

**Adult attachment and coping style in students with elevated mood**

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Keele Universities for the jointly awarded degree of  
Doctorate in Clinical Psychology**

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## Candidate Declaration Form

### CANDIDATE DECLARATION

<b>Title of degree programme</b>	Doctorate in Clinical Psychology
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<b>Declaration and signature of candidate</b>	
<p>I confirm that the thesis submitted is the outcome of work that I have undertaken during my programme of study, and except where explicitly stated, it is all my own work.</p> <p>I confirm that the decision to submit this thesis is my own.</p> <p>I confirm that except where explicitly stated, the work has not been submitted for another academic award.</p> <p>I confirm that the work has been conducted ethically and that I have maintained the anonymity of research participants at all times within the thesis.</p> <p>Signed: L. Caldwell <span style="float: right;">Date: 18.10.14</span></p>	

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## **Thesis Abstract**

**Background** The psychological wellbeing of individuals may be disrupted through experiencing periods of elevated mood, known as mania. Identifying processes which may be used to predict the onset of mania may be helpful in the development of more specialised psychological interventions. The research explores the cognitive processes which may contribute to the development of elevated mood episodes.

**Methods** The research addresses this question through a review of the literature which is used to inform the current investigation. The study considers how coping style and attachment style may be used to predict the onset of elevated mood in undergraduate and postgraduate university students (n=100). Participants completed the Relationship Questionnaire (RQ; Bartholomew and Horowitz, 1991), the Brief COPE (Carver, 1997) and the Goldberg Mania Questionnaire (GMQ: Goldberg, 1993). Regression analyses were conducted to explore the data. The reflective paper highlights some of the methodological limitations, clinical implications and ethical considerations of the study.

**Results** The literature review revealed that cognitions such as positive rumination, specific beliefs about the self and a positive cognitive style were implicated in the development of manic experiences. The empirical study found that a preoccupied attachment style, and coping strategies of denial distraction and humour were significant predictors of elevated mood.

**Discussion** The clinical implications regarding how the results may inform clinical practice through psychological interventions such as cognitive behavioural therapy are discussed. Limitations included the cross sectional design methodology, the use of online questionnaires and difficulties in generalisation.

**Conclusions** Attachment style and coping strategies may be used to predict the onset of elevated moods. This may be useful for the development of new psychological interventions in mania. The thesis provides further clarification regarding psychological factors involved in the development of mania and identifies possible new areas for further exploration.

# **Cognitive Processes in Elevated Mood**

**A review of the literature**

**Word Count: 6895**

## **Abstract**

**Background** The review focuses on the types of cognitive style and processes that may contribute to the development of manic or hypomanic (elated mood which does not cause severe impairment) episodes. Numerous studies have investigated the cognitive styles and processes involved in the development of depression; however, few studies have investigated cognitive processes in mania. This is an important area to study since further investigations may lead to the development of interventions which may reduce the psychological distress caused by mania.

**Methods** Relevant databases were searched to find articles on cognitive styles and processes in mania. Additional searches involved hand searches and exploring the reference lists of pertinent articles. The Critical Appraisal Skills Programme (CASP, 2013) was utilised to critique each article.

**Results** Positive rumination (focused attention on the symptoms of hypomania), specific beliefs about the self such as ‘I am more capable than others’ and ‘I am powerful’, and a positive cognitive style (where negative events are attributed to external sources rather than to the self) were implicated in the development of manic experiences.

**Limitations** Limitations included lack of generalisability, the use of cross sectional designs and the use of self-report measures.

**Discussion** The implications for advancements in psychological interventions such as in cognitive behavioural therapy are discussed.

**Conclusions** An increased focus on symptoms of elevated mood, promotion of positive self beliefs and a greater positive cognitive style which are all heightened through behavioural and affective components are involved in mania. The review assists in providing further clarification regarding which cognitive processes are



involved in mania and identifies possible new areas for further exploration.

**Keywords: mania, hypomania, bipolar disorder, cognitive style, cognitive appraisal, cognitive processes.**

### **Statement and Justification of Target Journal**

The Journal of Affective Disorders was picked as the target journal for submission of the literature review due to the aims and scope of the journal. The scope of the journal is wide since it incorporates papers which are concerned with depression, mania, anxiety and panic. The journal aims to include a wide range of readers by being interdisciplinary in nature. As the literature review focussed on the cognitive processes that are present within manic episodes, it was deemed necessary to attempt to disseminate the research to as wide a readership as possible; hence submission to the current journal. The full journal requirements are located within Appendix 3 of the literature review.

## **Introduction**

### **Background**

Elevated mood refers to feelings of intense wellbeing which may also be described as euphoric, cheerful or high in mood (National Institute for Clinical Excellence [NICE], 2006). These elevated mood experiences characterise mania where individuals experience periods where they feel excessively happy or irritable. Manic episodes are prevalent within what is known as bipolar disorder, where mania is followed by periods of low mood (known as depression). According to The Diagnostic and Statistical Manual of Mental Disorders (5<sup>th</sup> ed.; DSM-5: American Psychiatric Association, 2013), mania is defined as feelings of intense elation or irritability with periods of high activity level, reduced need for sleep and inappropriate or reckless behaviour, while depression is characterised by low mood, lethargy and disruptions with sleep and appetite. Some individuals may also have what is known as a 'mixed episode' where feelings of depression, guilt and anxiety are experienced within a high mood period (Cassidy, Forest & Murray, 1998). Bipolar disorder is characterised by intense mood swings ranging from severe depression to periods of extreme mania (DSM-V, 2013).

High moods are commonly sought by individuals in order to induce a pleasurable mood state by engaging in activities such as smoking, drinking alcohol and attending parties (NICE, 2006). Such induced mood states are therefore frequently experienced within the general population and in most cases cause little concern. At the high end of the continuum however, individuals who experience mania endure severe disruptions to their social, occupational and recreational activities which impacts

negatively on their psychological wellbeing (NICE, 2006). In comparison to the general population, individuals who have experienced manic episodes show an increased risk of suicide (Angst, Stassen, Clayton, & Angst, 2002). It is therefore crucially important to further investigate the psychological processes involved to develop a clearer understanding of how information is processed during mania. The topic is particularly pertinent for young people since the onset of bipolar disorder peaks between 15 and 19 years (Weissman, Bland & Canino, 1996). Young people may therefore be more affected since performance at school is likely to be impaired which may result in the loss of educational opportunities which may have long term consequences. The high co-morbidity between bipolar disorder and a range of other presentations such as anxiety, substance misuse and personality disorders (NICE, 2006) encourages further exploration of the subject since similar cognitive processes may underlie all presentations. Therefore, adaptation of these cognitive processes may be helpful in developing psychological interventions for all presentations.

The current review focuses on the type of cognitive style and processes that may contribute to the development and maintenance of manic or hypomanic (elated mood which does not cause severe impairment) episodes. Cognition refers to how we think about information. The components of cognition include the beliefs or attitudes we hold towards something. The term cognitive style refers to characteristic ways in which individuals conceptually organise the environment (Goldstein & Blackman, 1978). So, people with similar cognitive styles will hold similar attitudes or beliefs. Cognitive models have been developed in order to conceptualise how such cognitive processes occur and develop within mania (e.g. Alloy, Reilly-Harrington, Fresco, Whitehouse, & Zechmeister, 1999; Johnson, Gruber, & Eisner, 2007). This review

aims to examine the currently limited understanding of the cognitive processes implicated in mania through a search of the literature. Further clarification of the processes involved in mania is an important area to consider for a number of reasons. Firstly, identification of the cognitions which are prevalent within mania may facilitate a more balanced understanding of mood disorders since much of the current research focuses on depressed mood. This may lead to greater knowledge regarding how to adapt these cognitions if they are found to be unhelpful. Successful adaptation of these cognitions if required, may lead to fewer, less extreme manic episodes. Secondly, the research may be particularly beneficial to young people whose lives may be particularly affected by the illness since they may be experiencing altered mood symptoms for the first time. Finally, further theoretical understanding may promote more interest and additional research in the area to expand the evidence base.

A substantial body of research has considered the cognitive styles present within depression such as the work of Seligman and Nolen-Hoeksema (1987) who investigated beliefs around negative life experiences. The study found that individuals who felt responsible for negative occurrences, believed these negative events were likely to reoccur, and allowed the events to interfere in many aspects of their lives were more likely to have experienced an episode of depression. Similarly, Beck's cognitive theory of depression (Beck, Rush, Shaw, & Emery, 1979) states that individuals who are likely to develop depression appear to report more negative automatic thoughts (negative self-statements), more dysfunctional attitudes (negatively biased assumptions), and have an attentional bias towards negative information. Beck et al. (1979) also propose that cognitive, affective and behavioural symptoms of depression result when these dysfunctional attitudes and beliefs are activated. The

model also states that the cognitive, affective and behavioural components are all interconnected, for example, a change in behaviour will result in a change in both thinking and in mood. In contrast, a positive thinking style (where negative events are explained as external and unlikely to reoccur) has been implicated in the maintenance of positive self-esteem (Abrahamson, Seligman, & Teasdale, 1978), however little research has focused on the development and maintenance of mania itself.

Researchers are beginning to investigate whether such cognitive models can also be used to develop further understanding of bipolar disorder by focusing on the cognitions involved in mania (e.g. Alloy, Reilly-Harrington, Fresco, Whitehouse, & Zechmeister, 1999; Johnson, Gruber, & Eisner, 2007). Lam, Wright and Smith (2004) highlighted some possible cognitive components that may be pertinent within mania such as goal attainment (where a goal is firstly set and then implemented through use of self regulatory strategies) implying that the way goals are perceived and how they are pursued through self regulation in bipolar disorder may be disrupted. Optimistic beliefs regarding the self, known as “positive self-dispositional appraisals” (Jones, Mansell, & Waller, 2006) have been identified as possible contributors to hypomanic experiences. Such beliefs may lead to difficulties since an unrealistic perception of level of ability may prompt the individual to begin many, new and exciting projects (which may also have financial implications), or to engage in risky activities which they would not usually engage in. Other factors implicated in the development of hypomania include unhelpful ideas around particular subjects (content-specific maladaptive beliefs) and thoughts about excitement, frustration, and the past and the future (Goldberg, Wenzel, Welker, Steer, & Beck, 2005). Rumination, when referred to in the context of depression, relates to a focus of attention towards thoughts about

the symptoms of distress and the causes (Mikulincer, 1996). More recently, the term 'positive rumination' has been used in the context of mania to describe a focus of attention towards thoughts about manic symptoms such as unrealistic ideas regarding one's own capabilities. This may encourage more feelings of high mood by exacerbating the focus of attention towards the thoughts around manic symptoms which in turn may lead to a stronger belief regarding the accuracy of these thoughts. Finally, Mansell, Morrison, Reid, Lowens and Tai's (2007) integrative cognitive model of bipolar disorder suggests that self beliefs about mood states are important in the development of both high and low mood. The model explains how mood swings develop through attempts to regulate the mood being disturbed by extreme personalised beliefs. Attempts at controlling these internal states lead to further changes in cognition, emotion and behaviour which in turn increases mood disturbance.

Although the focus of the current review is on psychological processes rather than psychiatric diagnosis, the term 'bipolar disorder' will be used throughout the review. The term will be used in order to convey the occurrence and course of a similar set of symptoms in an individual. The term is not used to imply that an illness has developed within the individual. The experience of the individual may be thought of as a complex system of relationships and past experiences which has broken down as a result of being emotionally overburdened (Johnstone, 1989, p.7). Indeed, the symptoms are viewed as an understandable response to the person's experiences, and therefore "...at some level it all makes sense" (Butler, 1998, p.2). According to Avaline (1999) it may be possible to apply the process of formulation (developing a shared understanding of how the difficulties of the client developed through their own

experiences within a conceptual psychological framework) alongside a psychiatric diagnosis, although this may not be widely accepted in the current system which favours a medical perspective. The complexity of the entire psychological development of mania however is beyond the scope of the current review.

## **Methods**

A search of the literature on cognitive styles in bipolar disorder was carried out in October 2013. The review aimed to answer the questions:-

1. Does a positive or negative cognitive style exist within an elevated mood episode?
2. Which cognitive processes are present within an elevated mood episode?

The electronic databases PsychINFO, MEDLINE and CINAHL Plus were chosen to search for articles as these databases incorporated a comprehensive source of up-to-date literature on psychology. Although the grey literature would have generated the most up to date research, it was not included in the search due to the difficulties in accessing this material such as “incorrect or incomplete identification” (Augar, 1989, p.19). The reference lists of the chosen articles were scanned to reveal any further relevant studies which had not been included in the database selection. The databases were searched using the following key search terms: - (mani\* OR hypomani\*) AND (cognitive style OR cognitive appraisal OR cognitive process), (bipolar

disorder OR manic defence) AND (cognitive style OR cognitive appraisal OR cognitive process).

### Inclusion Criteria

The search included articles focusing on the cognitive processes of individuals with bipolar disorder and those at risk of developing the condition, which were published in peer-reviewed journals (since these journals are subject to rigorous academic scrutiny of research findings and reviews) in the English language. Although Mansell et al's integrative cognitive model of bipolar disorder was produced in 2007, the search was extended to articles published from 2002 since an influential paper of the model which identified behavioural consequences of hypomania was identified by Thomas and Bentall (2002).

### Results

This initial search yielded 139 articles. After removing duplicates, 93 articles remained. The abstracts of the 93 articles were screened. Sixty-seven of the papers were excluded due to the biological focus which was not relevant for the current review. Twenty-six articles were examined in full. Seventeen of these papers were excluded since the focus of these papers was not psychological. Nine articles were included in the current review. A flow diagram of the process of identifying the articles used in the review is included at the end of the report (see Appendix 1).



## Outline of review

The literature review is presented in two sections. The first section will give a brief overview of each of the nine papers. The second section will discuss and critique the methods used and the results of each study drawing on the Critical Appraisal Skills Programme Cohort Study Checklist (CASP, 2013) for this endeavour. Other critical appraisal guidelines were rejected since the CASP provided the most clear, in depth framework to assess and consider the quality of the papers. Although not all of the studies were cohort studies, this checklist was deemed most suitable out of the available checklists for the purpose of the current review. The CASP was utilised in the review to help to make sense of the evidence by firstly investigating the validity of each study by evaluating its methodological quality. If the results were found to be valid, the next step was to investigate the results of the study. This investigation focused on the clinical relevance of the study and any uncertainty regarding the results which was conveyed within the analysis. Following clarification of the validity and the importance of the study, the application of the results was investigated, for example whether the results could be generalised to a particular population. The main themes of the articles will follow the main body of the review. Identification of any gaps in the literature are summarised following the conclusions. A summary table of the nine papers identified is included at the end of the report (see Appendix 2).

## **Results**

### *Overview of papers*

The current section will give a brief overview of each of the nine papers that were identified from the literature search. Thomas and Bentall (2002) aimed to find out whether the 'manic defence' in a psychodynamic sense involved particular cognitive responses towards depression such as distraction and indulging in dangerous activities to contribute to the understanding of how the manic defence manifests. The authors use the term 'manic defence' in relation to early psychoanalytic literature which suggests that manic states are defence mechanisms against depression implying that an underlying negative cognitive style may be present within mania. A correlation design was used with 166 undergraduate students recruited through convenience sampling. The Beck Depression Inventory (BDI; Beck, Ward, Mendelson, Mock, & Erbaugh, 1961), Eckblad and Chapman's (1986) 42-item Hypomanic Personality Scale (HPS) and Nolen-Hoeksema's (1991) Response Styles Questionnaire (RSQ) were completed by the participants. The results showed that depression was linked with thoughts which were focused on symptoms of distress (known as rumination). As expected, hypomanic traits were linked to distraction and dangerous behaviours such as substance misuse, as well as with rumination.

