code given below.

+3 very characteristic of me, extremely descriptive
+2 rather characteristic of me, quite descriptive
+1 somewhat characteristic of me, slightly descriptive
-1 somewhat uncharacteristic of me, slightly undescriptive
-2 rather uncharacteristic of me, quite undescriptive
-3 very uncharacteristic of me, extremely nondescriptive

Please circle one of the numbers underneath each question.

1. When I do a boring job, I think about the less boring parts of the job and the reward that I will receive once I am finished.
   +3       +2       +1       -1       -2       -3

2. When I have to do something that is anxiety arousing for me, I try to visualise how I will overcome my anxieties while doing it.
   +3       +2       +1       -1       -2       -3

3. Often by changing the way of thinking, I am able to change my feelings about almost everything.
   +3       +2       +1       -1       -2       -3

4. I often find it difficult to overcome my feelings of nervousness and tension without any outside help.
   +3       +2       +1       -1       -2       -3

5. When I am feeling depressed I try to think about pleasant events.
   +3       +2       +1       -1       -2       -3

6. I cannot avoid thinking about mistakes I have made in the past.
   +3       +2       +1       -1       -2       -3

7. When I am faced with a difficult problem, I try to approach its solution in a systematic way.
   +3       +2       +1       -1       -2       -3

8. I usually do my duties quicker when someone is pressuring me.
   +3       +2       +1       -1       -2       -3
9. When I am faced with a difficult decision, I prefer to postpone making a decision even if all the facts are at my disposal. *
+3   +2   +1   -1   -2   -3

10. When I find that I have difficulties in concentrating on my reading, I look for ways to increase my concentration.
+3   +2   +1   -1   -2   -3

11. When I plan to work, I remove all things that are not relevant to my work.
+3   +2   +1   -1   -2   -3

12. When I try to get rid of a bad habit, I try to find all the factors that maintain this habit.
+3   +2   +1   -1   -2   -3

13. When an unpleasant thought is bothering me, I try to think about something pleasant.
+3   +2   +1   -1   -2   -3

14. If I would smoke two packages of cigarettes a day, I probably would need outside help to stop smoking. *
+3   +2   +1   -1   -2   -3

15. When I am in a low mood, I try to act cheerful so my mood will change.
+3   +2   +1   -1   -2   -3

16. If I had the pills with me, I would take a tranquilliser whenever I felt tense and nervous. *
+3   +2   +1   -1   -2   -3

17. When I am depressed, I try to keep myself busy with things that I like.
+3   +2   +1   -1   -2   -3

18. I tend to postpone unpleasant duties, even if I could perform them immediately. *
+3   +2   +1   -1   -2   -3

19. I need outside help to get rid of some of my bad habits. *
+3   +2   +1   -1   -2   -3

20. When I find it difficult to settle down and do a certain job, I look for ways to help me settle down.
+3   +2   +1   -1   -2   -3

21. Although it makes me feel bad, I cannot avoid thinking about all kinds of possible catastrophes in the future. *
+3   +2   +1   -1   -2   -3

22. First of all I prefer to finish a job that I have to do and then start doing the things I really like.
+3   +2   +1   -1   -2   -3

23. When I feel pain in a certain part of my body, I try not to think about it.
+3   +2   +1   -1   -2   -3

118
24. My self-esteem increases once I am able to overcome a bad habit.
+3 +2 +1 -1 -2 -3

25. In order to overcome bad feelings that accompany failure, I often tell myself that it is not so catastrophic and that I can do something about it.
+3 +2 +1 -1 -2 -3

26. When I feel that I am too impulsive, I tell myself 'stop and think before you do anything'.
+3 +2 +1 -1 -2 -3

27. Even when I am extremely angry at somebody, I consider my actions very carefully.
+3 +2 +1 -1 -2 -3

28. Facing the need to make a decision, I usually find out all the possible alternatives instead of deciding quickly and spontaneously.
+3 +2 +1 -1 -2 -3

29. Usually I do first the things I really like to do even if there are more urgent things to do.
* +3 +2 +1 -1 -2 -3

30. When I realise that I cannot help but be late for an important meeting, I tell myself to keep calm.
+3 +2 +1 -1 -2 -3