Reilly-Harrington et al. (2010) studied attitudes and attributional styles in participants with bipolar disorder. The study involved 395 participants recruited from the National Institute of Mental Health (NIMH) Systematic Treatment Enhancement Program for Bipolar Disorder with a diagnosis of bipolar disorder. The participants completed the self-report measures Dysfunctional Attitudes Scale (DAS; Weisman, 1979) and the

Attributional Style Questionnaire (ASQ, Peterson et al. 1982; Seligman et al. 1979). The study concluded that more dysfunctional attitudes (negatively biased assumptions and beliefs regarding oneself, the world and the future, Beck et al., 1979) and negative attributional styles existed in participants experiencing mixed episodes than in pure hypomanic/ manic episodes or in euthymic patients. So, although individuals in mixed states may experience some symptoms more congruent with high mood episodes, their underlying belief system is negative. Both dysfunctional attitudes and negative attributional styles were also present during hypomanic/ manic episodes although not to the same degree as in mixed episodes. The authors suggest that the results demonstrate that modification of some negative cognitions during both mania and mixed episodes may be effective in reducing the severity of the manic episode.

Johnson, McKenzie and McMurrich (2008) investigated rumination in 107 undergraduate students with bipolar disorder and with major depression. Participants were identified through an initial screening procedure of 2,365 students who completed the Hypomanic Personality Scale (HYP; Eckblad and Chapman, 1986) and the Inventory to Diagnose Depression-Lifetime version (IDD-L, Zimmerman and Coryell, 1987), then asked to participate in the study via email. A control group from the student population who did not reach any clinical criteria for any mood disorder were also asked to participate. Following screening, participants completed the Ruminative Response Scale (RRS; Nolen-Hoeksema and Morrow, 1991) and the Responses to Positive Affect Questionnaire (RPA; Feldman et al., in press). More ruminative responses to negative mood stimuli were found in both the depression group and the bipolar group compared to controls. However, only individuals with bipolar disorder were found to respond with an increase in rumination to positive

mood stimuli. The study suggests that rumination in response to both positive and negative mood is prevalent within bipolar disorder, implying that the rumination may be responsible for an increase in manic symptoms.

Carver and Johnson (2009) investigated whether a propensity towards mania or depression was related to positive or negative cognitive styles and emotions. The sample comprised 238 undergraduate students since a clinically significant population was not required. All participants completed the HPS and the Inventory to Diagnose Depression-Lifetime (IDD-L; Zimmerman and Coryell, 1987). Tendencies toward mania were related to patterns of intense reaction towards positive stimuli (cognitively and emotionally), a lower sensitivity to threatening stimuli (e.g., “If I think something unpleasant is going to happen I usually get pretty ‘worked up’”) and less restraint over impulses. Comparably, tendencies towards depression were found to be linked to a pattern of strong reactions to negative stimuli (emotionally and cognitively) and deficits in the ability to maintain positive moods. Although overlap between measures was not identified, it is possible that similar processes may underpin both mood states. So, the results imply that emotional and cognitive reactions that are excessive are responsible for the development of both positive and negative mood states. Such prominent emotions are likely to contribute to further engagement in the emotional, behavioural and cognitive components of either mood state leading to a progression in the mood experience.

Similar results were found by Johnson and Jones (2009) in their investigation of the cognitions present in individuals who were at risk of developing mania. The study aimed to identify whether constructs within standardised scales of responses to

success, positive moods and manic symptoms were independent and whether the constructs related specifically to risk of developing mania. Cross sectional samples of 638 undergraduate students were included in the study. The self report measures used for this study included the RPS, the positive overgeneralisation scale (POS; Eisner, Johnson & Carver, 2008) the Barratt impulsivity scale (BIS-11; Patton, Stanford, & Barratt, 1995) and the hypomanic interpretations questionnaire (HIQ; Jones, Mansell, & Waller, 2006) as well as the HPS. Four factors were found to correspond specifically to risk for mania (as assessed by the HPS): acting before thinking, being overly positive in interpreting manic symptoms, being overly confident in response to success and tendencies to dampen positive affect.

Van der Gucht, Bentall, Morriss, Lancaster and Kinderman (2009) investigated negative cognitive style and reward processing (incentive motivation to engage in behaviour when presented with reward stimuli) in 107 participants diagnosed with bipolar disorder. Thirty-four of these participants reached the criteria for mania, hypomania or a mixed episode, 30 reached the criteria for depression and 43 were placed in the remission group as they had not experienced any significant mood symptoms ( as defined by DSM–IV criteria for a major depressive, hypomanic, mixed affective or manic episode) within the previous two months. This short time frame for remission was an important factor to consider in the limitations of the study, however a rationale for this time frame was not accounted for. The control group consisted of 41 individuals who were recruited via adverts placed within the local community. Inclusion criteria for these controls were being 18 years or over, no psychiatric disorder within the last two years (as defined by the Structured Clinical Interview for DSM–IV, SCID criteria), and the ability to read and write in English. The Personality

Style Inventory (PSI; Robins et al., 1994), The Behavioural Inhibition System/Behavioural Activation System scale (BIS/BAS; Carver and White 1994), The Pragmatic Inference Task (PIT; Winters & Neale, 1985), The Rosenberg Self-Esteem Scale (RSE; Rosenberg, 1965), RSQ, The Card Arranging Reward Responsivity Objective Test (CARROT; Powell et al., 1996) and the Positive and Negative Affect Scale (Watson et al., 1988) were utilised in this study. A relationship was found between negative cognitive styles and depressive symptoms and between reward responsivity and manic symptoms. There were no significant relationships found between negative cognitive styles and manic episodes or between reward responses and depressive episodes. The authors suggest that different cognitive processes were involved in the development of depression than in mania. In terms of clinical interventions, the authors suggest that possible effective strategies for reducing the impact of manic episodes may focus on techniques which minimise excessive responding to reward stimuli.

More recently, Dodd et al. (2011) investigated the impact of strong beliefs about internal states and the resulting behaviour, on the ability to predict changes in mood. This study was carried out to investigate Mansell, Morrison, Reid, Lowens and Tai's (2007) integrative cognitive model of bipolar disorder which suggests that an array of powerful and highly personalised beliefs about inner mood states are important in the development of both high and low mood in bipolar disorder. The study involved 175 undergraduate students who completed a number of measures including the Hypomanic Attitudes & Positive Predictions Inventory (HAPPI; Mansell, 2006), HYP, BIS/BAS, Internal State Scale (ISS; Bauer et al. 1991), and the Behaviours Checklist (BC). Interestingly, the ISS was able to predict behaviours which increase

during high mood (known as ascent behaviours), such as increased impulsivity and rate of speech. This implied that being in an activated state will increase the likelihood of displaying behaviours which will further increase activation. This finding is in keeping with Mansell et al.'s (2007), cognitive model which was the rationale for Dodd et al's (2011) study. This model further explains how the increase in these behaviours result in even more changes in internal states and strong beliefs which results in a cycle of increasing symptoms.

Dempsey, Gooding and Jones (2011) investigated the links between positive and negative appraisals and rumination in 353 undergraduate university students. They also examined whether any similar components existed between the appraisals and rumination in terms of response to emotional experience such as normalising the appraisals. The measures included the HPS, ISS, HIQ, RPA, RRS and the Interpretations of Depression Questionnaire (IDQ: Jones & Day, 2008). Results found that positive self-appraisal, negative rumination, positive rumination and the normalising of appraisals contributed to vulnerability for hypomania. This implied that individuals at risk of hypomania would adapt their self-appraisals when exposed to positive mood stimuli. Consequently, these changes in self-appraisals may guide behaviour and cognitive style which may exacerbate the current mood state.

Lex, Meyer, Marquart and Thau (2008) studied differences in cognitive processes (attitudes, automatic thoughts and emotional information-processing biases) in 19 remitted bipolar disorder patients. The rationale behind the study was developed from an extension of Beck et al's (1979) cognitive theory of depression which stated that mania was the very opposite of depression, thus characterised by extreme positive

cognitions regarding the self and the world. This cognitive theory however did not suggest what was special about the cognitive components within mania, hence the basis for the study by Lex et al. (2008). Nineteen participants recruited from the community who were matched for age, gender educational attainment and marital status, and did not have bipolar disorder were used in the control group. Each group completed the BDI, DAS, Automatic Thoughts Questionnaire (ATQ; Hollon & Kendall, 1980), a computerised version of the Emotional Stroop Test (EST; Hope, Rapee, Heimberg, & Dombeck, 1990) and incident recall which instructed participants to recall items previously administered within the EST. Results from the study revealed that there were no significant differences between the two groups for automatic thinking and the information processing styles. This suggests that individuals with bipolar disorder did not possess a cognitive vulnerability towards mania as suggested within Beck et al's (1979) model. However it is possible that a cognitive vulnerability does exist, but only when a mood is induced, which would have led to the current findings.

## **Discussion**

### Summary of Key Findings

1. An overall positive cognitive style was found to exist within an elevated mood episode.
2. The cognitive processes of positive rumination and specific beliefs regarding the self were found to be present within an elevated mood episode.



The key findings suggest that there is a different process (positive cognitive style) involved within elevated mood than within low mood. This finding suggests that separate research domains are required to investigate elevated mood and low mood. Since positive rumination was identified within elevated mood however, it is possible that some underlying parallel processes exist within elevated and low mood. This means that some of the research on rumination within low mood, may also be applicable to elevated mood episodes. Identification of beliefs regarding the self as prominent within elevated mood, suggest that adaptation of such appraisals may be helpful in minimising the extent of elevated mood episodes.

Both Johnson et al. (2008) and Carver and Johnson (2009) identified reactions towards positive mood stimuli (emotional and cognitive) as catalysts to an enhanced high mood period. This was similar to Van der Gucht et al. (2009) where a relationship between reward responsivity (the extent to which an individual reacts to reward stimuli) and manic symptoms was found. This is likely to be due to the appraisals (which means the evaluation of the symptoms) at the beginning of the high mood episode as found by Johnson and Jones (2009), thus providing further evidence for Mansell et al.'s (2007) cognitive theory of mania, which implicated extreme positive cognitions in relation to self, the world and the future as key in the development of elevated mood. Such extreme positive emotional and cognitive reactions appear to develop through increased attention towards mood symptoms, followed by further engagement in the emotional, behavioural and cognitive components of the elevated mood state. This leads to a further progression in the mood experience through an upward cycle of mood enhancing cognitions, behaviours and emotions. Dempsey et al. (2009) specifies cognitive self-appraisals with regards

to the formation of hypomanic episodes meaning that specific positive beliefs regarding the self appear to be activated and enhanced through increased reward responsivity. These findings are helpful for both ideas on future research as well as for the clinical implications of therapeutic practice through developing interventions which focus on minimising mood enhancing behaviours and modifying unrealistic positive beliefs.

### *Clinical Implications*

Since the current review suggests that a positive cognitive style alongside positive rumination and positive self appraisals underlie a manic episode which then draw in behavioural and emotional elements of mania into a vicious cycle, this has implications for the clinical treatment of both phases. A cognitive behavioural framework may be useful to target the positive self beliefs by modifying the intensity of such cognitions during the manic phase. Behavioural strategies may also be useful alongside the cognitive adaptations, such as minimising the extent of goal directed actions. This combination of both cognitive and behavioural strategies used simultaneously may be a potential area for development.

Similarly, focusing on modifying the negative self beliefs during the depressed phase in order to reduce the strength of these thoughts may be effective in reducing the negative impact of such experiences. Scott and Gutierrez (2004) reported that psychological interventions have so far not been more successful than psycho-education (where individuals are provided with information regarding the symptoms, treatment and likely outcome of bipolar disorder) in the prevention of manic

symptoms. This implies there is a need for specialised psychological interventions. This may be achieved through further identification and understanding of the underlying processes involved in the occurrence of mood related symptoms.

## **Limitations**

Following administration of the CASP tool, the main limitations were found within the methodologies of the selected papers. The limitations section therefore concentrates on the critique of methods used in each study.

The ease of administration and the collection of data from a large number of people when using self reported measures meant that this was the method of choice for gathering data in all the studies. One of the main advantages of using self-reported measures is that they are often standardised meaning there is a body of evidence to suggest a degree of reliability and validity (Kuncel & Hezlett, 2007). The use of standardised tests also allow replicability and generalisability of the results to the wider population. Self-reported measures may be an extremely efficient method of collecting data since they may reflect a more accurate perspective than what is achievable through other more objective approaches since the data is collected from individuals who have experienced the symptoms themselves.

Self report measures, however, have a number of limitations. The measures are subject to participant bias. For example, it is likely that some participants may respond to questions in a way they feel is desired by the researcher or that is socially acceptable (Fisher, 1993). Memory difficulties such as retrieval may also affect the

reliability of self reported measures (NICE, 2006). Such difficulties may be common amongst individuals with bipolar disorder since some research suggests that declarative memory (conscious memory which recalls facts and knowledge) may be impaired, for example Van Gorp, Altshuler, Theberge and Mintz (1999). The use of medications, such as lithium, to help to stabilise moods may also contribute to memory difficulties, since some of the side effects of lithium are the slowing down of cognitive processes which may affect the processing and consolidation of new memories. More objective methods of collecting information may involve obtaining retrospective clinical notes of the participant or gathering information from friends or family, however this may not reflect the experience of the individual and will depend on the informed consent of the individual.

Eight out of the nine studies were cross sectional in design. A cross sectional study is an observational method (where the researcher can exert variable amounts of control over the environment) to record information within a population at a single point in time. This type of study looks at differences between groups who differ in a particular variable of interest but are similar in other areas such as age, employment, educational attainment and socio-economic status (SES). This reduces the likelihood of these potentially confounding variables (e.g. age, employment etc) affecting the dependent variable. Van der Gucht (2009) and Claudia Lex et al (2008) used matched samples as controls who were accessed from the community to minimise confounding variables such as age, gender and premorbid intelligence. One of the main disadvantages of the cross sectional design methodology is that it does not allow for a clear picture of the course of the mood changes over time, thus impacting on the validity of the results. A longitudinal design which collects data at various points over a long time period may

be used to address changes in mood to clarify whether the findings in the current studies are mood dependent. Only Johnson and Carver (2008) employed a longitudinal follow-up design type. This type of design however, is more time consuming and more expensive. Longitudinal designs may also increase the likelihood of participants dropping out over a long time period which reduces the sample size further. A cross sectional design however is useful to gain a large volume of information on a topic at one point in time, which may be advantageous.

Correlation designs were utilised in all but two of the current papers (Van der Gucht et al. 2009; Lex et al, 2008). Although correlational analyses may be useful in investigating relationships between variables, the analysis does not explain a cause and effect relationship. This means that the analysis does not explain whether a change in the dependent variable is caused by the effect of an independent variable, even when a relationship exists between the two measures.