31. When I feel pain in my body, I try to divert my thoughts from it.
+3 +2 +1 -1 -2 -3

32. I usually plan my work when faced with a number of things to do.
+3 +2 +1 -1 -2 -3

33. When I am short of money, I decide to record all my expenses in order to plan more carefully for the future.
+3 +2 +1 -1 -2 -3

34. If I find it difficult to concentrate on a certain job, I divide the job into smaller segments.
+3 +2 +1 -1 -2 -3

35. Quite often, I cannot overcome unpleasant thoughts that bother me.
* +3 +2 +1 -1 -2 -3

36. Once I am hungry and unable to eat, I try to divert my thoughts away from my stomach or try to imagine that I am satisfied.
+3 +2 +1 -1 -2 -3

Appendix H. Young Schema Questionnaire – short form (YSQ-S1)

YSQ-S1
Developed by Jeffrey Young, Ph.D.

Name ___________________________________________________ Date _________________________

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 what you think to be true. Chose 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  4 = Moderately true of me
2 = Mostly untrue of me      5 = Mostly true of me
3 = Slightly more true than untrue  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 don't fit in.

13. _____ I'm fundamentally different from other people.

14. _____ It is only a matter of time before someone betrays me.

15. _____ I am quite suspicious of other people's motives.

16. _____ I'm usually on the lookout for people's ulterior motives.

17. _____ I don't fit in.

18. _____ I feel alienated from other people.

19. _____ I always feel on the outside of groups.

20. _____
21. ____ No man/woman I desire could love me once 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 judgement 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 by 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 parents or partner.
46. ____ I think 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 peoples’ 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 and 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.
Appendix I

Cronbach’s alpha coefficients for the 15 subscales of the Young Schema Questionnaire – short form (YSQ-S1) from the present study and normative study (Waller et al., 2004).

<table>
<thead>
<tr>
<th>YSQ-S1 Subscales</th>
<th>Alpha (Current study)</th>
<th>Alpha (Normative study)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emotional Deprivation</td>
<td>.90</td>
<td>.86</td>
</tr>
<tr>
<td>Abandonment</td>
<td>.90</td>
<td>.87</td>
</tr>
<tr>
<td>Mistrust</td>
<td>.85</td>
<td>.83</td>
</tr>
<tr>
<td>Social Isolation</td>
<td>.90</td>
<td>.89</td>
</tr>
<tr>
<td>Defectiveness/Shame</td>
<td>.93</td>
<td>.89</td>
</tr>
<tr>
<td>Failure to Achieve</td>
<td>.89</td>
<td>.92</td>
</tr>
<tr>
<td>Dependence/Incompetence</td>
<td>.73</td>
<td>.79</td>
</tr>
<tr>
<td>Vulnerability to Harm and Illness</td>
<td>.78</td>
<td>.84</td>
</tr>
<tr>
<td>Enmeshment</td>
<td>.82</td>
<td>.76</td>
</tr>
<tr>
<td>Subjugation</td>
<td>.82</td>
<td>.82</td>
</tr>
<tr>
<td>Self-Sacrifice</td>
<td>.73</td>
<td>.82</td>
</tr>
<tr>
<td>Emotional Inhibition</td>
<td>.86</td>
<td>.85</td>
</tr>
<tr>
<td>Unrelenting Standards</td>
<td>.81</td>
<td>.84</td>
</tr>
<tr>
<td>Entitlement</td>
<td>.89</td>
<td>.76</td>
</tr>
<tr>
<td>Insufficient Self-Control/ Self-Discipline</td>
<td>.78</td>
<td>.86</td>
</tr>
</tbody>
</table>
### Descriptive Statistics for the YSQ-S1.

<table>
<thead>
<tr>
<th>YSQ-S1 Subscales</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emotional Deprivation</td>
<td>0</td>
<td>5</td>
<td>1.80</td>
<td>1.847</td>
</tr>
<tr>
<td>Abandonment</td>
<td>0</td>
<td>5</td>
<td>1.32</td>
<td>1.619</td>
</tr>
<tr>
<td>Mistrust</td>
<td>0</td>
<td>5</td>
<td>1.05</td>
<td>1.431</td>
</tr>
<tr>
<td>Social Isolation</td>
<td>0</td>
<td>5</td>
<td>.98</td>
<td>1.440</td>
</tr>
<tr>
<td>Defectiveness/Shame</td>
<td>0</td>
<td>5</td>
<td>.78</td>
<td>1.441</td>
</tr>
<tr>
<td>Failure to Achieve</td>
<td>0</td>
<td>4</td>
<td>.37</td>
<td>.888</td>
</tr>
<tr>
<td>Dependence/Incompetence</td>
<td>0</td>
<td>4</td>
<td>.66</td>
<td>1.109</td>
</tr>
<tr>
<td>Vulnerability to Harm and Illness</td>
<td>0</td>
<td>5</td>
<td>1.05</td>
<td>1.482</td>
</tr>
<tr>
<td>Enmeshment</td>
<td>0</td>
<td>4</td>
<td>.68</td>
<td>1.171</td>
</tr>
<tr>
<td>Subjugation</td>
<td>0</td>
<td>4</td>
<td>1.00</td>
<td>1.245</td>
</tr>
<tr>
<td>Self-Sacrifice</td>
<td>0</td>
<td>5</td>
<td>2.17</td>
<td>1.465</td>
</tr>
<tr>
<td>Emotional Inhibition</td>
<td>0</td>
<td>5</td>
<td>.76</td>
<td>1.261</td>
</tr>
<tr>
<td>Unrelenting Standards</td>
<td>0</td>
<td>5</td>
<td>2.54</td>
<td>1.804</td>
</tr>
<tr>
<td>Entitlement</td>
<td>0</td>
<td>5</td>
<td>1.29</td>
<td>1.692</td>
</tr>
<tr>
<td>Insufficient Self-Control/</td>
<td>0</td>
<td>5</td>
<td>1.22</td>
<td>1.458</td>
</tr>
<tr>
<td>Self-Discipline</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EMS Total Score</td>
<td>0</td>
<td>41</td>
<td>17.63</td>
<td>11.092</td>
</tr>
</tbody>
</table>
Appendix K. EMS correlation matrix (YSQ-S1)