Large sample sizes were used for eight out of the nine studies (107-638 participants) implying that each set of results were likely to be an accurate representation of the wider population due to increased precision in estimates of the properties of the group. Effect sizes or power calculations, however, were not reported in any of the studies which would have provided a clearer account of the differences between the groups and was therefore a limitation of the studies. As previously noted, not all of the studies used participants with a bipolar disorder diagnosis and therefore results may be limited to the student populations utilised. However, Thomas and Bentall (2002), Carver and Johnson (2009), Johnson and Jones (2009), Dodd et al. (2011) and Dempsey et al. (2011) were interested in mood changes along a continuum and

therefore were not aiming to generalise the findings to a clinical population. Lex et al. (2008) used a relatively small number of participants (19 with a bipolar diagnosis and 19 in the control group) which may have moderated the effects and reduced the generalisability to the so-called bipolar disorder population.

Some of the studies used systematic recruitment (which means recruiting participants who all meet the inclusion criteria through mental health facilities) by accessing participants through psychiatrists, nurses, lithium clinic doctors or through bipolar disorder treatment programmes (Reilly-Harrington et al., 2010; Lex et al. 2008; Van der Gucht, 2009). This method of recruitment allows access to large numbers of participants. However, this type of recruitment will also increase the likelihood of confounding variables such as socio-economic status due to the specific locations of the mental health facilities. Other studies within the review used convenience sampling (which means a sample that is used due to its accessibility) with undergraduate students (Thomas & Bentall, 2002; Johnson et al., 2008; Johnson & Jones, 2009; Carver & Johnson, 2009; Dodd et al., 2011; Dempsey et al., 2011). Limitations of opportunity sampling include an increased likelihood of the presence of confounding variables since individuals with similar characteristics may be drawn towards similar pursuits and therefore be more exposed to the locations where the research is advertised. For example, educational attainment and socio-economic status may be confounding variables in the current studies since undergraduate psychology students are commonly used. A further bias in the current studies is that undergraduate students are also often required to take part in research as stipulated by their course. It may therefore be difficult to generalise the findings of those studies using convenience sampling due to the inherent bias in this method. Two of the

studies (Dempsey et al., 2011; Johnson et al., 2008) used incentives for participants to take part in the research such as monetary vouchers and university credits required for completion of their course. It should be noted that although this may be advantageous in terms of numbers of participants, incentives may skew the results. This is because there may be an increase in the number of participants with similar characteristics such as a low socio-economic background since these individuals may have more motivation for monetary gain.

Van der Gucht et al. (2009), Reilly-Harrington et al. (2010), Lex et al. (2008) and Johnson et al. (2008) included only participants who reached the criteria for bipolar disorder. This implies that there may be a difference between the participants which were recruited for these four papers and those who were selected within the remaining five papers. Lex et al (2008) excluded individuals who had previously received cognitive therapy due to the potential influence this may have had on their cognitive attitudes (Ball et al., 2006). It was not made explicit within the remaining articles whether similar exclusion criteria had been implemented. The studies therefore may have included participants who had received psychological interventions which modified their thinking styles and impacted on how they responded to the self reported measures.

Alternatively, Thomas and Bentall (2002), Carver and Johnson (2009), Johnson and Jones (2009), Dodd et al. (2011) and Dempsey et al. (2011) used undergraduate students who did not reach clinically significant criteria for bipolar disorder. This population was recruited since the studies were focused on mood changes along a continuum rather than within a clinical population. Indeed, a study by Udachina and

Mansell (2007) reported that hypomanic experiences are common among students and associated with the ISS. The population may also have been utilised due to its convenience in accessing a large number of people who were willing to participate in the study. Students may also be easier to recruit since participants who have clinically significant mental health difficulties will require additional ethical considerations which is more time consuming.

One of the difficulties with the current research papers and other studies of bipolar disorder is the occurrence of mixed mood episodes. Reilly-Harrington et al. (2010) and Van der Gucht et al. (2009) suggested that many experiences of bipolar disorder are ambiguous. It may therefore have been difficult to group people with high mood and low moods in the correct categories, although consequently this may not have been appropriate to do so. This ambiguity in the categorisation of current mood presentations may have interfered with the results. However, this was not a difficulty amongst all the studies. For example Lex et al. (2008) found participants to experience unambiguous episodes and were therefore easy to group.

## **Conclusions**

In sum, the results of the review indicate that the experience of mania is related to positive cognitive processes including positive rumination and positive self appraisals. There appear to be separate styles of thinking between high and low mood, which are positive and negative styles respectively. The results from seven papers (Johnson et al., 2008; Carver & Johnson., 2009; Johnson & Jones, 2009; Van der Gucht et al.,



2009; Dodd et al., 2011; Dempsey et al., 2011, Lex et al, 2008) clearly indicate that positive cognitive processes seem to be present within a high mood period, implying these cognitions should be the focus of modification in therapy in order to reduce the impact of elevated mood. However, two papers (Thomas & Bentall, 2002; Reilly-Harrington, 2010) do suggest the presence of negative cognitions during high mood periods, therefore one cannot reject the theory that the same underlying processes exist in both positive and negative mood experiences. Limitations of the papers included difficulties in generalising results to the target population, type of design used and type of measures used. The strengths of the papers included the use of validated and reliable self reported measures, large sample sizes, clear methods of recruitment and unambiguous inclusion/ exclusion criteria.

### *Future Research*

The review of the literature suggests there are a number of gaps in the knowledge base of cognitive processes in mania. Cognitive, behavioural and affective components have been implicated as relevant in the development of mania in the current review such as excessive emotional and cognitive responses to emotional stimuli. The impact of these cognitions on behavioural responses and the cognitions arising as a result of these behaviours may also be a useful area to investigate since they may help to explain the manifestations of the increase in mood during mania. Although some aspects of cognition have been identified in the current review such as certain cognitive appraisals, there are still many unexplored avenues which may be relevant to the occurrence of mania such as cognitive reactions to emotionally relevant stimuli. It is likely that many more cognitive elements which have not been

addressed in the review play a key role in the development of mania. This array of complex cognitions are also likely to influence many more behavioural and affective components, again which are beyond the scope of the current review. Future research in the development of mania therefore is likely to be multifaceted with cognitive, behavioural and affective elements under certain conditions. The impact these components have on each other and the further modifications which occur as a result of such dynamics may be the key to a more in depth understanding of the creation of high mood experience.

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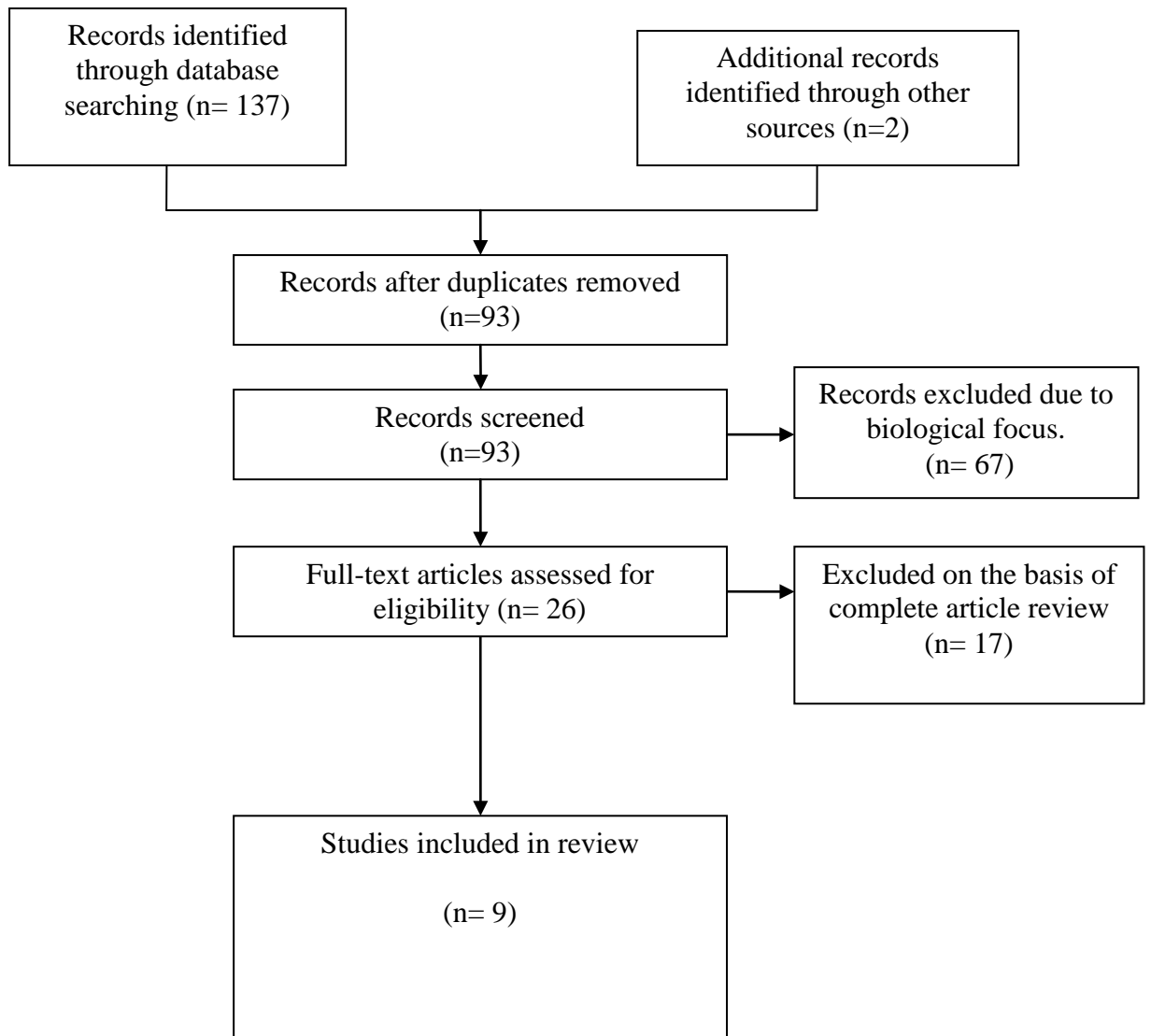
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## Appendix 1

### Flow Diagram of literature search





## Appendix 2: Summary of Papers

Title	Author and Year of Publication	Type of Design	Participants	Strengths	Limitations	Main Findings
'Hypomanic traits and response styles to Depression'	Thomas and Bental (2002)	Cross sectional study	166 undergraduate students	High validity and reliability of measures used  Large sample size	Self-reported measures  Non-clinical population  Cross sectional design	Rumination was linked to both hypomania and depression.
'Ruminative Responses to Negative and Positive Affect Among Students Diagnosed with Bipolar Disorder and Major Depressive Disorder'.	Johnson, McKenzie and McMurrich (2008)	Cross sectional study	107 undergraduates with bipolar disorder and major depression	Large sample size  Good generalisability	Self-reported measures  Cross sectional design	Rumination in response to both positive and negative moods is prevalent within bipolar disorder.
'No strong evidence for abnormal levels of dysfunctional attitudes, automatic thoughts and emotional information-processing biases in remitted bipolar I affective disorder'	Claudia Lex et al (2008)	Cross sectional Study  Exclusion criteria used to reduce confounding variables	19 individuals with BP, 19 controls with no BP diagnosis	High validity and reliability of measures used	Self-reported measures  DAS not sensitive to bipolar attitudes  Cross sectional design	Individuals with bipolar disorder did not possess a cognitive vulnerability towards mania.
Tendencies Toward Mania and Tendencies Toward Depression Have	Carver & Johnson (2008)	Cross sectional study	238 undergraduate students	Large sample size	Self-reported measures	Mania corresponded with a positive cognitive style.

Distinct Motivational, Affective, and Cognitive Correlates						
Psychological processes in bipolar affective disorder: negative cognitive style and reward processing.	Van der Gucht et al., (2009)	Cross sectional study	107 individuals with bipolar disorder	Good generalisability	Effects of treatment on psychological processes. Cross sectional design does not address the bipolar symptoms over time.	Separate cognitive processes were involved in depression and mania.
'Cognitive Correlates of Mania Risk: Are Responses to Success, Positive Moods, and Manic Symptoms Distinct or Overlapping?'	Johnson and Jones (2009)	Cross Sectional study	638 undergraduate students	Large sample size	Self-reported measures Cross sectional design	Mania was associated with a positive cognitive style.
Dysfunctional Attitudes, Attributional Styles, and Phase of Illness in Bipolar Disorder.	Noreen A. Reilly-Harrington Æ David J. Miklowitz Æ Michael W. Otto Æ Ellen Frank Æ Stephen R. Wisniewski Æ Michael E. Thase Æ Gary S. Sachs (2010)	Cohort study	395 individuals with bipolar disorder	Large sample size Naturalistic Systematic recruitment	Self-reported measures Cross sectional design	More dysfunctional attitudes existed in mixed episodes of bipolar disorder than in pure mania.
'Do Extreme Beliefs About Internal States Predict Mood Swings in an Analogue Sample?'	Dodd et al. (2011)	Cross sectional design	175 undergraduate students	Large sample size	Self-reported measures Cross sectional design	A positive cognitive style existed in mania



Positive and Negative Cognitive Style Correlates of the Vulnerability to Hypomania'	Dempsey, Gooding and Jones (2011)	Cross sectional design	353 undergraduate students	Large sample size	Self reported measures Cross sectional design	A positive cognitive style existed in mania.
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## Description

*The Journal of Affective Disorders* publishes papers concerned with **affective disorders** in the widest sense: **depression, mania, anxiety and panic**. It is interdisciplinary and aims to bring together different approaches for a diverse readership. High quality papers will be accepted dealing with any aspect of affective disorders, including biochemistry, pharmacology, endocrinology, genetics, statistics, epidemiology, psychodynamics, classification, clinical studies and studies of all types of treatment.

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The Journal primarily publishes:

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**Evidence-based Review Articles** (up to 8000 words, excluding references and up to 10 tables/figures). Reviews should be systematic and give details as to search strategy used.

**Rapid Communications** (1500-2000 words, excluding references and a maximum of 2 tables/figures).

**Preliminary Communications** (up to 3000 words, excluding references and maximum 3 tables/figures).

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At the discretion of the accepting Editor-in-Chief, and/or based on reviewer feedback, authors may be allowed fewer or more than these guidelines.

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Tables should be numbered consecutively with Arabic numerals and must be cited in the text in sequence. Each table, with an appropriate brief legend, comprehensible without reference to the text, should be typed on a separate page and uploaded online. Tables should be kept as simple as possible and wherever possible a graphical representation used instead. Table titles should be complete but brief. Information other than that defining the data should be presented as footnotes.

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A concise and factual abstract is required. The abstract should state briefly the purpose of the research, the principal results and major conclusions. An abstract is often presented separately from the article, so it must be able to stand alone. For this reason, References should be avoided, but if essential, then cite the author(s) and year(s). Also, non-standard or uncommon abbreviations should be avoided, but if essential they must be defined at their first mention in the abstract itself.

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## **Keywords**

Immediately after the abstract, provide a maximum of 6 keywords, using American spelling and avoiding general and plural terms and multiple concepts (avoid, for example, 'and', 'of'). Be sparing with abbreviations: only abbreviations firmly established in the field may be eligible. These keywords will be used for indexing purposes.