<table>
<thead>
<tr>
<th></th>
<th>ED</th>
<th>AB</th>
<th>MA</th>
<th>SI</th>
<th>DS</th>
<th>FA</th>
<th>DI</th>
<th>VH</th>
<th>EM</th>
<th>SU</th>
<th>SS</th>
<th>EI</th>
<th>US</th>
<th>ET</th>
<th>IS</th>
</tr>
</thead>
<tbody>
<tr>
<td>ED</td>
<td>1.000</td>
<td>.071</td>
<td>.516**</td>
<td>.497**</td>
<td>.377*</td>
<td>.190</td>
<td>.221</td>
<td>.332*</td>
<td>.028</td>
<td>.196</td>
<td>.425**</td>
<td>.176</td>
<td>.162</td>
<td>.220</td>
<td>.197</td>
</tr>
<tr>
<td>AB</td>
<td>.071</td>
<td>1.000</td>
<td>.246</td>
<td>.259</td>
<td>.285</td>
<td>.519**</td>
<td>.554**</td>
<td>.379*</td>
<td>-.126</td>
<td>.278</td>
<td>.210</td>
<td>.121</td>
<td>-.056</td>
<td>-.039</td>
<td>.388*</td>
</tr>
<tr>
<td>MA</td>
<td>.516**</td>
<td>.246</td>
<td>1.000</td>
<td>.588**</td>
<td>.579**</td>
<td>.124</td>
<td>.357*</td>
<td>.441**</td>
<td>.165</td>
<td>.208</td>
<td>.383*</td>
<td>.295</td>
<td>.228</td>
<td>.314*</td>
<td>.271</td>
</tr>
<tr>
<td>SI</td>
<td>.497**</td>
<td>.259</td>
<td>.588**</td>
<td>1.000</td>
<td>.397*</td>
<td>.188</td>
<td>.149</td>
<td>.388*</td>
<td>.188</td>
<td>.158</td>
<td>.331*</td>
<td>.082</td>
<td>.127</td>
<td>.170</td>
<td>.304</td>
</tr>
<tr>
<td>DS</td>
<td>.377*</td>
<td>.285</td>
<td>.579**</td>
<td>.397*</td>
<td>1.000</td>
<td>.470**</td>
<td>.267</td>
<td>.268</td>
<td>.075</td>
<td>.015</td>
<td>.224</td>
<td>-.006</td>
<td>.184</td>
<td>-.005</td>
<td>.136</td>
</tr>
<tr>
<td>FA</td>
<td>.190</td>
<td>.519**</td>
<td>.124</td>
<td>.188</td>
<td>.470**</td>
<td>1.000</td>
<td>.372*</td>
<td>.135</td>
<td>-.091</td>
<td>.291</td>
<td>.102</td>
<td>.036</td>
<td>.111</td>
<td>-.092</td>
<td>.204</td>
</tr>
<tr>
<td>DI</td>
<td>.221</td>
<td>.554**</td>
<td>.357*</td>
<td>.149</td>
<td>.267</td>
<td>.372*</td>
<td>1.000</td>
<td>.359*</td>
<td>.130</td>
<td>.315*</td>
<td>.280</td>
<td>-.061</td>
<td>-.156</td>
<td>.111</td>
<td>.369*</td>
</tr>
<tr>
<td>VH</td>
<td>.332*</td>
<td>.379*</td>
<td>.441**</td>
<td>.388*</td>
<td>.268</td>
<td>.135</td>
<td>.359*</td>
<td>1.000</td>
<td>.026</td>
<td>.100</td>
<td>.199</td>
<td>.295</td>
<td>-.081</td>
<td>.188</td>
<td>.337*</td>
</tr>
<tr>
<td>EM</td>
<td>.028</td>
<td>-.126</td>
<td>.165</td>
<td>.188</td>
<td>.075</td>
<td>-.091</td>
<td>.130</td>
<td>.026</td>
<td>1.000</td>
<td>.362*</td>
<td>.141</td>
<td>.284</td>
<td>.189</td>
<td>.396*</td>
<td>.266</td>
</tr>
<tr>
<td>SU</td>
<td>.196</td>
<td>.278</td>
<td>.208</td>
<td>.158</td>
<td>.015</td>
<td>.291</td>
<td>.315*</td>
<td>.100</td>
<td>.362*</td>
<td>1.000</td>
<td>.349*</td>
<td>.433**</td>
<td>-.001</td>
<td>.297</td>
<td>.405**</td>
</tr>
<tr>
<td>SS</td>
<td>.425**</td>
<td>.210</td>
<td>.383*</td>
<td>.331*</td>
<td>.224</td>
<td>.102</td>
<td>.280</td>
<td>.199</td>
<td>.141</td>
<td>.349*</td>
<td>1.000</td>
<td>.208</td>
<td>-.063</td>
<td>.144</td>
<td>.408**</td>
</tr>
<tr>
<td>EI</td>
<td>.176</td>
<td>.121</td>
<td>.295</td>
<td>.082</td>
<td>-.006</td>
<td>.036</td>
<td>-.061</td>
<td>.295</td>
<td>.284</td>
<td>.433**</td>
<td>.208</td>
<td>1.000</td>
<td>.182</td>
<td>.198</td>
<td>.296</td>
</tr>
<tr>
<td>US</td>
<td>.162</td>
<td>-.056</td>
<td>.228</td>
<td>.127</td>
<td>.184</td>
<td>.111</td>
<td>-.156</td>
<td>-.081</td>
<td>.189</td>
<td>-.001</td>
<td>-.063</td>
<td>.182</td>
<td>1.000</td>
<td>.396*</td>
<td>-.094</td>
</tr>
<tr>
<td>ET</td>
<td>.220</td>
<td>-.039</td>
<td>.314*</td>
<td>.170</td>
<td>-.005</td>
<td>-.092</td>
<td>.111</td>
<td>.188</td>
<td>.396*</td>
<td>.297</td>
<td>.144</td>
<td>.198</td>
<td>.396*</td>
<td>1.000</td>
<td>.216</td>
</tr>
<tr>
<td>IS</td>
<td>.197</td>
<td>.388*</td>
<td>.271</td>
<td>.304</td>
<td>.136</td>
<td>.204</td>
<td>.369*</td>
<td>.337*</td>
<td>.266</td>
<td>.405**</td>
<td>.408**</td>
<td>.296</td>
<td>-.094</td>
<td>.216</td>
<td>1.000</td>
</tr>
</tbody>
</table>

** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).