## **Abbreviations**

Define abbreviations that are not standard in this field in a footnote to be placed on the first page of the article. Such abbreviations that are unavoidable in the abstract must be defined at their first mention there, as well as in the footnote. Ensure consistency of abbreviations throughout the article.

## **Acknowledgements**

Collate acknowledgements in a separate section at the end of the article before the references and do not, therefore, include them on the title page, as a footnote to the

title or otherwise. List here those individuals who provided help during the research (e.g., providing language help, writing assistance or proof reading the article, etc.).

### **Nomenclature and units**

Follow internationally accepted rules and conventions: use the international system of units (SI). If other quantities are mentioned, give their equivalent in SI. You are urged to consult IUPAC: Nomenclature of Organic Chemistry: <http://www.iupac.org/> for further information.

### **Math formulae**

Present simple formulae in the line of normal text where possible and use the solidus (/) instead of a horizontal line for small fractional terms, e.g., X/Y. In principle, variables are to be presented in italics. Powers of e are often more conveniently denoted by exp. Number consecutively any equations that have to be displayed separately from the text (if referred to explicitly in the text).

### **Footnotes**

Footnotes should be used sparingly. Number them consecutively throughout the article, using superscript Arabic numbers. Many wordprocessors build footnotes into the text, and this feature may be used. Should this not be the case, indicate the position of footnotes in the text and present the footnotes themselves separately at the end of the article. Do not include footnotes in the Reference list.

#### *Table footnotes*

Indicate each footnote in a table with a superscript lowercase letter.

#### *Formats*

If your electronic artwork is created in a Microsoft Office application (Word, PowerPoint, Excel) then please supply 'as is' in the native document format. Regardless of the application used other than Microsoft Office, when your electronic artwork is finalized, please 'Save as' or convert the images to one of the following formats (note the resolution requirements for line drawings, halftones, and line/halftone combinations given below):

EPS (or PDF): Vector drawings, embed all used fonts.

TIFF (or JPEG): Color or grayscale photographs (halftones), keep to a minimum of 300 dpi.

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### **Tables**

Number tables consecutively in accordance with their appearance in the text. Place footnotes to tables below the table body and indicate them with superscript lowercase letters. Avoid vertical rules. Be sparing in the use of tables and ensure that the data presented in tables do not duplicate results described elsewhere in the article.

### **References**

#### *Citation in text*

Please ensure that every reference cited in the text is also present in the reference list (and vice versa). Any references cited in the abstract must be given in full.

Unpublished results and personal communications are not recommended in the

reference list, but may be mentioned in the text. If these references are included in the reference list they should follow the standard reference style of the journal and should include a substitution of the publication date with either 'Unpublished results' or 'Personal communication'. Citation of a reference as 'in press' implies that the item has been accepted for publication.

### ***Reference style***

*Text:* All citations in the text should refer to:

1. *Single author:* the author's name (without initials, unless there is ambiguity) and the year of publication;
2. *Two authors:* both authors' names and the year of publication;
3. *Three or more authors:* first author's name followed by 'et al.' and the year of publication.

Citations may be made directly (or parenthetically). Groups of references should be listed first alphabetically, then chronologically.

Examples: 'as demonstrated (Allan, 2000a, 2000b, 1999; Allan and Jones, 1999). Kramer et al. (2010) have recently shown ....'

*List:* References should be arranged first alphabetically and then further sorted chronologically if necessary. More than one reference from the same author(s) in the same year must be identified by the letters 'a', 'b', 'c', etc., placed after the year of publication.

*Examples:*

Reference to a journal publication:

Van der Geer, J., Hanraads, J.A.J., Lupton, R.A., 2010. The art of writing a scientific article. *J. Sci. Commun.* 163, 51–59.

Reference to a [book](#):

Strunk Jr., W., White, E.B., 2000. *The Elements of Style*, fourth ed. Longman, New York.

Reference to a chapter in an edited [book](#):

Mettam, G.R., Adams, L.B., 2009. How to prepare an electronic version of your article, in: Jones, B.S., Smith, R.Z. (Eds.), *Introduction to the Electronic Age*. E-Publishing Inc., New York, pp. 281–304.

## **Link between Paper 1 and Paper 2**

The findings of the literature review have demonstrated the importance of exploring the cognitive processes involved in elevated moods. These cognitive processes however were not utilised within the empirical paper as differentiating between such processes may have been difficult due to their interconnected nature. Attachment style and coping style were instead investigated within the empirical paper since it is likely that commonalities in cognition exist between individuals with similar styles of attachment and coping. Therefore there remains continuity between the review of the literature and the empirical investigations.

**Adult attachment and coping style in students with elevated mood**

**Empirical Paper**

**Word Count: 5535**

## **Abstract**

**Background** Periods of elevated mood may cause significant disruption to the psychological wellbeing of individuals. Previous research has attempted to identify factors which may predict the onset of an elevated mood, such as how an individual responds to stress and how people view themselves and others within adult relationships. This study aims to expand the evidence base using a student population to identify factors which may predict the onset of an elevated mood in order to inform new psychological interventions.

**Methods** Undergraduate and postgraduate university students (n=100) completed the Relationship Questionnaire (RQ; Bartholomew and Horowitz, 1991), the Brief COPE (Carver, 1997) and the Goldberg Mania Questionnaire (GMQ: Goldberg, 1993) to investigate whether coping strategies or how people relate to others within relationships may be used to predict increases in elevated mood. Regression analyses were conducted to explore the data.

**Results** The study found that a preoccupied attachment style was a significant predictor of elevated mood. The maladaptive coping strategies of denial and distraction, and the adaptive coping strategy of humour were also significant predictors of elevated mood.

**Limitations** The use of online questionnaires, the cross sectional design methodology and the lack of generalisability of the findings were potential disadvantages. **Conclusions** A preoccupied style of adult attachment and the use of denial, distraction and humour as coping strategies may be used to predict the onset of an elevated mood. This may be useful for the development of preventative measures for elevated mood such as screening tools. **Keywords: bipolar disorder, manic depression, mania, attachment style, coping style.**



### **Statement and Justification of Target Journal**

The Journal of Affective Disorders was picked as the target journal for submission of the empirical paper due to the aims and scope of the journal. The scope of the journal is wide since it incorporates papers which are concerned with depression, mania, anxiety and panic. The journal aims to include a wide range of readers by being interdisciplinary in nature. Since the study focussed on the important area of predictors of elevated mood as they occur in the experience of mania, it was deemed necessary to attempt to disseminate the research to as wide a readership as possible; hence submission to the current journal. The full journal requirements are located within Appendix 10 of the empirical paper.

## **Background**

Abnormally elevated moods which are the hallmark of mania (Berrios, 2004) can have a devastating impact on an individuals' psychological wellbeing (National Institute of Clinical Excellence, guidelines for bipolar disorder, 2006). Disruptions to interpersonal relationships, occupational and recreational activities arise as a result of the behaviours which characterise mania such as accelerated speech, grandiose ideas, inflated self esteem and engaging with risk taking activities (NICE, 2006). High rates of self-harm and suicide are associated with bipolar disorder, as reported in a study by Leverich et al. (2003) who found that 34% of 648 individuals who experienced manic episodes had a history of suicide attempts. These high suicide and self-harm rates however may be associated with the depression phase rather than the manic phase of bipolar disorder. Such findings imply that distress is experienced not only by the individual themselves, but is also likely to affect family members and friends. Substance abuse is also a prominent feature within this client group (Strakowski, Del Bollo, Fleck, & Arndt, 2000), which may be used as a strategy to regulate the mood. Episodes of elevated mood therefore have wide and longstanding negative effects.

Hirschfeld et al. (2000) concluded that short periods of elated or 'high' mood, which did not cause significant impairment were present in the population along a continuum. Such periods of mild elation may not greatly affect day to day functioning for a number of reasons. For example, how these experiences are interpreted by the individual may be important. Viewing the experiences as both positive and unproblematic (Mansell, Mannion & Seal, 2010) is likely to minimise any further stress on the individual thus not contributing to any further increases in high mood. Perceiving the elated mood as negative, however, may contribute to stress

for the individual and lead to an increase in high mood, therefore, causing greater disruption (Mansell et al, 2010). These experiences known as mania, or hypomania (a less severe form of mania) have been defined by The Diagnostic and Statistical Manual of Mental Disorders (5<sup>th</sup> ed.; DSM-V: American Psychiatric Association, 2013) as occurring within bipolar disorder. The DSM-V describes high mood as feelings of excessive happiness or irritability accompanied by symptoms such as pressure of speech, grandiose ideas, increased activity level and less sleep than usual. A number of factors including stressful life events and high emotional expression within families have been identified as contributing to the relapse of individuals with bipolar disorder (Proudfoot, Doran, Manicavasager & Parker, 2010). Investigations into how individuals cope with stressful life events and how individuals relate to others therefore are required. Evidence suggests that periods of high mood may be caused by ineffective styles of coping with negative emotions (Thomas & Bentall, 2002; Reilly-Harrington et al, 2010). Specific strategies for coping were identified in individuals with bipolar disorder in a study by Goosens et al. (2010). This study reported that outpatients diagnosed with bipolar disorder had less active reaction patterns (for example, were less likely to engage in problem solving strategies to alleviate stressful situations) and more avoidant coping styles (such as substance misuse) implying that such unhelpful coping strategies may have a negative impact on mood. Further evidence from Parikh et al. (2007) suggests that denial and self blame are common in the prodromal stage of mania or hypomania. Knowles et al. (2005) found a reactive, or passive coping style, where little attempt is made to solve problems was predictive of hypomania. This may be because this type of coping appears to maintain the stressor, which in itself further burdens the individual. This

body of evidence suggests there is a rationale for the current investigation regarding which coping strategies may be predicative of elevated mood episodes.

Following on from the evidence suggesting high expressed emotions within families are significant in bipolar disorder (Proudfoot et al, 2010), there is a need to explore the role of relationships within the development of bipolar disorder. How individuals relate to each other in adult relationships may be shaped in childhood, through the interactions between infant and caregiver, known as attachment (Bowlby, 1980). Attachment refers to the development of an emotional bond between an infant and the primary caregiver (Bowlby, 1980). The creation of this bond begins with the requirement for all human infants to seek closeness to their primary caregiver in order to feel secure, to gain nurturance and to learn from the caregiver how to cope in the same situation in the future. This is achieved through behaviours such as smiling, clinging and crying. The attachment system is activated when the safety of the infant is under threat through illness, fear, or sadness (Bowlby, 1973). Sensitivity, warmth and physical contact from the care giver are pertinent to the development of a secure attachment where an infant will have experienced consistent care giving which has met the needs of the child, allowing them to feel safe and secure (Bowlby, 1973). This results in the infant learning to regulate their own emotions as they grow older through self soothing strategies learnt from their caregiver. This is necessary in order for them to develop and survive independently. If an infant has not received consistent and positive care giving, this may result in an insecure attachment style.

Ainsworth, Blehar, Waters & Wall (1978) described secure attachment as well as two insecure styles of attachment: ambivalent and avoidant. The categories were developed through use of a procedure known as the “strange situation” (Ainsworth et

al, 1978), where the behaviour of the child-parent interactions are observed in the presence of a stranger. The caregiver is asked to leave the room during the observation, then return in order to perceive the responses of the child. The infant will be categorised into one of the three attachment styles (a fourth category was defined later by Main & Solomon, 1986), depending on the infant's exploration, reactions to caregiver departure, anxiety due to the presence of the stranger and the child's reunion with the caregiver. A securely attached infant will explore and play while the caregiver is present, become noticeably upset when the caregiver leaves a room, and happy on the return of the caregiver. So, a securely attached infant feels confident that their needs will be met by the caregiver. In the same situation an insecure ambivalent infant will show distress before separation and appear clingy and difficult to comfort on return of the caregiver. This can be understood as the result of inconsistent caregiving and the clingy behaviours serve as a strategy used to keep the caregiver close and available. An insecure avoidant infant will avoid or ignore the caregiver and shows little emotion when the caregiver returns or departs. This behaviour results when the child's needs are consistently not met and the child learns that they have no influence on the caregiver. The avoidant behaviour serves as a strategy for keeping the caregiver as close as possible by de-emphasising their care needs (Main, 1979). Main and Soloman (1986) later identified a fourth attachment style, known as disorganised attachment where the infant displays contradictory behaviours simultaneously, shows fear, freezing, or misdirected movements. Although initially displaying disorganised behaviour, Lyons-Ruth et al. (2013) also reported that 52% of these disorganised infants continued to seek the care and comfort of their caregiver without displaying observable distress. This style of attachment is likely to result from an upbringing where the child feels afraid of the attachment figure (Main & Soloman,

1990). The resulting behaviours are thought to arise since they allow for a degree of proximity to the caregiver even in a frightening situation which may result in some of their needs being met (Sroufe, Egeland, Carlson & Collins, 2005, p 245).

Styles of attachment appear to persist into adulthood and form the basis of the “internal working model” (Bowlby, 1973). An adult who is securely attached will be equally comfortable with emotional closeness and with independence within a relationship. The names for the three insecure styles of attachment in adulthood are slightly different to the ones used in childhood. An ambivalent attachment as an infant corresponds with the preoccupied adult attachment style. An adult with a preoccupied attachment will have a negative view of themselves compared to those with a secure attachment. They tend to seek high levels of intimacy and approval from their partners and may become dependent within relationships. An adult with an avoidant style of attachment will have a positive perception of themselves and a negative perception of others. An avoidant adult may present as very independent and may appear not to need many or any close emotional relationships. They may appear to want to avoid attachment altogether. Finally, a fearfully attached adult (corresponding with the disorganised attachment style) views both themselves and their partners negatively. These individuals may simultaneously crave emotional closeness and fear it. These adults are likely to present as chaotic in romantic relationships (Bartholomew and Horowitz, 1991).

There has been a limited amount of research on attachment style in bipolar disorder.

A study by Morriss, Van der Gucht, Lancaster, & Bentall (2009) however has identified that a preoccupied adult attachment style exists in most individuals with

bipolar type I disorder. The study however does not ascertain a causal link between preoccupied attachment style and bipolar disorder, only that a correlation exists between the two factors. A possible explanation of the findings is that a preoccupied adult attachment style results in difficulties maintaining relationships, therefore increasing the stress of the individual, which leads to an increased vulnerability towards the development of mood symptoms. This can result in an impairment of social, recreational and occupational functioning which will contribute to a further reduction in psychological wellbeing (NICE, 2006).

Contributions to the understanding of predictors of elevated mood may have clinical implications in terms of the psychological treatment options available to individuals such as the type of therapy offered and the development of preventative measures such as screening tools. The current study aimed to investigate predictors of elevated mood within a student population. The predictors that were investigated were adult attachment style and coping style in relation to elevated mood.

## **Hypotheses**

The hypotheses for the study were:-

1. There will be a relationship between individuals with an insecure preoccupied style of attachment and a tendency towards elevated mood.
2. There will be a relationship between individuals who use maladaptive coping strategies (as defined by Carver, 1997) and a tendency toward elevated mood.

## **Method**

### **Design**

A cross-sectional design was used in the study to gather information at one time point. The power was calculated using G\* Power 3.1, which revealed the power calculation of 0.95 with effect size of 0.3, which specified that 55 participants were required for the study.

### **Participants**

4000 undergraduate and postgraduate university students from the Faculty of Health Sciences were approached by being sent an email link from university administrative staff. 100 of these students responded to the email link. Although only 55 participants were required for the power calculation, all 100 responses were included since it was deemed unethical to exclude participants who had completed the questionnaire. The sample consisted of 82 females and 18 males of which 22 were in the first year of study, 18 in the second year, 17 in the third year and 43 were postgraduate students. The inclusion criteria was students who were 18 years or older, had never been diagnosed with bipolar disorder and consented to participate in the study. Four participants were excluded from the study as they reported they had been diagnosed with bipolar disorder. Another six participants' data were removed from the data set as they were incomplete and this would have skewed the results of the study.



## Measures

The GMQ (Goldberg, 1993, see Appendix 5) is an 18 item measure which includes questions such as “My mind has never been sharper” and “I need less sleep than usual”. Participants rate their responses on a six point likert scale ranging from “not at all” to “very much”. A mania score including ‘no mania’ (0-9points), possible mild (10-17 points), borderline (18-21 points), mild/ moderate (22-35 points), moderate/ severe (36-53 points) or ‘severe mania’ (54 upwards) may be produced. For the current study, scores were not categorised since the analysis involved the use of a continuous scale. For this reason, a ‘cut off’ score which may have indicated a potential problem was not selected, since categorisation of the severity of symptoms was not the aim of the study.

The RQ (Bartholomew and Horowitz, 1991, Appendix 6) is made up of four short paragraphs each describing a typical adult attachment pattern. Participants rate how much they agree to each paragraph on a seven point scale, producing a profile of an individual’s attachment using the four styles (secure, fearful, preoccupied and avoidant). For example, an individual with a secure attachment style would identify mostly with the statement “It is easy for me to become emotionally close to others” whereas an individual with a preoccupied pattern of attachment would agree mostly with “I want to be completely emotionally intimate with others, but I often find that others are reluctant to get as close as I would”. The RQ has been found to have high reliability ranging from 0.72 to 0.96 (Bartholomew and Horowitz, 1991).

Coping style was measured using The Brief COPE (Carver, 1997, Appendix 7) is a 28 item self-report scale which assesses a range of coping responses in adults. The measure utilises a four point likert scale ranging from “I haven’t been doing this at all”, to “I have been doing this a lot”. Fourteen dimensions are included in the measure. Eight of the dimensions measure adaptive coping strategies including: active coping, use of emotional support, use of instrumental support, positive reframing, planning, humour, religion, and acceptance. Six of the dimensions measure maladaptive coping strategies: self blame, denial, distraction, substance use, behavioural disengagement, and venting. A study by Yusoff, Low & Yip (2010) reported reasonable reliability and validity of the Brief COPE measure (internal consistencies ranged from 0.25 to 1.00, effect size ranged from 0 to 0.53).

It is important to consider the ‘time-base’ of the measures used within the study. The dependent variable measures elevated mood over the past week, while the independent variables (coping style and adult attachment) are relatively stable over time. This means that participant responses to the elevated mood measure may vary if they were collected at a different time period. This is an important consideration of the study however, it should also be noted that there is lack of a suitable time base period to collect mood measures. It was therefore deemed to be appropriate to utilise the current measures, while holding such consideration of this limitation in mind.

## Procedure

The procedure involved initially obtaining a statement of willingness to recruit students from the university from the Associate Dean of the Faculty (see Appendix 1). Participants were required to read the information sheet (see Appendix 2) and give their consent (see Appendix 3) before any data was collected. Participants who completed the consent form were then presented with a short number of questions about demographic information (see Appendix 4), then invited to complete the other measures (see Appendix 5, 6 and 7).

The study was granted ethical approval from the university ethics board (see Appendix 8). Participants completed the measures and demographic information online which was estimated to take 20 minutes. Participants were asked if they had ever received a diagnosis of bipolar disorder. Four participants responded with 'yes' to this question. They were thanked for their time and directed to the debrief screen (see Appendix 9) which explained why they were not able to continue with the rest of the study since they were no longer eligible to take part. Participants who respond 'no' to this question were permitted to complete the rest of the questionnaire. All participants were shown the same debrief screen with a full explanation of the study upon completing the questionnaire. The debrief screen also included information on how to withdraw from the study following completion if they wished to do so as well as sources of support if required. There was no follow up procedure employed.

## Analysis

The data was analysed using IBM SPSS Statistics Software (version 21). Descriptive statistics, correlations and regression analyses were calculated. The variables that were considered within the regression analysis included: mania, preoccupied attachment, fearful attachment, avoidant attachment, distraction, denial, self blame, substance use, behavioural disengagement, venting, active coping, use of emotional support, use of instrumental support, positive reframing, planning, humour, religion, and acceptance.

## Assumptions

For each regression the collinearity was satisfied as shown by the Variance Inflation Factors (preoccupied=1.125, humour=1.003, denial=1.130, distraction=1.084).

Homoscedasticity was satisfied as demonstrated by the regression plots (see Appendix 11). The assumption of independence was acceptable as shown by the Durbin-Watson statistics (1.869). The assumption of normality was considered to be acceptable following investigations into Cook's distance (0.012) and Mahalanobis distance (2.967), and centered leverage (0.033), since no significant outliers were identified and therefore a limited influence on the model was perceived (see Appendix 10).

## **Results.**

Descriptive statistics and correlations for all of the 14 subscales of the Brief COPE and the four subscales of the Relationships Questionnaire were produced. The subscales which were found to be significant are shown in Table 1. The correlations demonstrate a significant relationship between the scores on the GMS and the preoccupied attachment style  $p < 0.01$ . Significant relationships were also found between the scores on the GMS and the maladaptive coping strategies of distraction  $p = 0.001$  and denial  $p < 0.01$ . A relationship was found between the scores on the GMS and the adaptive coping strategy of humour  $p < 0.01$ . These findings suggest that hypothesis 1 which theorises that a relationship is present between a preoccupied attachment style and elevated mood is supported. The premise for hypothesis 2 is that there will be a relationship between maladaptive coping strategies and elevated mood, meaning hypothesis 2 is partially supported.

Table 1. Significant Subscales of the BriefCOPE and the Relationship Questionnaire

	Mania	Preoccupied	Distraction	Denial	Humour
Mean	41.59	1.84	4.47	2.56	2.56
St. deviation	12.852	0.935	1.747	1.222	1.709
Mania	.....	0.002**	0.001***	0.004**	0.003**
Preoccupied	0.002**	.	0.018*	0.003**	0.430
Distraction	0.001***	0.018*	.	0.017*	0.472
Denial	0.004**	0.003**	0.017*	.	0.308
Humour	0.003**	0.430	0.472	0.308	.....

\*p<0.05, \*\*p<0.01, \*\*\*p<0.001

*Regression analyses*

Regression analyses were conducted to determine which of the coping style and the adult attachment style measures contributed the greatest variance to the vulnerability to high mood. Gender, age and year of study were not found to be significant contributors to the GMS. Variables with significant correlations (according to the regression model) with the GMS were then entered into the hierarchical regression equation. So, the variables entered into the regression analysis to investigate the contribution to the GMS were: - preoccupied attachment, denial, distraction and humour. The overall regression equation was significant p<0.05 and explained 24.2% of the variance (R Square= 0.276, Adjusted R Square= 0.242). The regression analysis is shown in Table 2.

Regression Analyses. Table 2.

	B	SE	Beta	P	R
(Constant)	15.285	4.796	.....	0.002**	1.000
Preoccupied	2.882	1.352	0.209	0.036*	0.307
Distraction	1.661	0.714	0.223	0.02*	0.316
Denial	1.970	1.032	0.187	0.05*	0.283
Humour	2.307	0.698	0.305	0.001***	0.295

\*p<0.05, \*\*p<0.01, \*\*\*p<0.001

Hypothesis 1 was supported as a preoccupied attachment style was found to be a significant contributor to variance in GMS scores (standardised Beta=0.209,  $t=2.132$ ,  $p<0.05$ ,  $r=0.307$ ). Hypothesis 2 was partially supported since the maladaptive coping styles of denial (standardised Beta=0.187,  $t=1.909$ ,  $p<0.05$ , 0.283) and distraction (standardised Beta=0.223,  $t=2.326$ ,  $p<0.05$ ,  $r=0.316$ ) were significant. However, the adaptive coping style of humour (standardised Beta=0.305,  $t=3.303$ ,  $p=0.001$ , 0.295) was also found to be a significant predictor of the GMS. Thus, a preoccupied attachment style, the adaptive coping strategy of humour and the maladaptive coping strategies of denial, and distraction were associated with GMS scores.

## **Discussion**

The current study identified a preoccupied adult attachment style as a pertinent predictor of the tendency towards elevated mood which was hypothesised. This substantiates the findings of Morriss et al (2009) who studied a clinical population of individuals who had been given a diagnosis of bipolar disorder and were identified as having a preoccupied attachment style. The findings may be explained in the context of attachment theory (Bowlby, 1980). As previously mentioned, a preoccupied adult attachment style is likely to have developed through the experience of receiving inconsistent care as an infant due to the primary caregiver being preoccupied or unavailable. This prompts the child to seek greater proximity to the care giver when they are available in order to maintain proximity. In adulthood, an individual with a preoccupied attachment style will present within romantic relationships as being highly dependent on their partners. Such intimacy and approval seeking behaviour may be experienced as overwhelming by the partner, prompting them to withdraw from the relationship. This perceived rejection from the preoccupied individual is likely to trigger an attachment need, therefore increasing their dependence on their partner. This may reconfirm their perceptions (within the internal working model) of themselves as unlovable and others being powerful, thus maintaining a vicious cycle. This may be experienced as particularly distressing by the preoccupied individual, which may promote their levels of stress which is known to be a factor in developing elevated mood (Ambelas, 1979).

The finding that maladaptive coping strategies such as denial and distraction may be used to predict high mood is consistent with previous research (Goosens et al., 2010; Knowles et al., 2005; Parikh et al., 2007). Both strategies centre on the avoidance of



any active or constructive actions which may assist to reduce the stress of the situation, by not accepting the reality of the situation, or by engaging in consuming activities which do not allow for additional reflection. Instead both strategies appear to further reduce the resources of the individual and increase the burden by not allowing for the development of tolerating emotional distress, or for the new learning of how to deal with a similar stressor in the future (Zeidner & Endler, 1996, p15). Although the individual may aim to reduce their anxieties by engaging in these strategies and indeed may achieve this in the short term, this avoidance is likely to contribute to longer term stress (Zeidner & Endler, 1996, p15). Individuals may continue to engage in the same maladaptive strategies they have used previously due to a lack of alternative coping strategies available to them. Deficiencies in social support may also impact on the availability and the quality of emotional comfort they receive. Active coping strategies such as problem solving may also be reduced due to limited opportunities to discuss problems with others and therefore fewer suggestions are heard. Furthermore, when individuals are in stressful situations their concentration is likely to become compromised due to impairment in their cognition (Lupien, Maheu, Fiocco & Schramek, 2007). This may impact on their capacity to use more adaptive strategies such as planning or problem solving. The individual may persevere with such strategies even when they have failed previously due to the use of such approaches from a young age. Again, during times of stress, an individual is likely to fall back into familiar patterns of behaviour, thus continuing the cycle of stress. The higher the experience of stress, the more likely their mood will become elevated (Ambelas, 1979).

A particularly interesting finding of the study revealed that the adaptive coping strategy of the use of humour appeared to be significant in the development of elevated mood. This was an unexpected finding and therefore a number of possible explanations should be considered. Firstly, the limitations of the study suggest that all the findings should be interpreted with much caution. Secondly, if the participants who took part in the study were currently experiencing increasingly elevated moods, this may have impacted on their levels of concentration and therefore their responses to the questionnaires. Finally, humour may be seen as a form of denial towards the reality of the stressful situation and could be perceived as an avoidant strategy. One might argue, therefore, that humour used in this manner is a form of avoidance and thus could be categorised as a maladaptive coping style, though this is debatable.

### ***Clinical Implications***

The results of the study are particularly pertinent in the clinical practice for individuals with mood disorders. In terms of the attachment style, this may be particularly pertinent to issues around engagement of the individual during the therapeutic process (Eames & Roth, 2000). Indeed, the therapist may become more aware of the importance of the relationship while working with this particular client group. This may increase the awareness of their own behaviour and how this may be perceived by the client. Acknowledgment of potential difficulties to the interpersonal relationship between therapist and client therefore may be more readily available and adjustments may be more promptly made. Another potential application of the findings is on the type of therapy utilised, hence a more interpersonal focused therapy may be more beneficial for some clients (Eames & Roth, 2000).

The findings of the current study may also be useful since attachment style may be predicative of the course of the therapeutic alliance within adult patients with various mental health difficulties (Eames & Roth, 2000). Indeed, it has been reported that at the beginning of therapy, securely attached adults report a higher therapist alliance, while an avoidant attachment style is related to a low therapeutic alliance. In terms of the development of the therapeutic alliance over the course of therapy, a preoccupied attachment style has been associated with an improvement in the alliance, presumably due to the requirements of the client in terms of approval seeking and high intimacy. It is also important to reflect on the responses of the therapist in terms of how they modify their own interactions in response to their clients. For example, it had been reported that some therapists will adapt the therapy towards a more relational framework when working with individuals with a preoccupied attachment style and towards more cognitive frameworks while working with avoidant styles (Hardy, Stiles, Barkham & Startup, 1998). Therefore, the findings suggesting that the working alliances of preoccupied and avoidant attachment styles improve over time, may actually result from skilful adaptations of the therapists in order to meet the specific needs of the clients.

## **Limitations**

The main limitation of the current study is the use of a student sample. The current study assumes that there is a similarity between students who experience some elevated mood symptoms within a non-clinical population and the more severe manic symptoms of people with bipolar disorder. It may therefore be difficult to transfer the results of the non-clinical student population study onto a population who have bipolar disorder. Although this is an important limitation to acknowledge, it should also be noted that the purpose of the current study was to examine changes along a spectrum of increasing elevated mood symptoms. This means that the aim of the current study was not to differentiate between those who have a bipolar diagnosis and those who experience high mood symptoms without a formal diagnosis.

Cross sectional designs record information that is present within a population at a certain time and does not manipulate any variables. This type of design was advantageous in the current study since confounding variables (such as age, education, and income) were kept at a minimum due to the groups being from the same population and therefore differ only in the variable of interest. One of the main disadvantages of this design, however is that any changes in the responses of the participants over time are not recorded. This implies that the responses may be dependent on the current mood state of participants and may therefore alter as mood changes occur. A longitudinal design which uses follow up measures to record information over a long time period would be beneficial in clarifying whether the results are mood dependent.

Another important consideration of the study is the use of self-reported measures. Indeed, the results of the study report that the average rating of participants on the GMS was 41.59 which falls within the moderate- severe category (36-53). Although scores were not categorised, it is important to consider why clinically significant scores appear to have been reported. It has been found that mood states tend to bias self-evaluation measures (Blaney, 1986), which means that participants experiencing mildly elevated moods may have overestimated their mood symptoms. This would explain the disproportionately high scores reported in the current study.

## **Conclusions**

In one of the few studies which focus on the development of mania within the context of both attachment style and coping style, it was found that a preoccupied attachment style, and the coping strategies of denial, distraction and humour could predict the onset of an elevated mood. The study also found that a secure, avoidant and fearful attachment style were not predicative of a high mood episode. The finding that the maladaptive coping strategies of denial and distraction were significant concurs with previous research suggesting the use of avoidant strategies towards both life stressors and changes in mood are associated with the mania. An interesting finding of the study implicated humour as a significant predictor of high mood, which is categorised as one of the adaptive coping strategies (Carver, 1997). Although this finding appeared to contradict previous research, it should be noted that the limitations of the study require all the results to be interpreted with caution. Furthermore, no other adaptive coping strategies appeared to be significant predictors, as the current study

expected. Interestingly, no other maladaptive coping strategies were implicated as being significant.

So, the current study provides further insight into the development of high mood experiences and offers suggestions into the clinical implications of the findings. The study suggests that mood regulation, which may arise through insecure types of attachment and may be worsened through maladaptive coping strategies are particularly pertinent to this area of investigation. This study adds to the current evidence base which implicates a growing number of psychological factors as important in the development of mania.

### ***Future Research***

The findings of the current study should be interpreted with caution due to the limitations. However, the study demonstrates clear links between the manifestation of elevated mood, how people relate to others within adult relationships and how life stressors are responded to. This is an important area for further investigation. Future research is required to explore the role of adult attachment and coping strategies within the context of the therapeutic alliance. In particular, it may be of interest to investigate the interpersonal engagement strategies adopted by the therapist while clients are beginning to experience the onset of elevated mood. It may also be beneficial to investigate whether any relationships exist between style of adult attachment and preferred coping style. Individuals are likely to benefit from greater self awareness and increased tolerance of stressful life events. This may lead to the

development of psychological interventions specifically targeted towards elevated mood episodes.

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## Appendix 1

Dear Laura,

Thanks for your request. Your research is of interest and value to the Faculty and pending ethical approval for your study, I am supportive of your data collection at Staffordshire University.

Kind regards

Nigel Thomas

Dr Nigel Thomas

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*building a healthy future*

## **Appendix 2.**

### **Information Sheet Predictors of High Mood within a Student Population**

We would like to invite you to take part in a research study. Before you decide you need to understand why the research is being done and what it would involve for you. Please take time to read the following information carefully.

Talk to others about the study if you wish.

Please contact me 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 in the current study.

#### **What is the purpose of the study?**

The study is looking at a range of predictors of high mood within a student population. High mood refers to an elevated mood, different to normal which increases feelings of wellbeing. Such moods are present within bipolar disorder to a greater extent, which may cause impairment for the individual in social, occupational or interpersonal areas of their life. The data collected is self reported from students themselves.

The study will hopefully identify predictors of high mood. This could potentially lead to faster diagnoses and a clearer understanding of the mood patterns in first episode cases. This information may be useful within early intervention services. The current study will also add to the current evidence base for predictors of high mood which is currently limited.

The study is a Clinical Psychology Doctoral thesis.

#### **Why have I been invited?**

You have been invited because we are interested in a student population.

#### **Do I have to take part?**

It is up to you to decide. The study is described in this information sheet and I am happy to answer any questions you may have. Taking part is voluntary. If you do choose to take part, you will be asked to tick an online consent form to show that you have agreed to take part. You are free to withdraw at any time, without giving a reason.

#### **What will happen to me if I take part?**

Once consent forms have been ticked online by the student, the student will complete a short series of questions to ensure they are suitable to take part in the study. If so, further assessments will be completed, to gather general information about yourselves and more specific questions. This will take approximately 30 minutes.

### **Expenses and payments**

You will not receive any payments for taking part in the study. You will not be expected to provide any expenses for the study.

### **What are the possible disadvantages and risks of taking part?**

There is a potential risk that you may become distressed when taking part in this study, as you will be asked questions about how you relate to others, how you respond to stressful life events and if you have ever experienced high mood periods. A list of organisations that you can contact for further support, including the Bipolar and Organisation will be provided to you by the researcher.

### **What are the possible benefits of taking part?**

We cannot promise that the study will help you, but the information we gather will hopefully help to improve the assessment process in the early stages of bipolar disorder and add to the current literature about high moods.

### **What if there is a problem?**

If you wish to make a complaint about any aspect regarding the way you have been treated during this study, there are a number of means to do so. You are welcome to contact the Principal Investigator, or alternatively either of the project supervisors, who will do their best to answer your questions and support you with your concerns (see contact details below). If you remain unhappy and would like to make a more formal complaint, then you can follow the Staffordshire University complaints procedure, details of which can be accessed from:

[http://www.staffs.ac.uk/assets/complaints%20 procedure\\_tcm44-26818.pdf](http://www.staffs.ac.uk/assets/complaints%20procedure_tcm44-26818.pdf).

In the event that something does go wrong and you are harmed during the research and this is due to someone's negligence then you may have grounds for a legal action for compensation against Staffordshire University, but you may have to pay your legal costs.

### **Will my taking part in the study be kept confidential?**

Yes. We will follow ethical and legal practice and all information about you will be handled in confidence. Procedures for handling, processing, storing and destroying your data will conform to the Data Protection Act (1998) guidance.

Data will be collected from yourselves after completing the online set of questionnaires. Whilst the research is being conducted, the data will be stored on the principal researcher's laptop only. The Principal Investigator and the project supervisors will be the only people to view your data. The data will solely be used for the purposes of this study.

On completion of the study, the data will be completely anonymised and stored at Staffordshire University for 10 years, when it is then securely disposed of.



**What will happen if I don't want to carry on with the study?**

You have the right to withdraw from the study at any time, without giving a reason. This can be done by closing your browser at any time. Should you want to withdraw after taking part (within 2 weeks following completion) you can contact the Principal Investigator to withdraw your data. We will retain data collected up until your withdrawal, but this will be kept completely anonymously.

**What will happen to the results of the research study?**

The study is part of the Principal Investigator's Clinical Psychology doctoral thesis, and will be reported as so. You will not be identified in any report/publication. If you wish to receive a summary of the results, please inform the researcher.

**Who is organising and funding the research?**

The sponsor of the study is Staffordshire University.

**Who has reviewed the study?**

All research in Staffordshire University is looked at by the University Research Ethics Committee to protect your safety, rights, wellbeing and dignity. This study has been reviewed and given favourable opinion by Staffordshire Research Ethics Committee.

**Further Information and Contact Details**

If you have any further queries about the study, then please do not hesitate to contact the Principal Investigator or the project supervisors using the contact details below.

Principal Investigator: Laura Caldwell  
Email: [c038839a@student.staffs.ac.uk](mailto:c038839a@student.staffs.ac.uk)

Project Supervisor: Dr Kate Pover  
Email: Kate.Pover@sssft.nhs.uk

Project Supervisor: Dr Helen Scott  
Email: H.Scott@staffs.ac.uk

**Thank you for reading this information sheet.**

### Appendix 3

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## CONSENT FORM

---

Title of Project: Predictors of high mood in a student population

Name of Researcher: **LAURA CALDWELL**

Please check  
all boxes

1. I confirm that I have read and understand the information sheet dated **June 2012** (version **1**) for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.
  
2. I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason.
  
3. I understand that data collected during the study, may be looked at by individuals from Staffordshire University only.
  
4. I agree to take part in the above study.

## Appendix 4

### Demographic Information questions

Age

Gender Male

Female

Year of study Undergraduate 1

Undergraduate 2

Undergraduate 3

Postgraduate

## Appendix 5 Goldberg Mania Questionnaire

Goldberg, I. (1993). Goldberg Mania Questionnaire. Depression Central. Retrieved October 9th, 2013, from [www.psycom.net/depression.central.html](http://www.psycom.net/depression.central.html).

**Instructions:** The 18 items below refer to how you have felt and behaved **DURING THE PAST WEEK**. For each item, indicate the extent to which it is true, by checking the appropriate box next to the item.

1. My mind has never been sharper.

- Not at all
- Just a little
- Somewhat
- Moderately
- Quite a lot
- Very much

2. I need less sleep than usual.

- Not at all
- Just a little
- Somewhat
- Moderately
- Quite a lot
- Very much

3. I have so many plans and new ideas that it is hard for me to work.

- Not at all
- Just a little
- Somewhat
- Moderately
- Quite a lot
- Very much

**4. I feel a pressure to talk and talk.**

- Not at all
- Just a little
- Somewhat
- Moderately
- Quite a lot
- Very much

**5. I have been particularly happy.**

- Not at all
- Just a little
- Somewhat
- Moderately
- Quite a lot
- Very much

**6. I have been more active than usual.**

- Not at all
- Just a little
- Somewhat
- Moderately
- Quite a lot
- Very much

**7. I talk so fast that people have a hard time keeping up with me.**

- Not at all
- Just a little
- Somewhat
- Moderately

- Quite a lot
- Very much

**8. I have more new ideas than I can handle.**

- Not at all
- Just a little
- Somewhat
- Moderately
- Quite a lot
- Very much

**9. I have been irritable.**

- Not at all
- Just a little
- Somewhat
- Moderately
- Quite a lot
- Very much

**10. It's easy for me to think of jokes and funny stories.**

- Not at all
- Just a little
- Somewhat
- Moderately
- Quite a lot
- Very much

**11. I have been feeling like “the life of the party”.**

- Not at all
- Just a little
- Somewhat

- Moderately
- Quite a lot
- Very much

**12. I have been full of energy.**

- Not at all
- Just a little
- Somewhat
- Moderately
- Quite a lot
- Very much

**13. I have been thinking about sex.**

- Not at all
- Just a little
- Somewhat
- Moderately
- Quite a lot
- Very much

**14. I have been feeling particularly playful.**

- Not at all
- Just a little
- Somewhat
- Moderately
- Quite a lot
- Very much

**15. I have special plans for the world.**

- Not at all
- Just a little
- Somewhat
- Moderately
- Quite a lot
- Very much

**16. I have been spending too much money.**

- Not at all
- Just a little
- Somewhat
- Moderately
- Quite a lot
- Very much

**17. My attention keeps jumping from one idea to another.**

- Not at all
- Just a little
- Somewhat
- Moderately
- Quite a lot
- Very much

**18. I find it hard to slow down and stay in one place.**

- Not at all
- Just a little
- Somewhat
- Moderately
- Quite a lot
- Very much



## Appendix 6

## Relationship Questionnaire

Bartholomew, K & Horowitz, L.M. (1991). Attachment styles among young adults: A test of the four category model. *Journal of Personality and Social Psychology*, 61, 226-244.

### Scale:

Following are four general relationship styles that people often report. Place a checkmark next to the letter corresponding to the style that best describes you or is closest to the way you are.

\_\_\_ A. It is easy for me to become emotionally close to others. I am comfortable depending on them and having them depend on me. I don't worry about being alone or having others not accept me.

\_\_\_ B. I am uncomfortable getting close to others. I want emotionally close relationships, but I find it difficult to trust others completely, or to depend on them. I worry that I will be hurt if I allow myself to become too close to others.

\_\_\_ C. I want to be completely emotionally intimate with others, but I often find that others are reluctant to get as close as I would like. I am uncomfortable being without close relationships, but I feel that others don't value me as much as I value them.

\_\_\_ D. I am comfortable without close emotional relationships. It is very important to me to feel independent and self-sufficient, and I prefer not to depend on others or have others depend on me.

*Now please rate each of the relationship styles above to indicate how well or poorly each description corresponds to your general relationship style.*

### Style A

- Disagree
- Strongly Neutral/
- Mixed Agree
- Strongly

### Style B

- Disagree
- Strongly Neutral/
- Mixed Agree
- Strongly

### **Style C**

- Disagree
- Strongly Neutral/
- Mixed Agree
- Strongly

### **Style D**

- Disagree
  - Strongly Neutral/
  - Mixed Agree
  - Strongly
- 
-

## Appendix 7

## Brief COPE

Carver, C.S. (1997). You want to measure coping but your protocol's too long: Consider the Brief COPE. *International Journal of Behavioural Medicine*, 4, 92-100.

These items deal with ways you've been coping with the stress in your life when a problem arises. There are many ways to try to deal with problems. These items ask what you normally do to cope with stressful situations. Obviously, different people deal with things in different ways, but I'm interested in how you've tried to deal with it. Each item says something about a particular way of coping. I want to know to what extent you've been doing what the item says. How much or how frequently. Don't answer on the basis of whether it seems to be working or not—just whether or not you're doing it. Use these response choices. Try to rate each item separately in your mind from the others. Make your answers as true FOR YOU as you can.

- 1 = I haven't been doing this at all
- 2 = I've been doing this a little bit
- 3 = I've been doing this a medium amount
- 4 = I've been doing this a lot

1. I've been turning to work or other activities to take my mind off things.
2. I've been concentrating my efforts on doing something about the situation I'm in.
3. I've been saying to myself "this isn't real."
4. I've been using alcohol or other drugs to make myself feel better.
5. I've been getting emotional support from others.
6. I've been giving up trying to deal with it.
7. I've been taking action to try to make the situation better.
8. I've been refusing to believe that it has happened.
9. I've been saying things to let my unpleasant feelings escape.
10. I've been getting help and advice from other people.
11. I've been using alcohol or other drugs to help me get through it.
12. I've been trying to see it in a different light, to make it seem more positive.
13. I've been criticizing myself.
14. I've been trying to come up with a strategy about what to do.
15. I've been getting comfort and understanding from someone.
16. I've been giving up the attempt to cope.
17. I've been looking for something good in what is happening.
18. I've been making jokes about it.
19. I've been doing something to think about it less, such as going to movies, watching TV, reading, daydreaming, sleeping, or shopping.
20. I've been accepting the reality of the fact that it has happened.
21. I've been expressing my negative feelings.
22. I've been trying to find comfort in my religion or spiritual beliefs.
23. I've been trying to get advice or help from other people about what to do.
24. I've been learning to live with it.
25. I've been thinking hard about what steps to take.
26. I've been blaming myself for things that happened.

27. I've been praying or meditating.
28. I've been making fun of the situation.

## Appendix 8 Ethical Approval



Faculty of Health Sciences

### ETHICAL APPROVAL FEEDBACK

<b>Student name:</b>	Laura Caldwell
<b>Title of Study:</b>	Predictors of high mood in a student population
<b>Award Pathway:</b>	DClinPsy
<b>Status of approval:</b>	Approved


#### Action now needed:

Your project proposal has now been approved by the Faculty's Ethics Panel and you may now commence the implementation phase of your study. You do not need to approach the Local Research Ethics Committee. You should note that any divergence from the approved procedures and research method will invalidate any insurance and liability cover from the University. You should, therefore, notify the Panel of any significant divergence from this approved proposal.

You should arrange to meet with your supervisor for support during the process of completing your study and writing your dissertation.

#### Comments for your consideration:

Thank you for forwarding the amendments requested by the Panel

PP:   
**Signed:** Professor Vish Unnithan  
Chair of the Faculty of Health Sciences Ethics  
Panel

**Date:** 5<sup>th</sup> June 2013

## **Appendix 9 Debrief screen**

Thank you for your time in participating in the current study.

### What was the purpose of the study?

The purpose of the study was to ascertain relationships between mood, coping strategies and attachment styles amongst Staffordshire University students. Previous studies have found that coping styles are a possible contributing factor to high mood (Knowles et al. 2005). Bentall et al. (2009) identified insecure adult attachment styles as another possible contributing factor of high mood. The purpose of the study was not revealed before completion of the study as this may have influenced the responses of participants.

### How was this tested?

In this study, you were asked to complete three sets of questions. One set of questions aimed to assess degree of high mood. The second set determined your style of coping. The final set of questions determined your adult attachment style. All participants performed these same tasks. The data from these tests will be used to look for relationships between type of coping style, type of attachment style and level of high mood.

### Hypotheses and main questions:

We expect to find a particular style of coping and a particular style of adult attachment more prominent within participants at greater risk of high mood within the current student sample.

### Why is this important to study?

Developing a clearer understanding of which factors may influence the development of high mood may be useful as part of an assessment for clients who have been queried with bipolar disorder. This may be particularly useful in early intervention work and prevention strategies. Early intervention may assist the individuals' understanding of the disorder which in turn may reduce its impact on individuals' lives.

### What if I want to withdraw?

If you would like to withdraw from the study after taking part you can contact the Principal Investigator up to 2 weeks after completion in order for your data to be removed from the study. To ensure that your identity remains anonymous please enter a password of your choice at the bottom of this screen which you can later quote so your data can be identified and removed should you wish.

### Why was I not able to take part in the study?

If you answered 'yes' to 'Have you ever been diagnosed with bipolar disorder?' you were not eligible to take part in the study. This was because the study aimed to look at changes in mood within the general population rather than within a clinically significant population. Including participants with clinically significant mood symptoms may therefore have interfered with the reliability of the results.

What if I require further information?

If you feel it may be useful to access further support or information, the following organisations may be contacted:

- Mind- Email: - Email: - [contact@mind.org.uk](mailto:contact@mind.org.uk), Telephone: - 020 8519 2122.
- Bipolar UK – Email: - [info@bipolaruk.org.uk](mailto:info@bipolaruk.org.uk), Telephone: - 020 7931 6480.

If you would like to contact the Principal Investigator for further details, please email: [c038839a@student.staffs.ac.uk](mailto:c038839a@student.staffs.ac.uk)

Thank you again for your participation.

Password

**Appendix 10 SPSS Output**

**Model Summary<sup>b</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.526 <sup>a</sup>	.276	.242	11.240	1.869

a. Predictors: (Constant), Distraction, Humour, Preoccupied, Denial

b. Dependent Variable: mania

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	15.285	4.796		3.187	.002		
	Preoccupied	2.882	1.352	.209	2.132	.036	.889	1.125
	Humour	2.307	.698	.305	3.303	.001	.997	1.003
	Denial	1.970	1.032	.187	1.909	.050	.885	1.130
	Distraction	1.661	.714	.223	2.326	.022	.923	1.084

a. Dependent Variable: mania

**ANOVA<sup>a</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4104.138	4	1026.034	8.121	.000 <sup>b</sup>
	Residual	10739.651	85	126.349		
	Total	14843.789	89			

a. Dependent Variable: mania

b. Predictors: (Constant), Distraction, Humour, Preoccupied, Denial



**Residuals Statistics<sup>a</sup>**

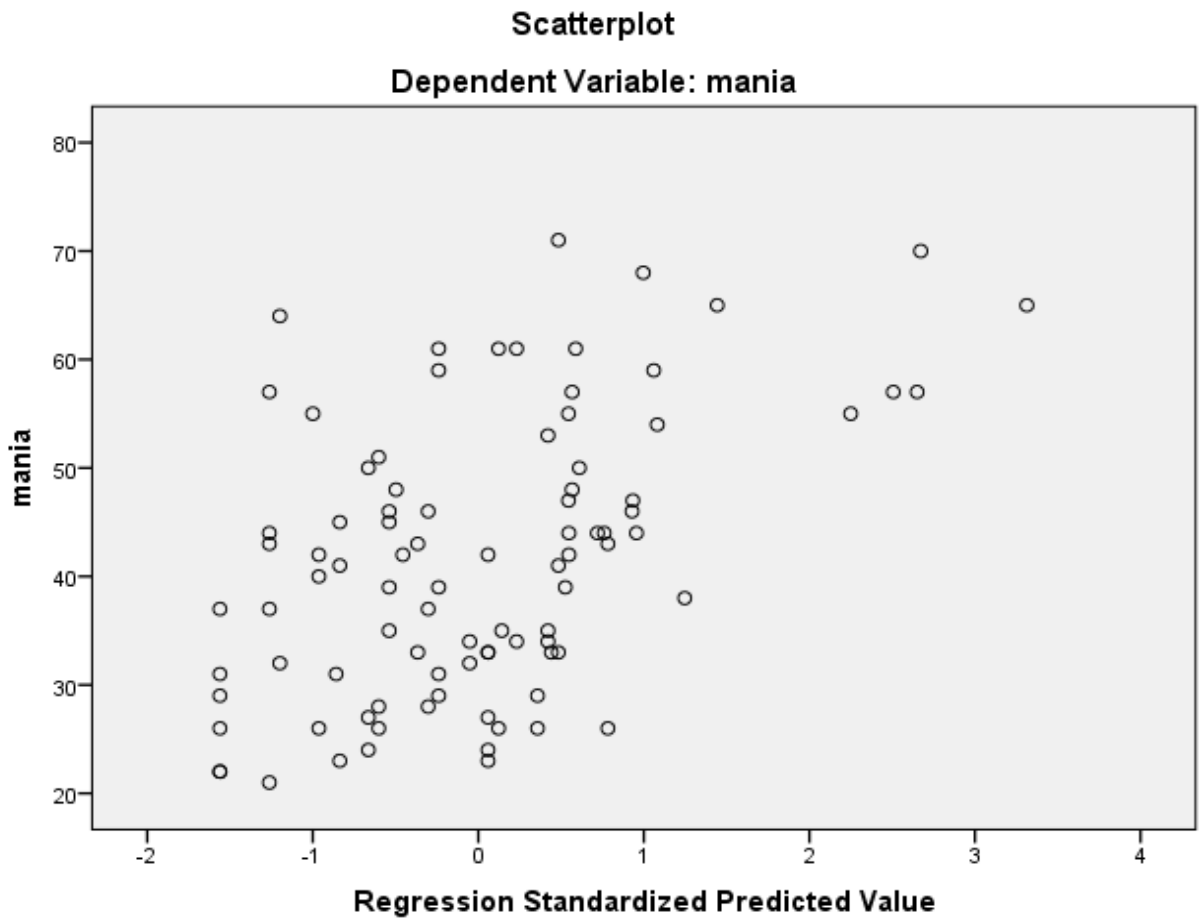
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	31.77	62.26	41.54	6.256	90
Std. Predicted Value	-1.561	3.313	.000	1.000	90
Standard Error of Predicted Value	1.353	5.706	2.235	.862	90
Adjusted Predicted Value	29.34	61.81	41.44	6.291	90
Residual	-20.433	29.963	.000	11.226	90
Std. Residual	-1.790	2.624	.000	.983	90
Stud. Residual	-1.822	2.671	.004	1.005	90
Deleted Residual	-21.180	31.045	.095	11.752	90
Stud. Deleted Residual	-1.847	2.772	.007	1.015	90
Mahal. Distance	.275	21.491	2.967	3.690	90
Cook's Distance	.000	.292	.012	.033	90
Centered Leverage Value	.003	.239	.033	.041	90

a. Dependent Variable: mania

**Appendix 11 Scatterplots of Predicted and Residual Values**

**Predicted values of Regression Model fit**

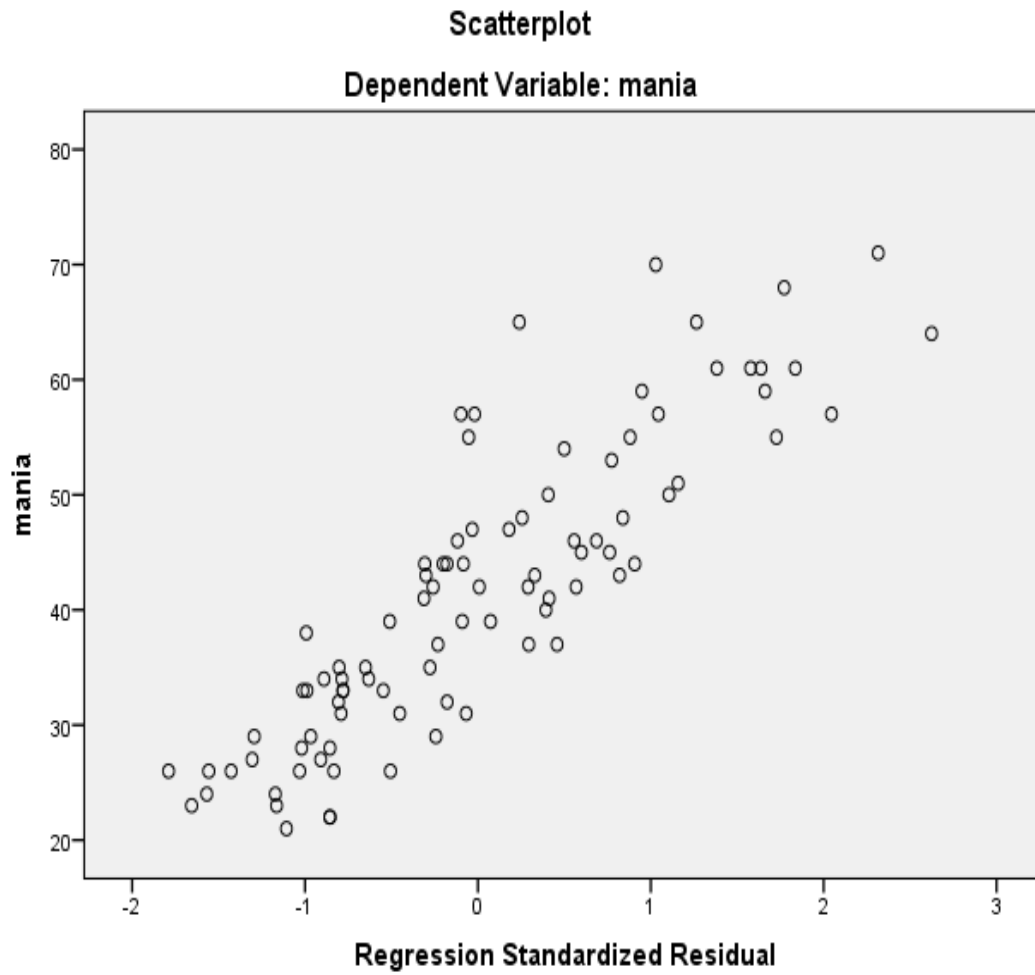
**Y= Score of mania scale**



**X= Scores of preoccupied attachment, distraction, denial and humour.**

## Residual Values of Regression Model fit

**Y= Scores of mania scale**



**X= Scores of preoccupied attachment, distraction, denial and humour.**

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- Description

*The Journal of Affective Disorders* publishes papers concerned with affective disorders in the widest sense: depression, mania, [anxiety](#) and panic. It is interdisciplinary and aims to bring together different approaches for a diverse readership. High quality papers will be accepted dealing with any aspect of affective disorders, including biochemistry, pharmacology, endocrinology, genetics, statistics, epidemiology, psychodynamics, classification, clinical studies and studies of all types of treatment.

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#### *Types of Papers*

The Journal primarily publishes:

Full-length Research Reports describing original work (4000-5000 words, excluding references and up to 6 tables/figures).

Brief Reports (1500-2000 words, excluding references and a maximum of 2 tables/figures).

Evidence-based Review Articles (up to 8000 words, excluding references and up to 10 tables/figures). Reviews should be systematic and give details as to search strategy used.

Rapid Communications (1500-2000 words, excluding references and a maximum of 2 tables/figures).

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At the discretion of the accepting Editor-in-Chief, and/or based on reviewer feedback, authors may be allowed fewer or more than these guidelines.

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Articles should be in English. The title page should appear as a separate sheet bearing title (without [article](#) type), author names and affiliations, and a footnote with the corresponding author's full contact information, including address, telephone and fax numbers, and e-mail address (failure to include an e-mail address can delay processing of the manuscript).

Papers should be divided into sections headed by a caption (e.g., Introduction, Methods, Results, Discussion). A structured abstract of no more than 250 words should appear on a separate page with the following headings and order: Background, Methods, Results, Limitations, Conclusions (which should contain a statement about the clinical relevance of the research). A list of three to six key words should appear under the abstract. Authors should note that the 'limitations' section both in the discussion of the paper AND IN A STRUCTURED ABSTRACT are essential. Failure to include it may delay in processing the paper, decision making and final publication.

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Tables should be numbered consecutively with Arabic numerals and must be cited in the text in sequence. Each table, with an appropriate brief legend, comprehensible without reference to the text, should be typed on a separate page and uploaded online. Tables should be kept as simple as possible and wherever possible a graphical representation used instead. Table titles should be complete but brief. Information other than that defining the data should be presented as footnotes.

Please refer to the generic Elsevier artwork instructions:

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#### Highlights

Highlights are mandatory for this journal. They consist of a short collection of bullet points that convey the core findings of the article and should be submitted in a separate file in the online submission system. Please use 'Highlights' in the file name and include 3 to 5 bullet points (maximum 85 characters, including spaces, per bullet point). See <http://www.elsevier.com/highlights> for examples.

#### Keywords

Immediately after the abstract, provide a maximum of 6 keywords, using American spelling and avoiding general and plural terms and multiple concepts (avoid, for example, 'and', 'of'). Be sparing with abbreviations: only abbreviations firmly established in the field may be eligible. These keywords will be used for indexing purposes.

#### Abbreviations

Define abbreviations that are not standard in this field in a footnote to be placed on the first page of the article. Such abbreviations that are unavoidable in the abstract must be defined at their first mention there, as well as in the footnote. Ensure consistency of abbreviations throughout the article.

#### Acknowledgements

Collate acknowledgements in a separate section at the end of the article before the references and do not, therefore, include them on the title page, as a footnote to the title or otherwise. List here those individuals who provided help during the research (e.g., providing language help, writing assistance or proof reading the article, etc.).

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## Nomenclature and units

Follow internationally accepted rules and conventions: use the international system of units (SI). If other quantities are mentioned, give their equivalent in SI. You are urged to consult IUPAC: Nomenclature of Organic Chemistry: <http://www.iupac.org/> for further information.

## Math formulae

Present simple formulae in the line of normal text where possible and use the solidus (/) instead of a horizontal line for small fractional terms, e.g., X/Y. In principle, variables are to be presented in italics. Powers of e are often more conveniently denoted by exp. Number consecutively any equations that have to be displayed separately from the text (if referred to explicitly in the text).

## Footnotes

Footnotes should be used sparingly. Number them consecutively throughout the article, using superscript Arabic numbers. Many wordprocessors build footnotes into the text, and this feature may be used. Should this not be the case, indicate the position of footnotes in the text and present the footnotes themselves separately at the end of the article. Do not include footnotes in the Reference list.

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Indicate each footnote in a table with a superscript lowercase letter.

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Number tables consecutively in accordance with their appearance in the text. Place footnotes to tables below the table body and indicate them with superscript lowercase letters. Avoid vertical rules. Be sparing in the use of tables and ensure that the data presented in tables do not duplicate results described elsewhere in the article.

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*Text:* All citations in the text should refer to:

1. *Single author:* the author's name (without initials, unless there is ambiguity) and the year of publication;
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3. *Three or more authors:* first author's name followed by 'et al.' and the year of publication.

Citations may be made directly (or parenthetically). Groups of references should be listed first alphabetically, then chronologically.

Examples: 'as demonstrated (Allan, 2000a, 2000b, 1999; Allan and Jones, 1999).

Kramer et al. (2010) have recently shown ....'

*List:* References should be arranged first alphabetically and then further sorted chronologically if necessary. More than one reference from the same author(s) in the same year must be identified by the letters 'a', 'b', 'c', etc., placed after the year of publication.

*Examples:*

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Van der Geer, J., Hanraads, J.A.J., Lupton, R.A., 2010. The art of writing a scientific article. *J. Sci. Commun.* 163, 51–59.

Reference to a [book](#):

Strunk Jr., W., White, E.B., 2000. *The Elements of Style*, fourth ed. Longman, New York.

Reference to a chapter in an edited [book](#):

Mettam, G.R., Adams, L.B., 2009. How to prepare an electronic version of your article, in: Jones, B.S., Smith, R.Z. (Eds.), *Introduction to the Electronic Age*. E-Publishing Inc., New York, pp. 281–304.

**Reflective Paper**

**Word count- 3287**



## **Introduction**

There is a growing body of literature into the development of elevated mood episodes (e.g. Bentall & Thomas, 2002; Dempsey, Gooding & Jones, 2011; Reilly-Harrington). Elevated moods have been relatively understudied compared to the extensive literature focusing on low mood, known as depression such as Beck, Rush, Shaw, & Emery (1979) and Seligman & Nolen-Hoeksema (1987). This may be due to the occurrences of elevated moods (which occur within bipolar disorder, as defined by the National Institute of Clinical Excellence, guidelines for bipolar disorder, 2006) generally being less frequent and of shorter durations in comparison to depression (Post et al. 2003). However, this finding does not imply that less impairment is caused by periods of episodes of elevated mood. It should however be noted that elevated mood episodes are highly desirable and the progression of these high moods into functional impairment is highly subjective. Episodes of high moods have in fact been found to be highly disabling with drastic consequences on the life of individuals with bipolar disorder and their families (NICE, 2006). The impact of high mood may be particularly disruptive for a number of reasons. Firstly, people who experience bipolar disorder are more likely to access help from their GP or from mental health services during periods of low mood and are often misdiagnosed with depression (Hirschfeld, Lewis & Vornik, 2000). In fact they may not report the elevated mood episodes as causing impairment due to lack of insight or difficulties remembering the experience, due to memory impairments caused by the elevated mood (Van Gorp, Altshuler, Theberge & Mintz, 1999). This means that elevated moods are commonly unrecognised as reported by Hirschfeld et al. (2000) who found that the average time span between first experiencing elevated mood and being diagnosed with bipolar disorder was between five and ten years. This means that individuals who are

experiencing elevated mood episodes may not be accessing treatment until the mood disorder has caused severe and significant impairment. Secondly, individuals who have 'so-called' bipolar disorder often wish to address the depression in order to lift their mood into a state of hypomania, since this mood state is often associated with greater creativity and productivity which may be particularly appealing to them (Tarrrier, 2006, p 193). However, individuals often dismiss the information which suggests this hypomanic state is likely to continue into a full manic state. This means that individuals are not motivated to access therapy or other treatment options for their elevated mood periods, which is likely to maintain the occurrence of such experiences. The psychological impact experienced by individuals as a result of elevated mood is profound. It is therefore a highly pertinent area for further investigation within psychological research. The findings of this research will help to inform the work within clinical psychology services through developing more specialised interventions in order to promote the psychological wellbeing of individuals.

The aims of the current study which intended to investigate predictors of elevated mood within a student population were achieved. This was accomplished by an initial search of the literature regarding the cognitive styles and processes that are involved in the development of elevated mood. The literature search was used to inform the current research study which focused on factors which may be used to predict the onset of an elevated mood period, using a quantitative methodology. The reasons for applying a quantitative methodology as apposed to a qualitative methodology, as well as the limitations of such an approach are discussed in the current paper. The findings of the study have broad implications for clinical practice which are also expanded

upon. Both attachment style and coping styles were found to be used as predictors towards the development of elevated mood. The study implicated a preoccupied style of adult attachment as predicative of elevated mood as expected. The secure, avoidant and fearful attachment styles were not identified as being significant. The maladaptive coping strategies of denial and distraction were found to be predicative of elevated mood. The other six maladaptive coping styles within the Brief COPE (Carver, 1997) were not found to be significant. The adaptive coping strategy of humour was also found to be a predictor of elevated mood. The remaining adaptive coping strategies within the Brief COPE were not implicated as significant predictors.

The subject matter of mania was chosen in order to address the current gaps within the literature, to further explore this complex presentation, and to perceive how further knowledge may be used to develop psychological interventions. This was achieved through the current thesis, which questioned which cognitive processes were involved in the development of mania, and focused on identifying the attachment style and coping strategies which may precede mania, using a quantitative methodology. The subject matter of attachment style and coping style within elevated mood was chosen due to the author's personal interest which developed through clinical work undertaken during a research post and clinical placements.

The main body of the current paper will begin with a methodological critique of the empirical paper, followed by the implications of the main findings of the research. Ethical considerations including the role conflict of the 'scientist-practitioner' and clinical implications will then be explored. A reflexivity section will then follow

which will include the position of the researcher and key learning points. Finally, the conclusions will sum up the whole experience of the research process.

## **Main body**

### **Methodological critique**

One of the main difficulties of the thesis was researching variables which are curvilinear by nature. Since elevated moods are usually sought after by individuals, it is difficult to define when the elevation becomes impairing. The desirability of such elevated moods means that individuals are less likely to view any disruptions as problematic. This means it is also difficult to collect accurate data through self-reported measures, since the extent of impairment may not be reported. Clearer definitions as to what constitutes 'impairment' may be helpful to minimise this problem, however developing a uniform definition will be subjective and therefore difficult to achieve.

A cross sectional design type was used in the study which was beneficial as it allowed a large amount of information from one point in time to be collected. This type of design however did not allow changes to be recorded over a longer time period which may have revealed some interesting findings. A longitudinal design type may have been used alternatively, allowing further information to be gathered. It may be difficult, however to ensure any follow up data was collected with the student population. Students may have been less motivated to complete the second set of measures due to their academic work demands which would have impacted on the amount of follow up data collected. Students may also have been hard to track down

in order to complete further measures if they had graduated from the university or if they had decided to leave the course. Thus, although alternative designs were considered, the cross sectional type was deemed to have the most utility for the current study.

The recruitment of participants was initially slow for a number of reasons. Firstly, ascertaining who to contact in order to gain approval for the email links to be sent out to students was extremely time consuming. After this information was sought and approval had been authorised by the Dean of the Science Faculty, investigating which administrative staff were responsible for sending out the link was again a lengthy process. Finally, after the student union marketing department had been identified as the best contact, further clarification was required as to whether the study was suitable to be sent to students. So, the combination of such problems lead to an extensive recruitment process. However, once the email link had been sent out, the responses were very prompt and numerous due to the ease of using online measures. So, although this method of recruitment was initially slow to begin with, once it had been implemented, it transpired to be a very useful approach. The limitations of recruiting in such a time consuming way could have been minimised by beginning the recruitment phase earlier or finding out the time scale further in advance.

Opportunity sampling with university students was used in the study since it was the most convenient method of accessing a large number of participants. This resulted in quick collection of a large amount of data. Limitations of this sampling methodology include collecting data from participants who share similar characteristics which would increase the presence of confounding variables. These limitations may have

been reduced by opportunity sampling in the community. This could have been achieved by recruiting participants through advertisements in public places such as the library, the GP surgery, or other local community venues. This would have assisted in obtaining a wider population than within a student population in terms of age, educational attainment and socio-economic background. However, some similar characteristics may have remained such as people who are driven to help other people may add to the confounding variables of the study.

Wyatt (2000) reported on a number of advantages and disadvantages of the online survey method, which was utilised in the current study. Some of the main advantages of using this method are the ease and relatively low cost for both the participants and the researcher. Since the data is automatically stored and immediately available, the analysis of the data becomes easier. This also leads to the analysis being less time consuming. This method is also convenient for participants since they do not have to travel to complete the survey and they can do it in their own time. As there is no researcher present, participants may feel they are able to be more open and honest in answering the questions, thus increasing reliability (Wyatt, 2000). The mere presence of a researcher may sway the responses of the participants due to the pressure to respond in a socially acceptable manner in order to be perceived favourably. The absence of a researcher also means there can be no clarification of questions or any further detail obtained. Unfortunately this may lead to the data collected being less reliable. Although the use of online surveys may reach a large number of people, it is also far easier to delete the email or not respond since there is no face to face contact. This may lead to a reduction in the potential number of participants (Wyatt, 2000). It may not be ethical to use the 'forced choice' option since having to answer difficult

questions may be experienced by participants as distressing. This method however was crucial in gaining an adequate amount of data and was, therefore, utilised in the current study. Finally, there may be some people who do not have access to the internet, or limited access. This issue may not be as pertinent to the current study since the population are university students and they will have access to the internet at least on the university campus, if not at home.

### **Clinical Implications**

Although the impact of mood disorders on family members and friends has been beyond the scope of this thesis, it is highly pertinent for clinical implications.

Difficulties in the relationships of people with bipolar disorder are likely to encourage further stress for the individual, requiring more coping resources. Some of the distress experienced by the individual may be alleviated by an enhanced understanding of the interpersonal patterns they may fall into. Further knowledge is also likely to promote the psychological wellbeing of the family as well as the individual, which may in turn reduce the distress of the family as a whole. Indeed, since an established link exists between family members experiencing mood disorders, it is likely that there may be another family member currently struggling with mood symptoms. It should also be clarified that this enhanced knowledge should not function as a way of blaming the family for the development of the disorder, but act as a catalyst to facilitate the formation a shared understanding. This may be achieved through presenting the information in a sensitive and coherent manner while stressing the multi-faceted nature of the condition.

Furthermore, the contribution of family members and carers in the treatment of individuals who experience elevated mood may be particularly important during the therapeutic process. This is because some current interventions encourage the client to involve trusted others in their treatment programme (Tarrrier, 2006, p193), for example agreeing with a partner to inform the client if they notice any changes in mood, and to encourage them to follow an agreed action plan to reduce mood symptoms (which is likely to have been developed while the client is not experiencing significant mood symptoms). Having a clear understanding of why these actions are necessary is likely to encourage family members to engage in this process and also to remind the client themselves of the potential consequences of ascending behaviours. The information that is provided to partners or friends, such as how elevated moods develop and how they are maintained therefore, may be considerably helpful to the long term treatment of clients. The findings of the current study are important in the understanding of mood disorders to both clients, family members and carers.

The issue of engagement is particularly pertinent for the current client group due to the possible ambivalence around targeting elevated mood episodes within therapy. This may be due to the perceived benefits which may arise as a result of hypomanic episodes such as achieving more throughout the day, being more sociable, and having more ideas and energy than usual. It is therefore understandable that individuals who experience elevated mood are not motivated to adapt their thinking styles during such mood states due to the perceived advantages. It is crucially important during the process of therapy that individuals are able to weigh up both the positives and the negatives of experiencing elevated mood episodes and are inspired to participate in the therapeutic process (Tarrrier, 2006). Clarifying the process of the development of



mania through the ascent from hypomania is a crucial process to understand for the client, and may assist in the collaborative engagement process between client and therapist.

### **Ethical issues**

One of the most pertinent ethical considerations throughout the research process was the role conflict of the scientist- practitioner approach. The skills which are required for clinical practice may not be compatible with the skills of the researcher. This is because the characteristics of a clinician who is driven by the interpersonal nature of clinical work is unlikely to value the solitude of research to the same extent. Indeed, many clinical psychologists are driven towards the career in order to develop skills in relation to their applied work rather than in research (Frank, 1984). Another reason for the incompatibility within the model arises due to the limited amount of time which is allocated towards research following graduation. After a trainee has secured a clinical position, there is often a pressure to have a large caseload in order to reduce the inevitable waiting lists and to increase the profits of the organisation. Research may be considered an activity that reduces the time spent completing clinical activity (Frank, 1984). Furthermore, trainees may have been exposed to supervisors as role models who have not embodied the scientist-practitioner model due to the difficulties in conducting research in clinical practice. This may result in research not being valued as highly as expected and therefore less time is spent engaged in this activity. However, it should also be noted that the scientist-practitioner approach has been utilised within clinical psychology for a significant time period and “most of us would

agree that the scientist-practitioner model has not only served us well but has been enormously successful” (Strickland, 1983, p. 25).

### **Reflexivity section**

It was decided that a quantitative position would be taken as opposed to a qualitative position due to the substantiated rigour of the first position. Since a quantitative approach utilises statistical methodologies with relatively large participant numbers it is highly generalisable which the current research was aiming to achieve. The use of numbers implies that the analysis is also more straight forward and easier to present information in the form of graphs or tables, compared with qualitative methods.

However possible errors in sampling and small sample sizes may reduce the validity, reliability and the ability to generalise the findings of quantitative research studies.

It is also acknowledged that the benefits of qualitative research may be particularly beneficial in guiding the direction of quantitative research. Future research may focus on conducting qualitative research in order to achieve detailed descriptions of the experiences of people who have bipolar disorder (e.g. case studies). This may produce some fruitful areas for further investigation into the cognitive processes within mania which may be followed up using quantitative approaches.

I have learnt about how the roles of the scientist-practitioner model may be used in a compatible manner. During the process of undertaking the thesis, it has become apparent that there is a need for clinical psychologists to maintain their role as scientists alongside their role as practitioners. Although there are a number of factors which limit the amount of time spent attending to research activities, such as a pressure to increase case loads (Frank, 1984), I believe it is crucial to preserve our

dual role. Clinical psychologists are well positioned in terms of how their own clinical experience can be used to inform new research and how the application of research findings may be addressed in clinical practice. I believe that it is important to highlight our dual-role to other professions in order to increase the understanding and the necessity of clinical psychology. This may be done by dissemination of our research findings to a variety of journals which will target a wide readership, which the current study has aimed to do.

During the research process I have also developed a greater awareness and interest of other psychological factors which are prominent within elevated mood episodes, which are beyond the scope of the current study. Some of these factors include the experience of shame and guilt which may have developed as a result of inappropriate sexual inhibition or spending large amounts of money, resulting in financial difficulties during elevated mood periods. It is also clear that some of these experiences of shame centre on having the label of 'bipolar disorder'. By increasing the knowledge base firstly within our profession, in time, this may assist in changing some of the current attitudes towards bipolar disorder within our society and help to protect future generations from such discrimination. These findings regarding other psychological factors concur with my own experience of working with individuals who have experienced mood disorders. I expect this further insight into some of the experiences of my clients will enhance my own clinical practice by increasing my compassion and empathy.

## **Conclusions**

It is clear that there is a need to focus on the processes that are involved in the development of elevated mood to minimise psychological distress and improve the wellbeing of individuals who experience mania. The findings of the current study should be interpreted with caution due to some of the limitations of the methodology such as the cross sectional design, recruitment strategy and the difficulties with researching variables which are curvilinear in nature. Some clinical implications of the study include the engagement process during therapy and the development of psychoeducational programmes for family members and carers. Ethical considerations such as the role conflict of the scientist-practitioner have allowed for a clearer understanding of the benefits and contributions of each task. The impact that the research experience has had on the author in terms of increasing empathy and compassion during therapy has been invaluable.

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